



The efficient functioning of waste markets in the European Union

legislative and policy options

final report

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The efficient functioning of waste markets in the European Union

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1 Executive summary

This study aims to provide a better understanding of the nature and extent of obstacles and regulatory failures affecting the functioning of waste markets in the EU, and thus preventing the realisation of a circular economy. The study analyses such market distortions and recommends a set of possible solutions.

The EU Waste Shipment Regulation lays down as a main principle that waste to be subject to recovery activities should move freely within the EU without any unjustified restrictions. The idea is that waste for recycling and recovery must be allowed to move to the facility where it is best treated. However, a number of obstacles and regulatory failures hampers the free movement of waste for recovery. This is a result from policy and legislative actions taken at both EU level and at national/regional/local levels.

If the EU's waste markets function efficiently, without unjustified restrictions, waste would be routed to better sorting techniques, optimised processes and more effective treatment, recycling and recovery. This would improve the protection of the environment and public health, create more jobs and increase growth in the EU's waste management and recycling sectors.

The public stakeholder consultation (around 250 replies from mainly organisations and trade associations) showed that 92% consider that there are regulatory failures or obstacles currently affecting the functioning of EU waste markets. These obstacles are either linked to EU legislation or policy (87%) or national policy, legislation or administrative decisions (81%). 74% consider legislative changes are needed; 62 % changes in the policy or decision-making by authorities; and 61% that EU guidance on waste legislation or policy is needed.

Which are the main obstacles and regulatory barriers to the effective functioning of the EU's waste markets? The stakeholder consultation shows that many find Member States' differing interpretations of the definition of 'waste', diverging classifications of waste as 'hazardous' or 'non-hazardous' and the application of national end-of-waste criteria as most problematic. Several of the Waste Shipment Regulation's rules were perceived as obstacles, e.g. the notification requirements and provisos concerning shipments through transit countries. The capacities for waste treatment, differing taxes or fees, and non-harmonisation of EPR schemes were also cited as main problems for waste markets. Other main gaps that were identified concerned the lack of a EU-wide enforcement of waste legislation and the lack of a policy that either bans or severely discourages landfilling.

The recommended solutions include both measures/actions that the Commission can take, e.g. where guidance from the Commission could be useful to improve the situation at national/regional/local level, and problems that could be solved by national/regional/local authorities of the Member State.

In total 54 recommendations have been formulated, of which eight have been selected for further development, in line with the outcome of the second workshop in which all previous analyses and consultations have accumulated. These key recommendations are:

Recommendation	Which obstacles to waste markets are addressed?	How does it work?	Legal changes needed?	Challenges?
Waste Schengen area: remove notification requirements within the EU				
1 Develop Schengen area for waste for recycling and recovery	Waste Shipment Regulation's notification requirements create heavy administrative burden and extra costs for recycling businesses.	Abolishes notification requirements for waste for recovery and recycling within the EU.	Yes. WSR, Article 3 etc.	Address concerns about traceability and ESM. Need to define material/geographic coverage and safeguards in exceptional cases. Assess link with international requirements.
Reduce burden while keeping current system				
2 Harmonise and strengthen the system of pre-consented facilities	Excessive time-delays prevent companies from sending waste to appropriate recovery/recycling facilities in the EU.	A "fast-track" procedure allows immediate shipment of waste for recovery/recycling to pre-consented facilities based on harmonised and strengthened criteria.	Possibly, change of WSR, Article 14 etc, or alternatively better application of current rules.	Clear and harmonised criteria for facilities need to be agreed and adopted.
3 Ensure more harmonised classification system for waste shipments	Shipments of waste for recovery/recycling are blocked by national authorities because they disagree about what is 'waste', 'hazardous waste' or 'recovery/disposal'.	Reduces scope for opposing opinions between MS and classifies clearly which category an item to be shipped belongs to, thus allowing for reduced recourse to Art. 28.	Improved waste classification through amendment of Annexes to WSR or guidance.	Current divergence of MS classification significant, but need for flexibility in individual cases.

<p>4 Facilitate waste shipments through an electronic system for notification (and information) requirements.</p>	<p>Heavy administrative burden and time-delays caused by the current paperbased notification system.</p>	<p>Electronic notifications are used instead of paperbased. A COM study will in 2016 propose requirements for the practical implementation of electronic data exchange.</p>	<p>Implementing act, Art. 26(4). If electronic system is mandatory WSR has to be amended</p>	<p>No specific problem foreseen at this stage.</p>
<p>5 Address delays in shipping waste via transit countries</p>	<p>The application by national authorities of the provisions concerning waste shipments through transit countries creates obstacles due to delays and specific conditions/objections</p>	<p>Simplifies the procedures when shipment goes through transit countries, e.g. by limiting the intervention by transit authorities.</p>	<p>Yes, Article 7 WSR etc.</p>	<p>Address concerns about traceability and ESM.</p>
Other accompanying measures				
<p>6 Address problems of cooperation between authorities at different levels</p>	<p>Information flows between competent authorities in countries of dispatch, transit and destination, or different authorities in the same country, can be slow and delay shipments.</p>	<p>Improves information flows between authorities through a centralised platform, e.g. based on current structures (waste shipment correspondents' group).</p>	<p>No.</p>	<p>No specific problem foreseen at this stage.</p>
<p>7 Upgrade waste management systems in the EU</p>	<p>Divergence between Member State waste management systems create market distortions.</p>	<p>MS systems are upgraded in a manner consistent with the waste hierarchy, targets incl. early warning mechanism and EPR requirements.</p>	<p>Yes. The circular economy package proposes amendments of the WFD</p>	<p>No specific problem foreseen at this stage.</p>
<p>8 Improve enforcement in MS</p>	<p>Differences between MS level of enforcement of waste legislation create market distortions.</p>	<p>Technical assistance to MS having difficulties in implementation, exchange of best practices. COM has launched several compliance promotion initiatives. IMPEL has a role to play.</p>	<p>No. WSR was amended in 2014 to improve enforcement and inspections.</p>	<p>No specific problem foreseen at this stage.</p>

1.1 Disclaimer

The information and views set out in the study are those of the author and do not necessarily reflect the official opinion of the Commission. The Commission does not guarantee the accuracy of the data included in this study. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use which may be made of the information contained therein.

The results of the study largely depend upon the analysis of information and opinions offered by stakeholders. The author needs to be very open to all stakeholders, meticulously registering their contribution, but he combines this with strong and independent analysis focusing on the overall target of sustainability and circular economy.

2 Introduction

2.1 The purpose, background and scope of the study

The **purpose** of this study is to provide a better understanding of the nature and extent of obstacles and regulatory failures affecting the functioning of waste markets for recovery and recycling in the EU, and to arrive at a set of possible solutions.

The **background** is that the EU's waste management- and recycling industries' have a high potential for economic growth and job creation. An efficient functioning of the EU's waste markets would facilitate for these sectors to achieve their potential and allow for a transition to the circular economy. Waste would be routed to better sorting techniques, optimised processes and more effective treatment, recycling and recovery. A European Commission study published in 2012 showed that full implementation of EU waste legislation would save €72 billion a year, increase the annual turnover of the EU waste management and recycling sector by €42 billion and create over 400,000 jobs by 2020.¹

The **scope** of the study is limited to obstacles and regulatory failures affecting the functioning of waste markets in the EU, and thus preventing the realisation of a circular economy. Regulatory failures are defined as situations in which the regulatory environment hampers the efficient functioning of the waste markets (i.e. where waste meant to be recycled or recovered can move freely within the EU, without unjustified restrictions) and fails to ensure optimal implementation of the waste treatment hierarchy². These can be categorised into two main groups:

- **Direct barriers to movements of waste within the EU.** This includes barriers created by the application of EU legislation, mainly the Waste Shipment Regulation³, hindering operators from shipping waste to environmentally sound recovery facilities. According to the Waste Shipment Regulation, waste to be prepared for re-use, recycled or subject to other recovery activities should move freely within the EU, without any unjustified restrictions. In line with Article 12 of the regulation, only certain specific reasons may be used to restrict the free movement of waste for recycling and recovery (e.g. that the person shipping the waste has previously been convicted of illegal shipments).

For example, this category covers the application of requirements to notify and provide information prior to waste shipments. This category also includes definitions and provisions in the Waste Framework Directive which directly affect procedures for shipments of waste, for example whether an item to be shipped is 'waste', 'hazardous' etc.

- **Wider distortions of the EU's waste markets.** Such distortions could result from the absence of harmonised requirements at EU level creating an uneven playing

¹ Implementing EU waste legislation for green growth, BIO Intelligence Service (2011), final report prepared for the European Commission.
<http://ec.europa.eu/environment/waste/studies/pdf/study%2012%20FINAL%20REPORT.pdf>, press release http://europa.eu/rapid/press-release_IP-12-18_en.htm.

² Article 4 of Directive 2008/98/EC of the European Parliament and of the Council on waste, 'the Waste Framework Directive', OJ L 312, 22.11.2008, p.3, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098>.

³ Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste, OJ L 190, 12.7.2006, p.1.

field for waste operators. This category includes differences between Member States distorting the functioning of the EU's waste markets for recycling and recovery, such as differing taxes or fees leading to internal or cross border 'shopping' behaviour, development of networks leading to local overcapacities or under-capacities and divergences in designing or implementing extended producer responsibility schemes.

2.2 Methodology and approach

The identification of possible market distortions consisted of two main steps:

- Collecting and documenting from literature and from stakeholder input all real or perceived examples of market distortions, without evaluation.
- Checking whether these distortions affect environmental or resource efficiency performance. Only those that do so were retained for further analysis.

The assessment of possible solutions focused both on measures and actions that the Commission can take, e.g. where guidance from the Commission could be useful to improve the situation at national/regional/local level and problems that could be solved by national/regional/local authorities of the Member States. Both regulatory changes and policy instruments, such as guidelines, were considered.

Following sources have been consulted

- Literature research
- Stakeholder interviews
- An on-line survey on the 'your voice in Europe' platform
- ten specific and detailed case studies
- Two interactive stakeholder workshops

A global overview of the applied methodology is included in Annex I.1 General overview.

The study starts from a more global scene setting, defines and elaborates cases at a more detailed level before extracting conclusions and policy advice which is again transferable to a higher level.



Figure 2-1. Approach of the study.

The cases include:

Direct barriers to movements of waste within the EU

- Case 1: Distortions generated by the Waste Shipment Regulation's procedure with prior written notification and consent for intra-EU shipments
- Case 2: Divergent application of Article 18 and Annex VII in the Waste Shipment Regulation
- Case 3: Administrative issues on waste shipments through transit countries
- Case 4: Notifications for packaging waste, separate collected as one single waste stream
- Case 7: Restrictions of waste shipments between regions in one Member State
- Case 10: The application of the proximity principle to shipments within and between Member States

Wider distortions of the EU's waste markets

- Case 5: Failure to implement the polluter pays principle in extended producer responsibility schemes
- Case 6: The impact of failing landfill compliance on the waste market
- Case 8: Comingled waste collection and recycling effectivity
- Case 9: Incineration tax differences for domestic and imported waste.

2.3 Structure of the report

2.3.1 Scene setting

The analysis starts with a broad scene setting covered by following chapters and annexes:

- Chapter 3 includes the outcome of stakeholder interviews, and reproduces as closely as possible the opinions of the stakeholders.

- Chapter 4 summarises in a neutral way the outcome of the your voice in Europe survey
- 'Annex V Case study reports' contains a headline report of three to four pages and an extensive report of each case. Small summaries of the cases are included in the main text as illustrative boxes in chapter 5.
- 'Annex III.4 outcome of the workshops includes the findings of the two interactive workshops.
- 'Annex IV.1 Consultation report' contains the quantitative analysis and the conclusions of the online consultation, while Annex IV.2 Replies from the on-line consultation' summarises the main free text comments from it.

2.3.2 Analysis

The results of all these scene setting and fact/opinion finding exercises are combined with the outcome of the literature research and analysed for each key topic. In this phase the consultant analyses whether real market distortions occur and how they can be solved. The assessment is summarised in Chapter 5 and illustrated by summaries of case-studies.

This section is complemented with an inventory of obstacles and regulatory barriers, categorised into two main groups: direct barriers to movements of waste within the EU, and wider distortions of the EU's waste markets. This inventory is included in Annex I.2 Inventory of possible distortions.

2.3.3 Conclusions and recommendations

The final section, Chapter 6, proposes a number of conclusions and recommendations to ensure the efficient functioning of the EU's waste markets. It contains two major parts

- Conclusions, integrating what can be learned from the fact- and opinion finding exercises, in a neutral way.
- Recommendations, evaluating all real or acclaimed distortions and distilling from it a limited set of key recommendations, split up over regulatory changes, clarification guidance and other non-regulatory recommendations.

It is complemented by 'Annex VI Additional conclusions and recommendations'.

3 Interviews with key stakeholders ; stakeholder opinions

In this chapter we present the key positions taken by the stakeholders, without adding analysis or without evaluating them. All interview reports with stakeholders have been verified by the interviewees.

3.1 Confederation of European Paper Industries (CEPI)

CEPI represents the European Paper industry and its 18 national members are involved in the production of paper. Since raw materials consist of approximately 50% of wood and 50% of paper for recycling, paper producers are largely involved in the recycling industry. The overall achievable European recycling rate is estimated by CEPI at $\pm 80\%$.

The calculation of the recycling rates for the 50% target in the WFD and the 60% target in the Packaging and Packaging waste Directive is difficult as it is insufficiently harmonised. There is no harmonised definition of "municipal waste/waste from households. CEPI suggest to only focus on paper waste from households since the separate collection of commercial/industrial waste is already well-functioning and targets are specifically useful for the more difficult separation of post-consumer household waste. Furthermore, it is not harmonised whether the amount of paper waste being collected separately should be taken into account in the calculation or the amount of paper waste being recycled. Should we consider the quantities at the entrance of the sorting plant, at the exit of the sorting plant, at the entrance of the final recycling plant...)? CEPI prefers the last option.

A provision has been set in the WFD (2008) art 11.1 third sentence to set up separate collection for paper. The goal of this provision is to maintain the quality of the material, to avoid cross contamination resulting in loss of part of the material and thus lower the costs of further sorting or treatment. CEPI argues that some Member States do not interpret this correctly by allowing the comingled collection of "recyclables" and calling it separate collection, but which is less effective in terms of recyclability of the material than sorting at source and may thus cause distortions in terms of the waste treatment hierarchy.

Divergence in the way EPR is implemented in the different Member States and the lack of transparency in of most of the PRO's complicates the European market. Specific aspects of EPR can work adversely within a Member States market. CEPI does not believe that there is "drainage" of material being shipped to other Member States for recycling because of untransparent EPR schemes. But untransparent EPR schemes can cause drainage towards the use of less recyclable and less recycled products.

CEPI reproaches the lack of requirements for export of waste materials outside the EU: no certification system or controlling/inspection system exists to ensure that waste to be treated outside the EU is treated by following equivalent standards as the ones which apply to European Companies (BREF, ETS, environmental permits...), respecting 'environmentally sound management' of the waste.

3.2 CEWEP

CEWEP (the Confederation of European Waste to Energy Plants) is the umbrella association of the owners and operators of Waste-to-Energy Plants, representing some 394 Waste-to-Energy Plants from 18 European countries. Their members account for 86% of the Waste-to-Energy capacity in Europe. Waste-to-Energy Plants thermally treat residual household and similar waste that cannot otherwise be reused or recycled in an environmentally beneficial way, and generate energy from it.

The European Union waste legislation is generally well designed and good: For example the Waste Framework Directive and the landfill directive were positive milestones in waste legislation. What market distortions there are relate to a lack of uniform implementation of legislation. This is due to various reasons such as the use of different definitions between member states or because there is too much focus on municipal waste which is important but only accounts for a small part of total waste production.

The majority of waste produced is commercial and industrial (C+I) but there is a lack of robust data on C+I waste in comparison to good data on municipal waste. It would be good to improve the quality of C+I statistics, she has heard that some parts of the waste industry are resistant to the transparency this would require/create. Transparency is necessary to see where the waste streams end up and it is necessary for other waste treatment options such as tracing where the residues from recycling and recycled products are used. Some say that this information is commercially sensitive, so they are resistant to make data accessible to the public.

Another reason for market distortions is that monitoring systems and calculation methods/assumptions often differ from one country to another. For instance, the Waste Framework Directive sets a target for 2020 that 50% of household waste should be recycled. However there are a number of ways in which this recycling rate can be calculated. It can be based only on some waste streams (plastics, paper, glass, metal) or on the total of municipal waste. And the monitoring can be based on the amount collected for recycling or the much (lower) amount that is actually recycled. These differences in calculation make comparison hard. A harmonised monitoring system (using a usefully recycled ('output' approach) as suggested by DG ENV, would be an improvement here.

There is no legally binding definition for Refuse Derived Fuel (RDF) or SRF (Solid Recovered Fuel). Some MSs appear to see the production of RDF/SRF as an alternative to waste incineration and "forget" that it is a pre-treatment- the waste still needs to be burnt or landfilled. WtE plants are equipped with specific flue gas cleaning devices, so that they can accept the (heterogeneous) waste as it is. For them the pre-treatment to produce RDF/SRF (in order to ensure that their plants are not damaged and the product (e.g. cement) is not polluted (e.g. heavy metals). Treating RDF/SRF as a product runs the risk to bypass waste regulation, e.g. for waste incineration. If it is not considered waste any more, it can be burned in unregulated (in comparison to WtE plant) combustion processes. This needs to be carefully watched.

Currently, bottom ash from WtE is considered waste. However, some operators, e.g. in the Netherlands ('Green deal') are undertaking huge efforts to treat the bottom ash in a comprehensive way before using it, e.g. as aggregate. If this will be considered as reaching 'end of waste' status, remains to be seen.

The EU should be clearer about the monitoring system- for example by improving statistics on C+I waste and on the definitions of the recycling targets for waste. Furthermore, the EU should harmonise the monitoring of recycling and focus on quality rather than just quantity while EU legislation must be implemented by all Member States.

3.3 European Battery Recycling Association (EBRA)

EBRA represents the battery recycling industry and its members are involved in the sorting, treatment and recycling of used or waste batteries, mainly portable and industrial batteries.

The Battery Directive imposes collection rates of 25% (raised to 45% in 2016) on consumer batteries originating from households, but there is no harmonized way to calculate this rate based on a moving average of batteries being put on the market, as there is no harmonized definition of consumer or household batteries.

The industry notifies that the target is less easy to reach for rechargeable batteries due to its calculation method. Rechargeable batteries suffer from much lower collection rates, as they have a longer lifespan and are much less frequently discarded by the consumer due to a hoarding effect. This would make reaching the target more difficult for markets in which the rechargeable batteries is better penetrated.

The amount of consumer batteries "collected for recycling" does not equal the amount of "batteries recycled". Especially batteries that are difficult to identify continue ending up in sorting residue and still are landfilled because there is no landfill ban and landfilling remains the cheaper solution.

Calculation methods for recycling efficiency of batteries can further be optimized, as well as methods comparing the quantities put on the market and the quantities recycled. Differences in calculation methods generate problems for internationally working treatment plants that have to report recycling efficiency to different Member States.

End of waste criteria for materials (iron, plastics, lead...) retrieved from waste batteries are lacking at EU level and the criteria installed by individual Member States are lacking or non-harmonized. Also the qualification of certain waste processing waste like slags as hazardous or nonhazardous waste differs between Member States. This distorts the intra EU materials and waste market according to the industry.

Divergence in the way EPR is implemented in the different Member States complicates the European market while specific aspects of EPR can work adversely within a Member States market.

Differences in the way individual Member States comply with imposed targets, or the difference in speed of achieving the targets are a main source of market distortions.

3.4 EuRIC AISBL

EuRIC is the Confederation representing the interests of the European recycling industries. EuRIC brings together European and National recycling Associations from more than 19 EU and EFTA countries. EuRIC advocates a smart regulatory framework fostering recycling across Europe and the competitiveness of the recycling industry. It represents on a European level 5.500 companies, including large companies and a vast number of SMEs, involved in the recycling and trade of various material streams, more than 300,000 local jobs, an average of 150 million tonnes of a variety of materials recycled per year, and an aggregated annual turnover of about 95 billion Euros.

First of all, the market is distorted because there is a lack of sufficient enforcement of existing waste legislation relevant to their activities across the EU. In fact, not all installations comply with the rules and there are not always enough inspectors on the ground checking compliance as well as lack of willpower to enforce these. In addition, EU legislation is also a hampering factor, as it's too complex and creates room for different interpretations.

Secondly, there is unfair competition between public and private companies that are recycling and different EPR schemes impede easy access to materials. Also, the thresholds for Registrations and Permits differ country to country, the requirements to be “under the jurisdiction of” (q.v. Waste Shipment Regulation) differ country to country.

Thirdly, waste shipment procedures are a big issue. In fact, documents that need to be filled are not always tailored to the business environment or current century. Also, national governments handle the forms of Annex 7 in different ways. These diverging interpretations make it difficult for operators to organise predictably compliant transboundary shipments. Some are very strict, some have a more laissez-faire attitude (non-hazardous waste example). Notification forms have to be handled by competent authorities and MSs are hesitating to go to a digital/ electronic system.

Fourthly, waste is excluded from a number of aspects of the Services Directive so competition is lacking. Moreover, distortions occur because of long contracts favoured by municipalities; late payments for SMEs; differences in criteria used by MSs for registrations, licences and permits; and the regulatory distortions of producing steel out of steel scrap in the EU making recycling more expensive than using ore.

As for registration and permitting, MSs should keep national databases of their waste management operations, and permitting to help enforcement. For the lack of enforcement, better quality legislation at the EU level can minimise the burden for MSs.

For unfair competition it is important to make sure that the internal market rules are followed while for illegal shipments statistics should be improved as well as traceability within and outside Europe.

As for overlapping legislation, an extra requirement is needed in the legislation and EU legislation must be consistent with other legislation. Quasi-rules affecting facilities for example from Standards must be consistent with legislation. Some believe reducing Government Inspectors / Agency personnel and having Industry use third-party certification to show compliance may be an alternative means of enforcement which is also less expensive, but it is becoming apparent it may be a much more expensive approach and not certain to ensure compliance with laws and regulations. Authorities will find all those facilities that need a certificate will obtain a certificate, and so regulators will be faced with a mass of certificates and be regulating certificates rather than having the assurance of physical inspection by Government Inspectors / Agency personnel.

The OECD Guidance for EPR schemes needs to be significantly improved to advise how to avoid bad scheme design and poor scheme performance. There needs to be a willingness to shut down EPR schemes when they provide no benefit, for example when quality recycling is self-sustaining. Furthermore, moving to standards can save money on enforcement as physical inspections can be more expensive.

3.5 Eurometaux, EAA

Eurometaux is a Brussels-based association servicing and representing the European non-ferrous metals (NFM) industry. All recycled NFMs keep their value (and embedded energy compared to newly extracted and refined metal), can be recycled relatively easily, and can be used indefinitely

There are 3 types of waste for which key challenges exist. For by-products and residues from the manufacturing process a key challenge is that there are differences

across the MS in the way they transpose the relevant directives. The EU sets only minimum requirements but Member States define the detail. Also, there are different interpretations between MSs on waste transport which can make recycling harder (due to difficulties in moving recycle between MSs). There are also legal problems with respect to shipment outside of EU resulting in non-compliance with Waste Shipment Regulations.

For end of life products the key challenge is that they end are exported for recycling, and this is not always done properly (e.g. all material recovered, health and safety of the recycling workers) outside the EU. So there is no guarantee that waste is recycled properly and there is no transparency in the way they recycle. Moreover, Illegal shipment of waste is a big issue in Europe. This is because recycling is cheaper in China (a lot of WEEE separation has to be done manually) and also the transport to China is cheap as there are relatively empty cargo ships (because Europe imports much more from China than it exports to China) going back (the case in the UK).

For scrap, EU is poor in raw materials so it's important and there is no control over scrap leaving Europe. An example of obstacles to transporting waste is the case of a German company wishing to export a waste (slag) that was rich in copper to a facility which could extract this copper in Belgium. Differing definitions of waste between the two countries made this a complex (and time consuming) procedure which made it less profitable and attractive. Finally, there is a lack of cooperation between MSs, not enough controls, incentives, and the fines for infringements of waste regulations are often low.

First of all, there is a need for more harmonisation in definitions. Secondly, the waste transport issue could be addressed by better use of the AEO (authorised economic operator) process within the customs part of the waste shipment regulation. This approach could be used to indicate the quality of the destination treatment facility – to enable customs to be confident that the waste will be competently dealt with. This would need a global agreement on standards of waste recycling / treatment.

Thirdly, to improve control over waste leaving Europe, you need to improve facilitation of trade, have better controls, set up certification schemes for end of life products, as these are complex materials but very valuable. For example 38% of end of life products are illegally exported out of which 25% is metals (as WEEE). As a result, a lot of material is lost as export or not treated properly. Another way to improve the quality of recycled products is to export to a facility that is certified against a standard. This could be linked to an AEO status.

We also need to improve waste collection and landfilling should be banned (can be done gradually). This would push waste treatment up the waste hierarchy. Moreover, to improve enforcement, one idea is to provide customs with a matrix of risk to show them where to focus (like a checklist) using the AEO standards. Finally, we need a common EU approach related to quality processing recovery (e.g. dismantling, recycling, etc.). Recycling plants are not available everywhere in the EU and we need to create a level playing field to enable free and fair trade

3.6 FEAD

FEAD is the European Federation representing the European waste management industry. FEAD's members are national waste management associations covering 18 EU Member States, Serbia and Norway. They claim an approximate 60% share in the household waste market in these countries, as well as more than 75% of industrial and commercial waste management.

The waste market is not an economic market, it is created by European and national policies and legislation. Various European, national, regional and local policies may distort waste markets. FEAD states that distortion on the secondary raw materials market is not caused by policy but by the absence of it. There is not enough roadmap according to FEAD, with not sufficient focus on increasing reincorporation of recycled materials in manufacturing processes.

The lack of common definitions of household and similar waste and not sufficiently harmonised reporting methodologies on recycling objectives hinder a sound waste market. The Waste Statistics Regulation 2150/2002/EC does not impose a harmonised statistical methodology in the European Union which distorts comparisons between Member States. By including RDF generation or specific types of backfilling into the recycling figures targets sometimes are reached without incentive to develop a more performing recycling industry.

The lack of harmonisation on end-of-waste criteria is considered to hinder a free waste market. National end-of-waste criteria can lead to uncertainties for waste operators and reduce their ability to exchange on best practices between their different entities. The article 6§4 of the Waste Framework Directive does not provide sufficient ground for the Commission to oppose a national EoW provision because it remains under the notification status (Directive 98/34/EC) only.

Different taxation strategies implemented by Member States can create distortions of competition between public and private bodies and thus also between regions and Member States. Public entities might take advantage of the service of general interest and the no VAT-regime associated with it in some Member States.

Because waste management of household waste and similar waste is considered as a service of general interest, several municipalities have their own waste management companies competing with the private sector. Lack of transparency in the price setting or separate accounting, and exclusive rights generate a non-level playing field. FEAD perceives the Teckal criteria in the Public Procurement Directive are not being fulfilled, and argues that interpretation of the Teckal criteria in the Public Procurement Directive should be handled at EU level. Monopoly rights and long term contracts limit the incentives to invest in innovative technology and hinder the private sector.

A huge publicly owned waste incineration overcapacity hinders an evolution towards high material recycling targets. Waste incineration is cheaper for household waste but also for commercial waste. EU should introduce financial incentives for material recycling of commercial and industrial waste.

According to FEAD, also overcapacity of biogas plants is being built in the frame of monopoly services of municipalities for household food waste. This results in a high demand to include commercial waste often at non market conform conditions.

The lack of transparency of certain EPR procurement processes creates according to FEAD distortions. Producer responsibility organizations (PRO) with an operational activity can distort the market relation between waste producers and waste operators, since they are market players and market dividers at the same time. Municipalities are benefitting in an inappropriate way from certain EPR systems which makes it difficult for the private sector to get access to waste handled by municipal monopolists.

FEAD perceives administrative burden they consider unnecessary in the Waste Shipment Regulation. The regulation is vulnerable for misuse for protectionist reasons. The provisions on export of waste between Member States has an influence on the possibilities to set up businesses in other Member States with similar solutions as in the home market.

Payment in cash for WEEE or ELV can lead to an informal economy avoiding taxation, which distorts regular trade. Cash payment is differently regulated in the Member States.

Shipment of waste under a re-use label (WEEE and second-hand vehicles) can create a distortion of competition because some waste is leaving the EU to be reused outside the EU market and never enter the European waste market, which may distort its environmentally sound management at the level of the EU acquis.

FEAD proposes following measures to enhance waste markets:

- Pull-measures or incentives to enhance the use of recycled materials: price guarantees, insurance systems, harmonised green public procurement (GPP) criteria, guidelines related to circular economy, Adaptation of the fees in EPR schemes to eco-design criteria...
- Reduced VAT regimes for materials with a high percentage of recycled materials.
- A soft policy instrument such as a roadmap in order to map the existing treatment infrastructures and to plan the new or renovated ones will help to define the level of investment needed and to facilitate the development of cross-border EU waste markets (import/export) to allocate capital in the best possible way.

Scrapping in the Waste shipment Regulation of objection art 12.b to waste shipments for recovery: objection when a planned shipment or recovery would not be in accordance with national legislation relating to environmental protection, public order, public safety or health protection concerning actions taking place in the objecting country. One of the members of FEAD considers this to be too broad and leading to protectionism.

3.7 Municipal Waste Europe (MWE)

Municipal Waste Europe is the European association representing municipalities responsible for waste management and their publicly owned waste management companies, promoting public responsibility for waste management as a service of general interest. The members are national or regional public waste associations and similar. Members of Municipal Waste Europe serve over 60% of the national population.

Overall, MWE poses that waste will always flow to the cheapest solution and that proper legislation is necessary to primarily ensure safety and health and to protect the environment. Secondary, harmonisation is important to ensure the efficient functioning of the waste market. The more waste is mixed, the more complex it becomes to recycle, the waste recycling costs increase significantly and the risks for market distortions increase correspondingly.

Municipal waste management is a service of general interest and not a free market commodity. The latter would result in cherry picking of the most valuable waste fractions, and in incomplete collection coverage. MWE advocates to safeguard at least a set of minimum conditions to which MS need to comply (e.g. full collection coverage,...).

Differences in the way individual Member States comply with imposed targets, or the difference in speed of achieving the targets are a main source of market distortions. Waste treatment investments, and thus waste markets, suffer from perceived unstable and unreliable European legislation. Furthermore waste management planning happens in a non-harmonised way between MS, resulting in difficult permitting processes.

Lack of clear and complete definitions (municipal waste - *is this with or without similar commercial waste?*; recyclable - *what is the definition of "recyclable"?*; recycled - *what is the definition of 'recycled'?*) make it impossible to have comparable statistics on

European level on the waste quantities produced and recycled, on recycling rates, on landfill reduction. It distorts effective enforcement and a level playing field... Similar problems are generated by non-sufficiently harmonised calculation methods for recycling rates.

Minimal requirements for EPR schemes could minimise the implementation differences between Member States. Examples proposed by MWE are: a percentage of the fees goes to communication/awareness campaigns, the PRO is responsible for collection and treatment of ALL its waste, (incl. residual fraction),...

There is only few attention on industrial waste in the European Directives, nevertheless the quantities are much higher than household waste quantities. Distortions are that different rules exist between both waste fractions (existing collection and recycling targets,...) and a lack of monitoring and transparency of reported figures of industrial waste results in distortions, like arduous waste management planning.

Differences in the way individual Member States organise their taxation system in terms of landfill taxes, incineration taxes, taxation and subsidies related to renewable energy from waste cause market distortions.

The perceived administrative burden related to waste shipments may hinder movements of waste for sorting for recycling or energy recovery, which distorts the markets in case these treatment methods are either not available or there is insufficient capacity locally or national.

3.8 PRO-Europe

PRO EUROPE s.p.r.l. (PACKAGING RECOVERY ORGANISATION EUROPE), founded in 1995, is the umbrella organisation for European packaging and packaging waste recovery and recycling schemes which mainly use the "Green Dot" trademark as a financing symbol. Its primary role is the general licensor of the "Green Dot" trademark.

The markets are distorted because of the different waste management practices between member states and lack of enforcement is the main issue. There are countries with a high degree of landfill and there is a lot of variation in how waste is dealt with and treated at the national level as in some countries there is a strong push to increase energy recovery and recycling while in other countries there is still plenty of landfilling going on with prices that are very attractive.

Eurostat data on waste is not reliable due to member states differences in interpreting legislation. For example with packaging recovery, the definition is based on '100% of packaging put on market' and member states have different ways of calculating what the 100% figure is so data on the percentage recovery of this cannot be compared.

In addition, there appear to be cultural differences across Europe relating to the willingness to sort waste and recycle which some call the 'recycling gene' which is much more common in northern Europe than south of the Alps. Good examples are Belgium, the Netherlands, Spain, Germany, Austria and Portugal.

Finally, there is too much emphasis on waste incineration and energy recovery plants without regard for capacity and overcapacity that they countries may have.

No data on EU level of proportion of waste treated/recycling in EU and that outside of EU. In some member states the level of plastics shipped outside is known. In the UK, for instance, 90% is shipped outside while in Germany 90% of the plastics stays in Germany while 5% goes to other EU markets and 5% to Asia.

There are a broad range of implementation models for waste packaging but not enough to move the EU towards a circular economy. In some member states there is a landfill ban which is a great push towards recycling and energy recovery but plastics and composites are then landfilled in other countries.

A more strategic approach from the EC looking at Europe as a whole would be a possible solution. For instance, action could be taken to support an interregional cross border market for secondary raw materials, rather than the current approach which seems to focus on the national level.

Countries should not be forced to move to complete recycling, it may be necessary to have an intermediate step of increased incineration and the long term (30 year) aspiration should be to maximise material recovery. The EU should offer member states more guidance and platforms to discuss this and it is important to build policy based on the waste hierarchy.

Harmonising practices between member states on the notification requirements for waste shipments would be helpful as well as developing standards for waste processors in the EU and outside as this would help compliance. In addition, regional strategies could be put into place. Finally, the EU should stop subsidising investments in waste incineration and energy recovery plants and put the money towards actions to promote the waste hierarchy (e.g. structural funds)

3.9 RReuse

Rreuse is a European umbrella organisation for social enterprises with activities in reuse, repair and recycling. Rreuse's members are national and regional social economy networks that combine both social and environmental objectives and give them equal emphasis. They mainly work in textiles, furniture, electronics and construction & demolition materials/ waste. Their main aim is to create a policy environment that ensures social enterprises are represented. Social enterprises are those that reinvest their profits into training of disadvantaged groups of the population. Their activities also include exchange of best practices, making suggestions on waste policy and legislation, including the transposition of WEEE and WFD to include reuse.

An interesting example is that of textiles collection and sorting for reuse because the point at which something becomes waste is inconsistent, for instance, when clothes are given away for donation purposes. If the donation is not classified as waste then the authorities/ companies in those regions don't have to comply with national and regional waste legislation. This shows regional differences. The problem is there is no harmonised guidance as to when something becomes waste, it is decided at the regional level. Also, there is a lack of harmonisation in how waste becomes a product again. This is where they focus now as it's related to reuse. Here we see mainly differences in application and implementation of EU legislation. In particular, there is a lack of legal clarification on whether end-of-waste criteria apply to reuse or only recycling. It seems from the art 6 of the EU WFD that it applies only to recycling, but the circular economy package mentions reuse as well. So what you can see is that Member States have the same processes but different legislation regarding when something becomes waste and when something becomes product again. The problem is that some products, electronics, furniture are sold at the local level, but textiles are also sold internationally. In general, a distortion is the different interpretation of EU waste legislation regarding reuse, i.e. determining a point when something becomes waste. The focus is most on recycling and not on reuse.

There is also a different interpretation of EU waste legislation and as such reuse activities differ per MS in requirements regarding when waste becomes product. There

is a lack of guidance and clarity at EU level for reuse and repair and as such there are different strategies or no strategies at all at MS level.

There are in general differences between west, south vs central & eastern. For example Spain, Austria, UK, Belgium, France are good examples because they have large reuse networks and they have a good financial and political support. Central and Eastern Europe has almost nothing.

If there is no action, there are fewer opportunities to create jobs at the local level. Social enterprises are closing down as there is no access to material to reuse since the waste legislation is too strict. If EPR schemes were strictly applied there would be fewer incentives for reuse. Basically when waste legislation is very strict, there is little potential for reuse as a lot of "waste" is classified as waste and as not appropriate for reuse.

First of all, recycling should be separated very explicitly from reuse. Secondly, as labour costs depend on labour price and time needed, fiscal instruments such as differentiated VAT rates could decrease the labour costs. Regarding the time, there is also a way to decrease the time needed for dismantling products. E.g. the design of electronic products should be done in order to make them easier to dismantle. There are different instruments to do that: e.g. eco-design, warranties law, batteries directive. Target setting for reuse is also very important to implement as well as the need for good cooperation between EPR and reuse centres.

Good policy support, a need to separate levels of the waste hierarchy and to adopt a proper reuse vs. recycling methodology is fundamental. Once the methodology is in place, you need to set quantitative targets (as has been done in Spain), implement the use of social clauses, tendering procedures, or even reserve reuse for social enterprises.

3.10 WEEE Forum

The WEEE forum (waste electrical and electronic equipment) is a not-for-profit association of WEEE producer responsibility organisations (or 'producer compliance schemes') in Europe. It provides a platform to share best practices and it is the largest organisation of its kind in the world. The focus is more on projects and less on lobbying.

The market is distorted and distortions are mainly due to four sources: varying transposition of directives, lack of standards in the e-waste markets, different interpretation of requirements and different levels of enforcement between Member States which is the biggest problem in the EU.

As concerns varying transposition of directives, some member states go beyond what is required (gold plating) while others literally transpose what is in the directive.

As concerns the lack of standards, the problem is that national laws and the directive are not sufficient to guide member states in waste management. Moreover, once the standards are in place, member states interpret requirements in different ways since standards are voluntary and one member state can have their own standard or comply with the minimum standard.

Finally, for the level of enforcement, examples of this are the lack of reporting and the lack of (and variation in) force in terms of criminal sanctions for waste crime. This is a factor in the high levels of illegal shipments of waste. Some MSs have insufficient systems for licensing waste management, with high levels of illegal operation. Judges in different states don't communicate with each other and don't develop any common jurisprudence (although treaty adjustment is changing this).

In general there is less control in Eastern Europe, huge volumes are illegally shipped to Africa. An interesting example is that Slovakia are not allowed to export e-waste to secure enough volume in the Slovakia plant, and Hungary has a nationalised compliance scheme controlled by the state and not by the producers which is against the EU principle of producer responsibility.

The impacts of market distortions that can be highlighted concern the fact that often the movement of waste goes to the lowest cost level as well as waste being moved across borders and escapes regulation. For instance, trucks may not be controlled by customs when the volume of waste is below a certain amount and it is also possible that uninspected trucks could contain hazardous waste.

There are various solutions for market distortions. First of all, differences in interpretations of a standard can be addressed by technical specifications through CENELEC, or through audit forms (to have same audit forms and procedures which reduce the risk of misalignment). A general policy could be to have a mandate to develop standards when a Directive is prepared. Secondly, it would be useful to make more use of regulations rather than directives. Thirdly, standards should be made mandatory. Finally, better cooperation between enforcement agencies should be enabled while enforcement entities should be trained on how to inspect lorries, on what is legal and not, and on what is e-waste and what is not.

4 Your voice in Europe survey outcomes

The your voice survey looked at three main questions:

1. What are the main perceived regulatory failures in the EU waste markets?
2. What are the main obstacles connected to the application of EU waste legislation or other EU legislation?
3. What are the main obstacles arising from national, regional and local legislation/decisions?

The focus in each of these questions has been on providing examples and evidence on waste market distortions, the key drivers, the link to legislation and policy, the main impacts and potential solutions.

In summary, the vast majority of replies (48%) came from organisations and trade associations (other than NGOs).

- Among respondents, 92% consider that there are regulatory failures or obstacles currently affecting the functioning of EU waste markets: of those 49% thinks there is a large amount of regulatory failures/market obstacles; 43% only a limited number.
- These obstacles are linked to EU legislation or policy (87%) or national policy, legislation or administrative decisions (81%).
- 74% consider legislative changes are needed; 62 % changes in the policy or decision-making by authorities; and 61% that EU guidance on waste legislation or policy is needed.
- The majority (in total 87%) considers that there are obstacles connected to the application of EU waste legislation or other EU legislation.
- The same proportion considers that there are distortions created by MS policies and requirements (in total 87%).
- A vast majority (80%) considers that there are very large differences between the Member States in the way their waste markets function.

The application of the Waste Shipment Regulation is perceived as very uneven among Member States, whereas some Member States are not well implementing the provisions of the EU waste legislation. Some are raising specific problems and obstacles to the internal market. An overview shows also that several respondents consider some of the procedures in the Waste Shipment Regulation as unnecessarily burdensome.

4.1 Respondent profile

A total of 246 responses were collected for the survey. From these, 119 (48%) regarded respondents from organisations or trade associations (other than NGOs), 68 (28%) respondents were private companies, 21 (9%) government or public authorities, 18 (7%) NGOs. Just a few responses were obtained from individuals and no responses were obtained from European institutions and academia. This implies that the results are skewed towards the answers and insights of organisations and associations, which is not surprising as these represent the companies who encounter the most waste market distortions.

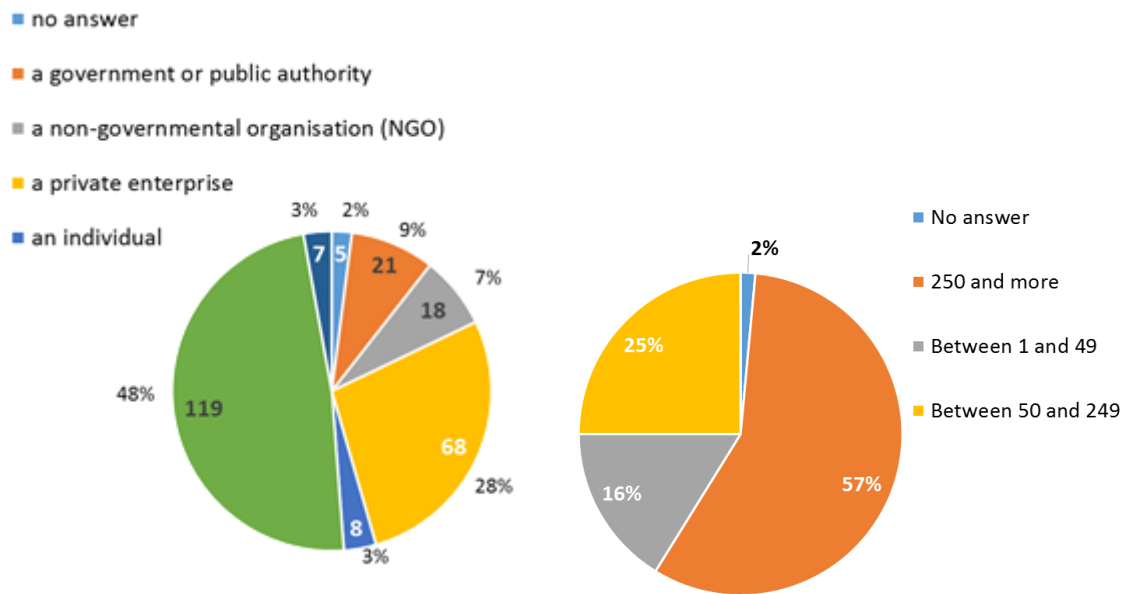


Figure 4-1: Respondent type

From the respondents belonging to the category of 'private companies' (68 respondents), 39 respondents (57%) represented large companies of (more than) 250 employees, 17 (25%) medium-size companies between 50 and 249 people, and 11 (16%) small companies between 1-49 employees. This again implies that the answers on behalf of private enterprises are mainly of those belonging to medium and large companies (these are usually more organised and aware of European policy making and voice their views).

The respondents were for the bigger part residents in Belgium (60 respondents, 24%), the United Kingdom (41 respondents, 16%) and Germany (39 respondents, 16%). Other countries relatively well represented were France (23 respondents, 9%), Spain (22 respondents, 9%), Sweden (19, respondents, 8%), Finland (12 respondents, 5%), Austria (12 respondents, 5%). This is by no surprise as Brussels (Belgium) is the seat of many European industry associations and federations (and these were the main respondents of the survey).

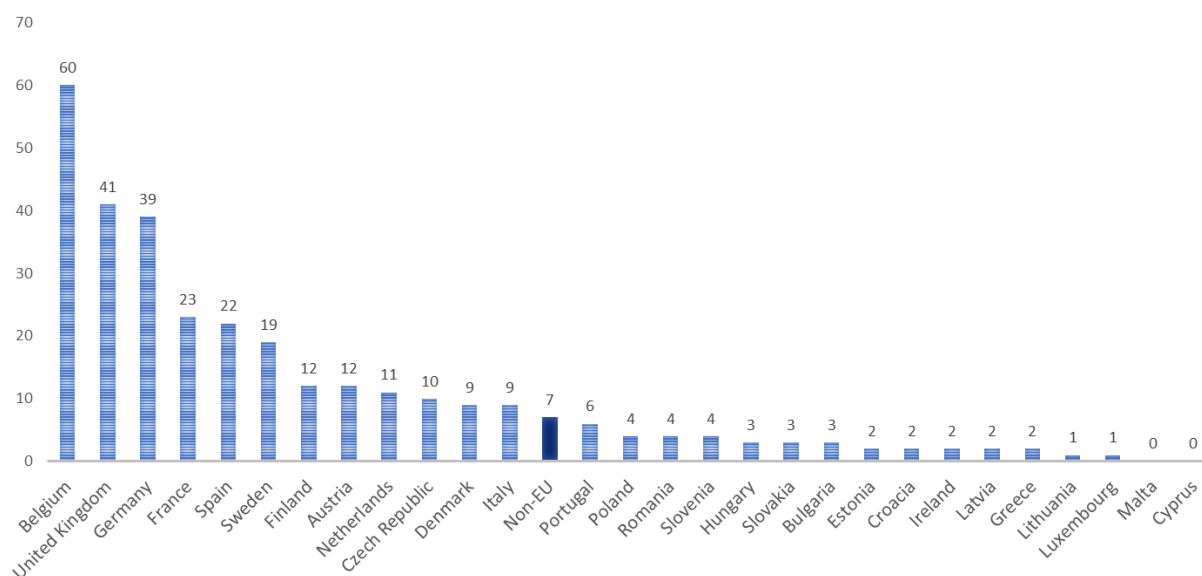


Figure 4-2: Location of respondents

The types of respondents varied per country. 79% of Belgian respondents for instance were organisations or associations (other than NGOs), which is not surprising. 83% of responses in the Netherlands were obtained from organisations or associations. The majority of respondents in the Czech Republic and Denmark were also organisations or associations. Only in the United Kingdom and Germany responses from all five categories (albeit majority were organisations and associations, or enterprises). The majority of company respondents were located in Germany and the United Kingdom. Respondents from individuals were collected only from German, British and Slovak respondents. The survey respondents type also illuminated that NGOs belong to the EU15, and seldom to Eastern European EU12

4.2 Perceived regulatory failures in EU waste markets

The vast majority of respondents think there are at least some regulatory failures or obstacles currently affecting the functioning of EU waste markets. 50% of respondents indicates there is a large amount of such regulatory obstacles, while 43% thinks there are some, albeit limited. Only 2% of respondents indicated there are no such obstacles.

Government and public authorities perceive this failure or these obstacles are existent but limited, so do individuals. NGOs, organisations (other than NGOs) and private companies perceive some waste market regulatory obstacles. Individuals are the group for which these issues are least clear.

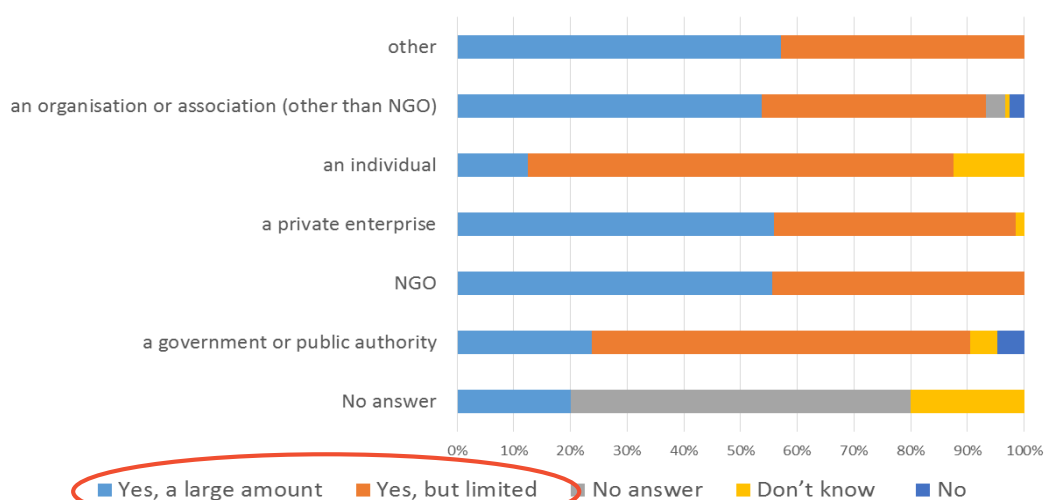


Figure 4-3: Perceived regulatory failures in the EU waste markets

4.2.1 The causes of regulatory failures or obstacles in EU waste markets

Waste market distortions concerning regulatory failures are not only an issue of national legislation but also of EU legislation.

The vast majority of respondents indicated that the waste market regulatory failures are linked to *EU legislation or policy* (87%), and *national policy and legislation* (81%). 44% indicated, the regulatory failures are linked to regional policy and legislation and 34% to local policy and legislation.

When asked to mention what was to blame for the regulatory failures in waste markets, a large number of respondents (56%) referred to specific issues directly affecting movements of waste for recovery, such as the Waste Shipment Regulation's requirements, e.g. the notification- and consent requirements and provisions concerning shipments through transit countries, and Member States' differing interpretations of the definition of 'waste', diverging classifications of waste as 'hazardous' or 'non-hazardous' and the application of national end-of-waste criteria (the latter provisions also related to the Waste Framework Directive). All of these provisions directly affect the way shipments are classified and regulated, e.g. if an item is considered as 'waste', the procedures of the Waste Shipment Regulation are triggered.

Wider distortions in the EU's waste markets, i.e. not directly affecting the way shipments are classified and regulated, were also mentioned as problematic. This mainly concerned the lack of harmonisation of Extended Producer Responsibility schemes, the development of local over- and undercapacities for waste treatment and differing taxes or fees. Other gaps raised included the lack of an EU-wide enforcement of waste legislation and the lack of a policy that either bans or strongly discourages landfilling. The application of the Landfill Directive and its transposition to national legislation is also perceived also as a regulatory failure or obstacle. Responses were similar for the different stakeholder groups except for government and public authorities, where 38% think EU legislation on its own is the main cause of the distortions.

If the obstacles are ranked in terms of a combination of the number of respondents and their view of the severity of the impact they are ranked as follows.

Table 4-1: Ranking of the drivers/ causes related to the application of EU legislation

Driver/ cause ranking	Score
d. Different interpretations of the definition of 'waste' according to the WFD	723
e. Diverging classifications of waste as 'hazardous' or 'non-hazardous' (WFD)	616
i. Application of national end-of-waste criteria established in accordance with the WFD, see further Article 6(4) of the directive.	589
b. Application by national authorities of the provisions concerning waste shipments through transit countries (WSR).	535
a. Application of the system of notification- and consent requirements (WSR)	509
g. Application of the 'proximity principle' resulting in an outcome which is inconsistent with the waste hierarchy (WFD and WSR).	482
f. The distinction between 'recovery' and 'disposal' (WFD)	473
h. Divergent application of the so-called 'R-codes', i.e. the recovery operations listed in Annex II to the WFD	457
c. Other controls imposed on waste or waste shipments by application of EU waste legislation	388
j. Application of the grounds for reasoned objections to shipments of waste for recovery, or the requirements for ESM	325

Table 4-2: Ranking of the drivers/ causes related to national, regional and local legislation

Drivers/ causes (ranking)	Score
c. Development of waste treatment networks leading to local overcapacities or under-capacities for different types of waste treatment (e.g. incineration) to the detriment of higher positioned treatment steps in the EU waste hierarchy.	656
a. Differing taxes or fees leading to internal or cross border 'shopping behaviour'	587
f. Design and implementation of extended producer responsibility schemes leading to competition distortions or market access problems for producers and waste operators.	572
b. Distribution of roles and responsibilities for municipal authorities and private companies in waste management	551
d. Inefficient use of available capacity in recycling or energy recovery in a neighbouring country or within the country itself.	524
e. Regulatory barriers that lead to shipments of waste in spite of facilities existing nearer to the source that could treat the waste in an equivalent or better manner in terms of ESM and the waste hierarchy	439
h. Excessive controls on waste or waste shipments by national/regional/local policy, decisions and legislation that go beyond EU requirements ('gold plating')	420
g. Permits and registrations which are not linked with EU legislation, requested from companies established in other MS, even if they have fulfilled similar requirements in their home MS	412
Others (not listed above)	172

This indicates that the most important regulatory obstacles are different interpretations of the definition of 'waste'; diverging classifications of waste as 'hazardous' or 'non-hazardous'; application of national end-of-waste criteria; application by national authorities of the provisions concerning waste shipments through transit countries; and application of the system of notification- and consent requirements in the Waste Shipment Regulation. All of these drivers/causes scored above 500. Common to them are also that they – themselves or their application in individual cases - create direct barriers to movements of waste for recovery and recycling within the EU.

There were a very large number of comments related to this question. A number of responses contained identical text, implying a common response from multiple members of single (or cooperating) trade associations. The comments included a number of issues on which a consensus was apparent – in that no comments to the contrary were made.

With regard to differing interpretations of 'waste' an important expansion on this point that was raised was the link to other EU legislation and policy. These links include REACH, product standards and to the Circular Economy. A number of respondents made reference to their submissions to the consultation on the Circular Economy. One government respondent raised the lack of definition of the term 'discard', this issue was picked up by another respondent who linked this to the circular economy. There were a number of comments related to a lack of consistency on the application of the term by-product. Four of these comments related to the classification of food waste as a by-product, which enables it to be used as animal feed, though this is not possible in some Member States where it is classified as waste, and as such is not allowed to be used as animal feed. Another point raised on this related to Reclaimed Asphalt Pavement (RAP – which is the worn top surface of roads removed when resurfacing), this is classified as waste in Italy but as a by-product in Germany.

With regard to the classification of waste as hazardous or non-hazardous, the most frequently raised point related to a lack of consistency between Member States on the level of contamination in a stream of reclaimed material (paper/ card, plastics, metal) that was needed to classify a shipment as hazardous rather than non-hazardous.

The application of national end of waste (EoW) criteria was regarded as positive by respondents from some Member States, particularly the UK where national guidance on the issue was well regarded by some respondents in helping to create and stabilise a market for recovered material. One critical comment was received in relation to the use of EoW criteria in the UK as they were seen as favouring EoW (after recovery) as opposed to initial classification as a by-product, this was felt to have a negative impact for certain waste streams. 15 comments were received regarding the difficulties encountered when seeking to ship material from one Member State to another when they had different, or one had no, EoW criteria. An additional problem that was raised by some of those who made this comment was that if the material classified as meeting EoW criteria was used in a product then there may be difficulties associated with this product meeting product criteria (in the Member State or in other Member States) due to different criteria relating to component / material purity for products.

There were a large number of comments (16) confirming a variation between Member States in the interpretation of Waste Shipment Regulations. Some specific points and suggestions for addressing these that were mentioned included the need for consistent guidance (e.g. including illustrations and correlating waste descriptions from the Basel convention, OECD list and Waste Framework list) for customs officials so that they can classify waste shipments in the same way. Differences in the willingness to persecute the initiator (i.e. source) of the waste as opposed to the seller for non-compliance with information requirements were also raised. The practical problems of accurately describing / classifying waste streams made up from combined sources was also raised as concern. The use of electronic (as opposed to paper) forms for non-hazardous waste shipments was mentioned in 12 responses, as a good way to increase accuracy and reduce administrative burden. Although not strictly related to harmonisation between Member States there were a number of comments on the need to address certification for the facilities that waste is shipped to outside of Europe for recovery, recycling or disposal. The lack of any consistent certification was

felt to be unfair to European facilities and also place an environmental risk in the countries that receive the European waste.

There were 25 submissions that provided further comment on the application of the proximity / self-sufficiency principle versus the application of the waste hierarchy. Ten of these comments made the suggestion that the proximity principle should be extended to a European border if it enabled waste treatment / recycling / reuse options that were high enough up the waste hierarchy. Two responses questioned the correctness of the ability of a competent authority to cite the proximity principle as grounds for refusal to import waste for disposal but that if waste was imported for 'recovery' this was not an allowable criteria for refusal. They felt that this was not justified and the proximity principle should also apply to recovery. This opinion was in direct contrast to some submissions (mainly from Member States with waste incineration capacity connected to district heating systems) that the waste recovery option they offered to imported waste was a sound option that should be allowed and encouraged as it was higher up the waste hierarchy than the landfill alternative. Ten submissions raised a specific concern relating to the practice of exporting waste to landfills in Member States with low landfill charges in apparent defiance of both the proximity principle and waste hierarchy. A similar point was made in four submissions which criticised the export of waste, classified as refuse derived fuel, for recovery (incineration) this was felt to make sorting and recycling less likely, which is not in line with the waste hierarchy.

A number of examples were provided of variations in the interpretation of recovery and disposal. The most frequently quoted example related to the exporting of ash and flue gas treatment residues from France to Germany, where it is placed in disused salt mines. This practice would be classified as disposal in France but is classified as 'recovery' in Germany on the basis that it is backfilling a man-made void. A lack of consistency on the definition of backfilling as recovery was specifically raised by 7 respondents.

One comment related to waste recovery concerned the implications of the Seveso III Directive under which waste is not a 'named substance' so any process looking to use a material stream that has been classified as waste faces much lower thresholds regarding trace contamination than is the case for using raw materials which are classified as 'named substances'.

There were four submissions which raised concerns regarding the shipment of wastes for 'scientific testing' purposes. These submissions criticised the small volume of waste that was allowed under the derogation designed to enable this as it felt to be too low for accurate testing. Where larger shipments were required there were difficulties reported with the high cost of regulatory compliance for one off shipments, the time delays and the fact that some research institutes are not registered as waste facilities and therefore are unable to accept waste shipments.

Five submissions (four of them from SMEs) raised concerns about the requirements for financial guarantees for waste shipments. These were felt to be too high and represent a barrier to market entry especially for small companies.

There were eight submissions concerning the lack of consistency in the collation of statistics relating to municipal waste. The potential distortion here related to the lack of consistency in the apparent performance of Member States (and regions) on waste reduction and recycling targets. This lack of consistency could lead to decisions on infrastructure investment and waste import / export that were not ideal.

There were five submissions relating to the treatment of anaerobic digestion (AD) (with subsequent energy recovery) as a waste treatment option. Some felt that in their Member States this technology was overly subsidised via renewable energy support mechanisms. However, others felt that there was a lack of consistency in how AD was classified and that its ability to produce energy and potentially useful material (soil improver) meant it should be classified as a waste recycling option and hence promoted as an option that is high up the waste hierarchy.

There were three submissions relating to detailed concerns on the WEEE recast Directive, and the risk of classifying products being transported for repair as waste if they don't meet strict 'under warranty' definitions. This risked imposing extra costs and making product reuse a much less economically viable prospect.

4.2.2 Impacts of the perceived EU waste market distortions

The most commonly raised impacts concerned EU waste legislation. These impacts regarded firstly the cost of compliance with waste (particularly waste shipment) regulations as in the time taken to complete the forms, or the inability to make changes to perceived relatively unimportant details (such as the registration number of the waste collection vehicle).

Secondly, there were nine submissions which raised the economic impact of materials, resources and employment being lost through potentially reusable / recyclable / recoverable waste being landfilled or going to a lower waste treatment option than it could. The Commission's impact assessment on the Circular Economy package was mentioned as providing evidence of this. Thirdly, the negative economic impact derived from public administrations preventing access to private firms for collection and treatment of waste was highlighted.

Further impacts mentioned resulting from obstacles posed by national, regional, local legislation were lack of fair competition (due to subsidies/ public monopolies), high administrative burden due to the overlapping, unclear and sometimes inconsistent pieces of legislation, and the non-compliance with waste legislation (e.g. illegal shipping).

Input on environmental impacts were collected separately. The majority of respondents indicated that the main impacts of current regulatory obstacles are the reduced reuse or recycling (82%); the reduced resource efficiency (78%); and the increased environmental impacts (75%). Other impacts include reduced recovery, including energy recovery (44%); increased waste generation (35%). Again there were no significant differences in their responses. Reducing reuse or recycling, recovery (including energy efficiency), and resource efficiency were among the three most cited impacts for all the stakeholder groups.

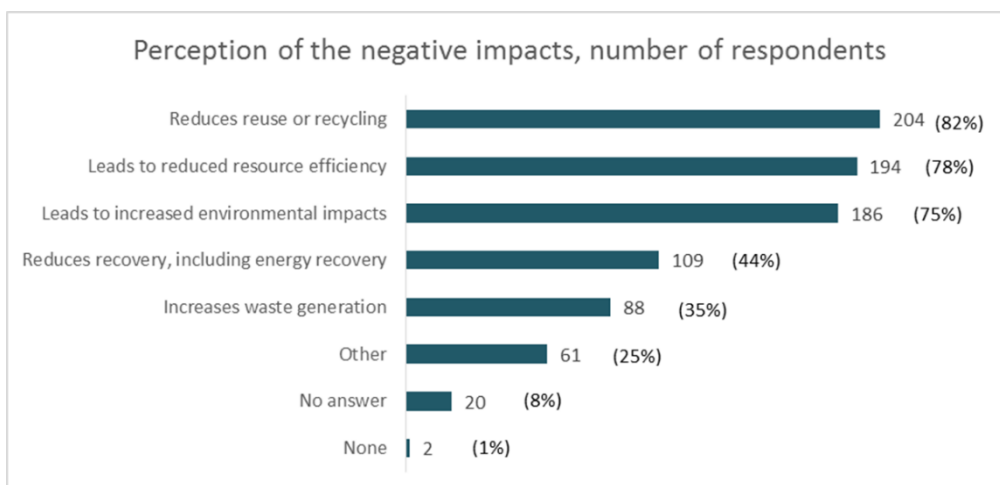


Figure 4-4: Perceived negative environmental impacts

4.3 Differences between Member States

A stark majority of the surveyed (80% of respondents) were of the view that there are large differences between Member States in the way their waste markets function. Concretely 90% of the associations, 78% of the NGOs, 76% of the private enterprises, and 60% of government/ public authorities responded this. Only 8% of respondents perceived just small differences between Member States. Out of these were 19% perceived by government representatives / public authorities, 15% by private enterprises, and 5% by associations.

The differences pointed out read:

- Heterogeneity in landfilling and incineration policies;
- Differences in infrastructure and facilities for recycling;
- Differing fiscal policies and funding possibilities;
- Extended Producer Responsibility schemes; and
- End of waste criteria.

4.4 Potential solutions to overcome the distortions

The main actions that could solve or mitigate the problem of these regulatory failures were indicated by the respondents as legislative and policy changes and EU guidance, which would improve the level playing field among actors operating in Member States and improve the competition. This was the main answer for public authorities while other stakeholder groups supported a combination of actions instead.

The legislative and policy changes needed (appraised by 74% and 62% of the respondents respectively) would revolve around EU legislation, mainly around the Waste Shipment Regulation, in particular relating to the notification- and information requirements, pre-consented facilities, transit provisions and certain definitions, e.g. the notion of 'jurisdiction'. Specific regulatory changes, e.g. concerning electronic systems for data exchange on waste shipment notifications and possibilities to ship to pre-consented facilities were mentioned by stakeholders. The classification of waste under the 'green list' vs 'hazardous waste' was also mentioned as a specific issue

needing either regulatory changes or guidance. In most cases, guidance was mentioned as an option.

EU guidance on waste legislation or policy (was seen as important by 61% of the respondents) to determine how EU waste legislation and policy needs to be interpreted.

With regard to the Waste Framework Directive, legislative and policy changes were mentioned in relation to the harmonisation of Extended Producer Responsibility schemes, restrictions on landfilling, and end-of-waste criteria. More clarity through guidance was requested on key definitions in the Waste Framework Directive, e.g. 'waste', 'recovery' and 'disposal'. Better implementation and enforcement of EU waste legislation was also mentioned as a solution to secure a level playing field and avoid illegal shipments.

On 2 December 2015, the Commission adopted a Circular Economy package. This includes proposals on waste covering some of the above requests for legislative and policy changes relating to the Waste Framework Directive. In particular, the harmonisation of Extended Producer Responsibility schemes, binding targets to increase recycling and reduce landfill and promotion of economic instruments to discourage landfilling, simplification of rules on by-products and end-of-waste. It also contains measures to strengthen implementation of EU waste legislation and improve markets for secondary raw materials. For further information, please see the Commission's website http://ec.europa.eu/environment/circular-economy/index_en.htm.

Further, cooperation between authorities across Member States (including improved cooperation between Member States and the Commission -different DGs) for shipments was seen as necessary by 50%; cooperation between authorities in a country is also necessary for 39% of respondents. The Commission could take a more proactive role in providing platforms for debate between national/ regional/ local authorities, encourage best practice sharing and foster collaboration between policymakers and industry.

5 Analysis on waste markets distortions

Whereas previous chapters present in a neutral and informative way the communicated key positions of the stakeholders in interviews, survey and interactive workshops, and the conclusions of literature research and case analyses, this chapter analyses, integrates and interprets the results of all consulted sources. This chapter has the ambition to perform an inventory of the collected information and opinions and to add the analysis of the author/consultant without binding the Commission.

The analysis covers following key topics:

- Lack of harmonisation of waste management requirements
- Lack of uniform implementation or application of EU waste legislation
- Divergent policy and requirements at national, regional and local level
- Obstacles to waste management activities for companies from other Member States

They are presented in two major categories:

- Direct barriers to movements of waste within the EU.
- Wider distortions of the EU's waste markets.

Additional analysis is added on:

- Geographical variation of distortions
- Impacts of waste market distortions

5.1 Direct barriers to movements of waste within the EU

5.1.1 Non harmonised waste shipment provisions and different interpretations

Non harmonisation

Article 11 and 12 of the Waste Shipment Regulation allow Member States of dispatch, transit or destination to raise reasoned objections, based on a limited set of grounds. Article 11 covers shipment for disposal, article 12 for recovery or recycling.

A major difference between shipments of waste for recovery and disposal is the non-applicability of the proximity and self-sufficiency principles of waste shipped for recycling. The use in practice of these grounds for objection constitutes the playing field on which a Member State can develop policy strategies on import and export of waste.

Specific rules apply to shipments of mixed municipal waste: they are made subject to the same provisions as waste for disposal in certain circumstances, see further Article 3(5) of the Waste Shipment Regulation. A derogation is also made in Article 16(1), para. 2 of the Waste Framework Directive: Member States may, in order to protect their own network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households (including where such collection also covers waste from other producers), limit incoming shipments of waste destined to incinerators that are classified as recovery, where it has been established that such shipments would result in national waste having to be disposed of or waste

having to be treated in a way that is not consistent with their waste management plans.

Identified grounds on which Member States can apply diverging or non-harmonised interpretations are:

- 11. a. The shipment or disposal is not in accordance with measures taken to implement the principles of proximity, priority for recovery and self-sufficiency. Both at Community and national levels, general measures may be applied to prohibit generally, or partially, or to object systematically to shipments of defined waste streams. Case 10 indicated how 12 Member States applied different forms of general application of the proximity principle and thus a systematic objection in case of transfrontier shipments for disposal. Such shipments towards the Member State are in a general way forbidden when it does not possess sufficient capacity to dispose of the waste in a sound way.
- 11. b and 12.b The shipment or disposal is not in accordance with national legislation relating to environmental protection, public order, public safety or health protection. This can only be applied to actions (like treatment, shipment...) taking place in the objecting country itself. Case 1 discussed briefly the distortion this article may generate on the waste markets. However, according to IMPEL interviewed in this case, there is little evidence that this article is in reality abused. According to IMPEL, in the vast majority of the cases, the responsible authorities in the Member States are not creating any unnecessary administrative burden to verify the shipment, but have reasonable requests to provide these checks and balances.
- 11.e The Member State wishes to exercise its right pursuant to Article 4(1) of the Basel Convention. As a general rule a Member State can prohibit the import for disposal of hazardous wastes, wastes collected from households, or residues arising from the incineration of household waste; Case 10 illustrates how Bulgaria and Hungary have formally notified such provisions for general bans, but it also shows how other Member States have included similar provisions in their legislation without notifying them to the Basel Convention.
- 11.h and 12.i The waste is treated in a facility which does not apply best available techniques;
- 12.c The shipment or recovery is not in accordance with national legislation on recovery in the country of dispatch. An objection can be made where the recovery would take place in a facility which has lower treatment standards for the particular waste than those of the country of dispatch. Several exemptions have been defined. It cannot be applied if:
 - There is corresponding Community legislation, and the requirements in the country of destination are at least as stringent as those laid down in the Community legislation;
 - The recovery operation in the country of destination takes place under conditions that are "broadly equivalent" to those prescribed in the national legislation of the country of dispatch. One cannot impose more stringent conditions on foreign installations than on its own installations; or
 - The national legislation in the country of dispatch has not been notified in accordance with Directive 98/34/EC, which is a more formal incentive for Member States to notify their legislation;

The Commission reviewed and reported on the application by Member States of Article 12(c) in its report on the implementation of the Waste Shipment Regulation published in 2012.⁴ Apart from three minor instances in which the application of the

⁴ COM/2012/0448 final, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52012DC0448>.

provision was not clearly relevant, Member States largely responded not to have made use of this provision. Consequently, so far the provision of Article 12(1)(c) does not seem to have had any effect on environmental protection and the functioning of the internal market.

- 12.g The ratio of the recoverable and non-recoverable waste, the estimated value of the materials to be finally recovered or the cost of the recovery and the cost of the disposal of the non-recoverable fraction do not justify the recovery, having regard to economic and/or environmental considerations. The above mentioned arguments amount to it being unclear that genuine recovery would take place as opposed to disposal;
- 12.k The waste is not treated in accordance with waste management plans drawn up pursuant to the Waste Framework Directive with the purpose of ensuring the implementation of legally binding recovery or recycling obligations established in Community legislation.

Case 1 on the prior notification procedure under the WSR found that Member States use the administrative procedures in an unequal way, some asking for more proof than others, and requiring different conditions for the waste shipments, e.g. unequal usage of the possibilities of pre-authorised facilities, perusing the maximal administrative periods. It is argued that the pre-consented recovery facility status in the current Waste Shipment Regulation is not providing any real facilitation of shipment due to the lack of compliance with the tacit consent and due to different criteria being used in different Member States. In Austria for example, 14 criteria need to be met to be granted the pre-consented recovery status, while in Belgium, (Flanders) the facility just need to have an environmental permit which includes among others the identification of the substance/waste being treated, the description of the waste, the code of the waste (LoW code), the applied technology, etc. and following environmental standards. Once the permit is granted, the company can apply for the certificate on pre-consented facility through the environmental authority (OVAM). In other countries, the number of criteria and the type of criteria vary significantly. In addition, some MS do not consider the status and go through the usual check list for notification.

Case 3 illustrates how transit Member States cannot use the full range of objection grounds, but still can use all elements considered useful when evaluating the completeness of a notification file.

Other aspects of non harmonised application of waste shipment provisions, as identified in case 10, refer to:

- A non harmonised definition of municipal waste which is submitted to the proximity principle in case of incineration with sufficient energy recovery. Germany and Greece include in their definition of municipal waste also source selected fractions, which in this way also fall under application of the proximity principle. The legislative proposal to amend the Waste Framework Directive in the Circular Economy package (Section 4.4 above) contains a new definition of municipal waste to clarify this concept. The proposed definition is in line with the definition used for statistical purposes by the European Statistical Office and the OECD and has been used as a basis for Member States to report data for several years.
- Application of the proximity and self-sufficiency principles is possible, but not obligatory, for competent authorities. Although preamble 20 from the Waste Shipment Regulation (EC) n° 1013/2006 states "In the case of shipments of waste for disposal, Member States **should** take into account the principles of proximity, priority for recovery and self-sufficiency at Community and national levels, article 11

of the Regulation states that “the competent authorities of destination and dispatch **may** /.../ raise reasoned objections based on /.../ the principles of proximity, priority for recovery and self-sufficiency at Community and national levels. This leads to, often neighbouring, Member states (like the Netherlands and Belgium) applying different strategies on open or closed borders.

- Within the borders of a Member State, internal waste shipments are sometimes in practice submitted to the self sufficiency principle even for recycling. Greek legislation prohibits waste from leaving the Greek islands for recycling elsewhere. The Greek islands are submitted to self-sufficiency although this is not applicable for recycling according to the Waste Shipment Regulation (Article 12).
- Proximity and self sufficiency are applicable on disposal only. When Member States classify specific waste treatment operations, like mine backfilling, as recovery, these principles are ‘de jure’ non applicable. Divergent interpretation on the nature of mine backfilling as recovery or disposal can lead to distorting aspects.

Different interpretation

Problems with the waste shipment regulation has been the most cited problem in the yourvoice survey (by 30% of respondents). Both MWE and FEAD argue that due to differences in interpretation of the Waste Shipment Regulation administrative burden can be different in different Member States. This burden can prohibit movements of waste for sorting for recycling or for energy recovery, where these treatment methods are either not available or when there is insufficient local or national capacity.

A key element in the way the Waste Shipment Regulation is implemented is Article 28. If the competent authorities of dispatch and destination⁵ cannot agree on the classification as waste or non-waste, as hazardous or non-hazardous waste, or as recovery or disposal, the stricter provisions apply (i.e. in favour of classifying the items to be shipped as 'waste', 'hazardous waste', and destined for disposal) and consequently, with the heaviest administrative burden. This may on the one hand prevent market distortions by Member States offering more lenient environmental conditions to attract a market, but it could on the other hand result in an inappropriate application of the more stringent provisions for protectionist reasons. Nevertheless, according to the interview report as revised by IMPEL, as part of case 1 on the prior notification procedure under the WSR, IMPEL communicates that the stringent provisions are still necessary to make sure the environment is protected as there is a lot of ‘shopping around’ behaviour for the best deal, and the reality is that companies do not in general comply even though they say so. In addition, there is still a very large discrepancy between the environmental performance between the Member States, which also justifies the strict waste shipment procedure.

Article 28 allows Member States to impose import restrictions based on their own evaluation of waste-non waste, hazardous-non hazardous or recovery-disposal of a specific notified waste shipment. In the Cassis de Dijon case⁶ the European Court of Justice defines conditions under which exceptions are possible on the free movement of goods. Where waste can be considered as goods, e.g. for recycling, there are more reasons than the grounds explicitly mentioned in the present Treaty art 36: protection of public morality, public order, public security, health and life of humans, animals or plants, national artistic, historic or archaeological grounds or the protection of industrial and commercial property. These are called the ‘Rule of Reason’. Additionally the case implies to assess whether there may have been harmonisation, whether the

⁵ Case 3 shows how competent authorities of transit are excluded, but still can play a comparable role when evaluating the completeness of a file.

⁶ Judgment of 20. 2. 1979 — Case 120/78

measure is a public interest, whether the measure is applied proportional and whether the case is not an arbitrary discrimination. This makes the Cassis de Dijon case relevant when applying article 28 of the Waste Shipment Regulation.

One of the members of FEAD considers the provisions of article 12.b as being an unnecessary burden. This article allows competent authorities to object against a waste shipment for recovery, when a planned shipment or recovery would not be in accordance with national legislation relating to environmental protection, public order, public safety or health protection concerning actions taking place in the objecting country. According to FEAD this would hinder businesses from setting up activities in other Member States with similar solutions as in the home market. This is a valid argument in cases where it would effectively hinder a better waste treatment option higher on the waste treatment hierarchy. But in the way article 12.b is formulated it serves to prevent lower waste treatment options which are not consistent with local waste planning in line with article 28 of the Waste Framework Directive. The article 12.b does not impede better recycling options, and defends the subsidiarity principle and the autonomy of Member States to aim for environmental performances above the EU acquis. According to IMPEL, interviewed in case 1, there is little evidence that this happens in reality. The responsible authorities in the vast majority of cases only ask for what is really necessary to provide the necessary checks and balances and do not intend to create any unnecessary burden or be overly protectionist.

When environmental conditions are equal between Member States, because both comply with the European provisions and both have an equal or similar national level of ambition, borders could be opened for waste shipments and markets could benefit from adequate price settings and from removing market inefficiencies. FEAD illustrates this with the case where the Netherlands authorities have made the assessment that in Germany and Belgium equivalent treatment infrastructure for hazardous waste is available, and have opened their borders for the shipment of hazardous waste. The shipment of non-hazardous residual waste for energy recovery is however still hampered in Europe (e.g. the Belgian borders are closed thereby maintaining inefficiencies in the markets according to FEAD). If however by opening borders recyclable waste leaves a Member State freely to be incinerated elsewhere, this could distort the high recycling ambitions of that Member State. Case 10 identifies a similar situation.

Case 10 illustrates how divergences in interpretation of the waste shipment legislation can occur as divergent legal provisions in the Member States, or as divergent approaches on similar cases in the case-by-case evaluation of notification files.

On the other hand, case 1 which analyses in a greater detail the prior notification procedure under the WSR demonstrates that if 'opening' borders for shipments of waste will be feasible in practice, this would mean that concerns about traceability of waste have to be addressed. It would be necessary to assess whether the application of the recently strengthened inspection requirements in the Waste Shipment Regulation (660/2014) in combination with the current system of information requirements (Article 18 and Annex VII), would be sufficient to ensure that waste is managed in environmentally sound facilities.

Case 3 demonstrates the importance of the quality of the notification file. The better the file, the less divergent evaluations of the file are given by the competent authorities. A stakeholder within case 3 argues that authorities of transit Member States do play an important role as safety net in case of poor quality in the administrative follow up of Member States of dispatch or destination.

The second stakeholder group reflected on how the Member States' implementation of the Waste Shipment Regulation and the Waste Framework Directive is too divergent. This results in obstacles to legitimate and environmentally desirable waste movements and prevents a level playing field for waste management industry. Many participants pointed out that the main problem is not the provisions in existing EU waste legislation themselves, but failures by Member States to properly implement them. Focus should be on implementing existing waste legislation in a uniform way and not on changing this legislation. This was in contradiction with the outcome of the public stakeholder consultation which showed that 74% of respondents found that legislative changes are needed, and 87% found that regulatory failures are linked to EU legislation. The most frequently mentioned implementation issues were the waste definition, classification of waste as hazardous or green-listed, the classification as recovery or disposal, the waste hierarchy and specific provisions in the Waste Shipment Regulation: the role of transit countries, pre-consented facilities, too long time-delays for dealing with notifications, often supplementary requests for information from authorities, the issue of who is responsible for attaching the Annex VII-document is not uniformly applied, and the provision on more stringent classification when Member States disagree.

5.1.2 Box case 1: distortions generated by the waste shipment regulation's procedure with prior written consent for intra-EU shipments for recycling

The Waste Shipment Regulation states that within the EU shipments for recovery and recycling of amber-listed waste, unlisted waste and mixed municipal waste need to comply with the prior notification procedure. Green-listed waste for recycling benefits from a relatively free market: an identification form and a signed agreement between sender and receiver are sufficient and the company does not have to submit any documents to the authorities prior to carrying out the shipment. Shipments of waste for recovery and recycling of amber-listed waste, unlisted waste and mixed municipal waste are thus subject to a more stringent system, based on a prior consent regime where companies need to await the authorities' consent before carrying out the shipment. Member States can object to a shipment for recovery or for disposal using a specific list of elements in Article 12 of the WSR⁷, among which non-compliance with their own waste management plan. All shipped waste should be treated using environmentally sound management. The selection of the correct procedure is rather complex.

The notification procedure results in administrative burden for both the company shipping the waste and the competent authorities in the countries of dispatch, transit and destination. For many industry stakeholders (see results of the stakeholder consultation) the notification procedure distorts the EU waste markets. It is considered that this procedure creates too much unnecessary burden, which goes at the expense of treating waste by waste management operations higher up in the waste hierarchy. In other words, waste goes to landfilling or incineration instead of being recycled. Some authorities in charge of implementation/enforcement argue that stringent control procedures are essential to make sure shipped waste is treated in an environmentally sound manner. Many improvements to be made on the side of both the industry and regulators to have an efficiently functioning waste markets. New procedures and/or digitalisation could decrease the red tape and improve the timeliness of current waste shipment procedures.

⁷ In accordance with article 3.2 of the WSR, mixed municipal waste to recovery facilities shall be subject to the same provisions as shipments destined for disposal, and therefore not art 12 but art 11 applies.

5.1.3 Box case 2: divergent application of article 18 and annex VII in the Waste Shipment Regulation

The Waste Shipment Regulation requires that certain information (Article 18 and Annex VII of the Regulation) is provided when non-hazardous waste and waste for recovery is shipped. The purpose is to ensure that waste is managed without endangering human health and in an environmentally sound manner throughout the period of shipment and during recovery or disposal. Some of these requirements have been interpreted differently between Member States and risks leading to obstacles to movements of waste between Member States.

These requirements are the following:

- The person which has to accompany shipments of non-hazardous waste and waste for recovery with the Annex VII-form needs to fall "under the jurisdiction of the country of dispatch" (Article 18 of the regulation). Sometimes this has been interpreted as requiring a seat of establishment in the country from where the waste is to be shipped. Other Member States only require a registration in a national registry or a permit under national laws and do thus not require any establishment within its country.
- Transporters e.g. when driving waste by road across Europe for recycling, waste collectors, dealers and brokers are all required to have registration or permits, see further Articles 23-26 of the Waste Framework Directive. National documentations proving registration, particularly of transporters, and their respect of the respective national legislation differ between Member States and are not always publicly available. Issues have arisen relating to these documents when used in other Member States. In some Member States, permits from other Member States are recognized and no extra permit is required, but in others it is not the case. It is also argued that it is difficult to find out what the rules in the different Member States are.
- Relevant waste codes shall be filled in to identify the waste in Annex VII (Box 10, waste identification). Issues have arisen where waste covered by different codes are loaded in the same container or truck.
- Relevant recovery operations have to be filled in to identify the final recovery process the waste went through (Box 8 in Annex VII). Issues have arisen when the final recovery operation is not known because: waste transits with temporary operations (reconditioning, rebaling ...) being carried out; the waste is subject to temporary storage or; the recovery operation changes in the last minute.
- Name and details concerning importer/consignee (Box 2), waste generator, original producer, new producer or collector (Box 6) and recovery facility (Box 7) shall be provided in Annex VII. Confidentiality issues have arisen as regards the protection of business secrets.

5.1.4 Box case 3: administrative issues on waste shipments through transit countries

The application by national authorities of the provisions concerning waste shipments through transit countries is alleged to create market distortion, due to administrative delays and specific conditions or objections.

Competent authorities of transit Member States have a limited but existing role in the administrative deployment of shipments under notification procedure. They can evaluate the completeness of the notification file, they can raise specific conditions or objections, they can deliver written or tacit consents, and they have an inspection role limited to their territory.

An extended long administrative procedure could be caused by the administrative handling of notifications by the competent authority of transit. This issue is exacerbated by the fact that waste for recycling often has to transit through several Member States which take time to process the notifications. Tacit consent by the competent authority of transit can be assumed if no objection is lodged within 30 days, see further Article 9 of the Waste Shipment Regulation. However, this has been considered by several stakeholders to result in excessive delays to ship waste for recycling. Article 14 of the Waste Shipment Regulation includes a simplified procedure for pre-consented facilities reducing this period to 7 days, which in practice seems to have been challenging, or in many cases virtually impossible, to comply with for Member State authorities. Delays are exhaustive in many cases, and tacit consent does not always work as some competent authorities ask for written consent also in countries of transit.

This obstacle may result in increased economic and operational costs due to heavy administration process and additional follow-up needed on longer transport routes and delayed transport. There is capital hold-up due to delays in shipments and risk of business loss as exporters may decide to choose other facilities with easier and faster transport procedures. Thus, materials are being sent to other countries with fewer regulatory hurdles but where treatment may be lower in the waste hierarchy. Furthermore, it also hampers potential investments and innovation in the recycling industry, which will also have negative consequences on jobs and growth. In conclusion, such obstacles may lead to the distortion of a fair level playing field and hamper the functioning of the internal market within the EU.

5.1.5 Box case 10: the application of the proximity principle to shipments within and between Member States

Proximity and self-sufficiency principles are closely related and often treated as one. Article 16 of the Waste Framework Directive states how Member States should establish an integrated and adequate network of waste disposal installations, in order to enable the Community as a whole to become self-sufficient in waste disposal, and in the recovery of mixed municipal waste collected from private households. Member States may not apply the principles of proximity or self-sufficiency to waste shipments for recovery. They may limit incoming shipments of waste destined to incinerators that are classified as recovery, if this would result in national waste having to be disposed of or waste having to be treated in a way not consistent with their national waste management plans. See further Article 3(5) of the Waste Shipment Regulation and Article 16(1), para. 2 of the Waste Framework Directive described in above Section 5.1.1.

Potential market distortions are:

- Different implementation of the proximity principle through the application of general objections. These objections however lead to less landfill options and create a stimulus up the waste treatment hierarchy.
- Differences in case-by-case application of the proximity and self-sufficiency principles can lead for the internal market as a whole to lower performance on the waste treatment hierarchy. Both open and closed borders can have a negative effect on the waste treatment hierarchy. Open borders combined with overcapacity and low prices for incineration in a neighbouring Member State lead to loss of market share for recycling at home. Closed borders and a lack of homeland recycling capacity lead to waste being landfilled because the available recycling capacity remains inaccessible.
- (illegal) Application of the proximity principle on waste shipments for recycling reduces the availability of recycling options.
- Application of the proximity principle on source separated municipal waste reduces recycling options for separated fractions as glass, paper, metal, plastic, wood, textile...

The available incineration capacity is not equally spread over Europe. Significant regional overcapacities for waste incineration exist in specific Member States, while in other home capacity is lacking and transfrontier capacity is difficult to access.

The proximity principle is meant to apply for waste destined for disposal. Waste for disposal is not a commodity and in this way the proximity principle is not preventing the free movement of goods. Application of the principle should, however, not lead to waste management operations lower down in the waste treatment hierarchy. For example, using the proximity principle to prohibit shipments of waste to other Member States or regions where the waste can be recycled. The official reason might be that the recycling of certain waste is not allowed but it can also hide other reasons such as the desire to fill in the incineration (over)capacity or to levy high landfill taxes locally. A sound implementation of the waste hierarchy and of the proximity principle needs to be ensured through a harmonised approach.

5.1.6 Different interpretation of European definitions and concepts

Different interpretation and unclarity with respect to waste definitions and concepts has been indicated by the stakeholders as one of the main obstacles in the EU waste markets. This has been ranked as no.1 driver/cause of waste market distortions related to the application of EU waste legislation in Yourvoice survey. The reason behind is that European waste legislation includes several definitions and concepts which trigger the application of different procedural requirements for waste shipments under the Waste Shipment Regulation (WSR). For example, if an item falls within the definition of 'waste' under the Waste Framework Directive (WFD) its shipment has to comply with the requirements of the Waste Shipment Regulation, if it is 'hazardous', it will have to follow the most stringent procedure i.e. the prior notification and consent procedure and, on the other hand, if it is a 'by-product' or fulfils end-of-waste criteria the item to be shipped is not subject to WSR. These concepts sometimes leave room for further interpretation at national and regional levels.

For example, there are different interpretations of what counts as **"waste"**, **'hazardous waste'**, **'recovery'** and **'disposal'**. Eurometaux gives an example of a case of a German company wishing to export a waste (slag) that was rich in copper to a facility in Belgium which could extract this copper. Differing interpretation of definitions between the two countries made this a complex and time consuming procedure which made it less profitable and attractive.

Another example was given by CEPI, who noticed a different interpretation of the concept of **"separate collection"** of waste. In the Waste Framework Directive (2008/98/EC), a provision has been set in art 11.1 third sentence, to set up separate collection for paper. The goal of this provision is to maintain the quality of the material and to avoid cross contamination. All of this to avoid a loss of part of the material, available for reuse or recycling, and thus to maximise resource efficiency and minimise costs for further sorting or treatment of the waste. Some Member States allow the comingled collection of "recyclables" assuming this also accounts as separate collection, but which is less effective in terms of recyclability of the material. Case 10 indicates how differing interpretation of the concept of municipal waste can lead to diverging application of the proximity and self sufficiency principles. The acceptance of waste for incineration classified as recovery, or for incineration of mixed municipal waste, does influence the occurrence and the impact of distortions only if gate fees for these kinds of treatment are competitive in a way to hinder homeland recycling or in a way to hinder the development of a homeland recycling sector.

This same case 10 also indicates the problematic interpretation of the concept of recovery or disposal, in case of backfilling operations. This can distort the waste treatment statistics as well as the application of the self sufficiency principle. The acceptance of import, by classifying it as recovery or recycling in national law or national waste management plans while other Member States consider it as disposal (e.g. backfilling of mines), does influence the occurrence and impact of market distortions.

Case 4 on Danish classification of waste also discussed how interpretation of green- and amber-listed waste can have negative impacts on the free movement of waste for recovery.

Case 2 analysed divergent application of Article 18 and Annex VII of the Waste Shipment Regulation, where some of the requirements imposed by these provisions on the shipment of non-hazardous waste and waste for recovery are applied and interpreted differently by different Member States. These are for example requirements with respect to the person accompanying the shipment, who needs to fall under the jurisdiction of the country of dispatch (which is debatable), or to

registration documents for transporters and facilities where the national registration documents needed vary greatly among Member States (see box below).

In addition, the “Your Voice” survey results indicate that targets are not harmonized across Member States, which leads to waste being disposed in landfills in cases where other Member States would not allow it.

5.1.7 Non harmonised End Of Waste Criteria

European end-of-waste criteria (EoW) only exist for metal scrap, glass, aluminium and copper. The process to come to supplementary criteria is difficult and time consuming. For other waste types, different end of waste criteria set on national or regional level can result in market distortion.

EBRA illustrates how lack of EU criteria can distort the way in which recycling efficiencies are calculated. There are no end-of-waste criteria set at the European level for the recycled fractions of batteries (lead, plastics, etc.). Whether certain fractions are considered as waste or have achieved the nationally set EoW status, has a large impact on the calculation of recycling efficiencies. For crossborder working industry actors it is difficult and time-consuming to obtain a EoW status for each Member State applying national procedures. Market distortions occur when it is easier for a company in one Member State to achieve recycling efficiency than for a similar company in another Member State. FEAD confirms how divergent national EoW criteria lead to uncertainties for waste operators and reduce their ability to exchange on best practices between their different entities. Article 6§4 of the Waste Framework Directive does not provide sufficient ground for the Commission to oppose a national EoW because it remains under the notification status (Directive 98/34/EC) only.

According to the Yourvoice survey, the lack of uniformity and clarity in end of waste criteria has been provided as one of the main aspects of policy creating waste market distortions. The surprisingly high amount of respondents who mentioned the lack of harmonized End of Waste criteria usually complained about the lack of criteria for certain products, such as recycled paper, aggregates, rubber waste. Others insisted on a more clear specification of the differences between a recovery operation and industrial practices, which can be easily interpreted by national authorities and market operators.

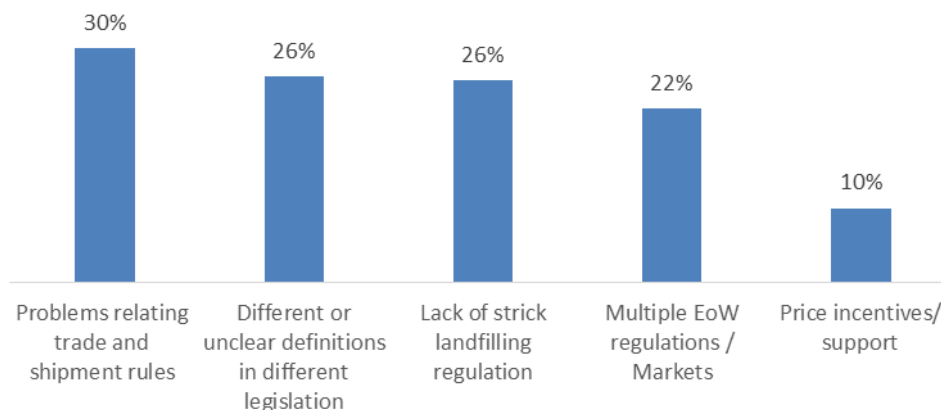


Figure 5-1: Examples of regulatory failures/ obstacles

The application of national end of waste (EoW) criteria was regarded as positive by respondents from some Member States in the Yourvoice survey, particularly the UK where national guidance on the issue was well regarded by some respondents in helping to create and stabilise a market for recovered material. One critical comment was received in relation to the use of EoW criteria in the UK as they were seen as favouring EoW (after recovery) as opposed to initial classification as a by-product, this was felt to have a negative impact for certain waste streams. 15 comments were received regarding the difficulties encountered when seeking to ship material from one Member State to another when they had different, or one had no, EoW criteria. An additional problem that was raised by some of those who made this comment was that if the material classified as meeting EoW criteria was used in a product then there may be difficulties associated with this product meeting product criteria (in the Member State or in other Member States) due to different criteria relating to component / material purity for products.

The stakeholders in the second workshop suggested how end-of-waste criteria could be adopted for certain waste streams. Mentioned were waste tyres. A single decision on end-of-waste cases, with applicability over the whole of the Union would be appreciated. Criteria should also be adopted for certain waste to be considered as by-products.

EoW criteria at EU level aims at encouraging recycling in the EU by creating legal certainty and a level playing field for the recycling industry, thus removing unnecessary administrative burden and enhancing the raw materials supply of industries with high-quality secondary raw materials. However, despite the above-mentioned potential benefits, it appears, from the feedback received by the (recycling) industry and some Member States e.g. DK, that the Regulations on EoW criteria may not be providing the sought effects in the markets. Understanding the uptake of EoW status is, therefore, crucial to ascertain the present situation and in the development of future EoW criteria. In 2014, a study was carried out in that sense for the metal scrap Regulation. The conclusions are not encouraging, see further <http://susproc.jrc.ec.europa.eu/activities/waste/documents/LF-NA-26884-EN-N.pdf>.

Earlier in December 2013, the failure of the legal proposal on EoW criteria for recovered paper following a motion for a resolution at the EP signalled that the EoW dossier could be conflictive. The Commission services have worked under the assumption that the EoW status would bring both administrative and economic benefits to all actors. However, this assumption has been proved wrong. In the ill-fated paper EoW dossier, the Commission inadvertently got involved in an internal dispute between waste paper collectors and paper recyclers with divergent interests. Unexpected situations like this which goes beyond the legal and technical debate brings in a degree of complexity which cannot be ignored and should also be addressed at the onset of the EoW process.

5.1.8 Lack of policy in terms of secondary raw materials

FEAD observes how the distortion on the secondary raw materials market is not caused by a policy but by the absence of it. There is often no roadmap to increase reincorporation of recycled materials in manufacturing processes. Policy lacks incentives like price guarantees, insurance systems, harmonised Green Public Procurement criteria or guidelines related to circular economy. While waste recycling is

supported by several policy measures the use of recycled material is not supported at a same level.

This has been stressed also during the second workshop, where the participants clearly indicated that secondary raw materials markets are less clear policy-wise, which hinders their development. Stakeholder participants clearly stated that the discourse should shift from waste as a 'failure' – something to avoid, to waste as a 'resource' – something to drive for. Also it was indicated that some current waste legislations hinders the development of secondary raw materials markets as some 'waste' cannot be used further as a material.

5.2 Wider distortions of the EU's waste markets

5.2.1 Non harmonised extended producer responsibility schemes

The second workshop concluded how additional harmonisation of waste legislation is needed on certain, specific issues. Mentioned was in particular Extended Producer Responsibility.

Extended producer responsibility (EPR) is one of key instruments in supporting the implementation of the waste hierarchy. But EPR policies have been designed and implemented in a very heterogeneous manner across Europe. These differences result in large performance discrepancies between the different schemes. The study "Development of guidance on extended producer responsibility" (BIOIS; 2014a) showed however that there is not one single EPR model that emerges as the best performing and the most cost-effective. Nevertheless, the study suggested a number of guiding principles for the operation of a good performing EPR scheme.

Lack of full net cost coverage

One of the principles of the polluter pays principle (PPP) is that the design and implementation of an EPR scheme should at least ensure the coverage of the full net costs related to the separate collection and treatment of the end-of-life products.

In most Member States producers/importers pay for 100% real cost coverage of collection, transport and treatment of packaging waste, however in France producers cover only 75% of these costs (see further box case 5). Both producers of packaging that end up as waste as well as consumers that dispose of can be considered as polluter. From the interview in case 5 it became clear that the French local collectivities are willing to partly finance collection and treatment of waste, giving them more freedom to organize the scheme according to their expertise and local practicalities. But the concept of extended producer responsibility (EPR) is to make producers/importers of products responsible for the end-of-life phase of their products, and allow them to distribute these costs to their clients. France therefore appears to be not implementing the key principle of EPR, as part of the costs are not carried by the producer nor the consumer of a specific product, but by the society as a whole.

Likewise, in the UK it is estimated that the fee covers only 10% of the total cost of the system. This generates a low cost-effectiveness of the scheme and a low compliance with the polluter pays principle. In addition to this, the low fees do not generate sufficient financial incentive to engage in behavioural change and in waste prevention.

The EPR scheme in Slovakia illustrates the opposite situation. Producers pay a high fee, but collection rates are low. The low cost-effectiveness of this scheme leads to

less willingness to comply and to avoidable public spending to cope with the non-collected waste fractions. This again harms the polluter pays principle.

Lack of true cost coverage by participants in an EPR scheme

The UK House of Commons report on circular economy identifies the existing producer responsibility schemes as lacking sufficient incentives for single producers to increase recyclability of products.⁸ This is because such current compliance schemes do not have individual producer responsibility (of individual true cost coverage) in them. Hence, individual producers do not have the incentive to bear all the cost for improving their business model to increase recycling, while spreading the benefits to all producers. This happens in a system where all producers pay an equal fee per tonne (or a cost which is not sufficiently differentiated according to the product put on the market) for dealing with the end-of-life waste treatment system based upon market share.

EPR-schemes implemented by divergent national and regional strategies

Due to a lack of minimal requirements for the implementation of EPR schemes and due to a missing general framework defining the concept of EPR or a set of rules, all 28 Member States apply a different system of organising EPR. EBRA argues that for batteries in some Member States (e.g. Belgium) there is only one monopoly organisation, while in other Member States (e.g. UK), competition between several organisations is mandatory by law. For packaging waste, case 4 showed that in Denmark for example, there are currently no producer responsibility schemes other than for beverage packaging, and therefore responsibility remains with the municipalities (who can collect it for a lower cost than industry).⁹

Also for paper, CEPI adds, there is no general framework or a set of rules and all 28 Member States have a different system of organising EPR. The EPR-schemes are not harmonised and suffer from a lack of transparency. This makes it very difficult to find the optimal and efficient way of collecting and processing paper waste. MWE favours the introduction of a set of 'minimal requirements' for a PRO. For example: a percentage of the fees going to communication/awareness campaigns, making the PRO responsible for collection and treatment of ALL its waste (including the residual fraction). FEAD states that this lack of transparency creates distortions when producer responsibility organisations (PROs) with an operational activity interfere in the market relations between waste producers and waste operators, since these PROs are market players and market dividers at the same time. Municipalities could thus benefit in an inappropriate way from certain EPR systems which makes it difficult for the private sector to get access to waste handled by municipal monopolies.

The question on Enhanced Producer Responsibility (EPR) schemes raised a number of interesting points in the Yourvoice survey. The issue that was most commonly raised, with 10 respondents mentioning it, was a concern that monopoly EPR schemes can distort the market, because they are claimed to result in higher costs than would be the case if the scheme was open¹⁰. This creates according to the respondents' competition distortions or market access problems for producers and waste operators. The Yourvoice survey clearly showed that the EPR heterogeneity across Europe causes concerns, and this was ranked as no. 3 driver/ cause of waste market distortion due to national, regional or local policies differences.

⁸ House of Commons Environmental Audit Committee. (2014). "Growing a circular economy: ending the throwaway society", Third Report of Session 2014-15

⁹ Interview with the Danish Ministry of Environment and Food

¹⁰ This is not the case as has been mentioned in the BIO IS study

The actual way the competition is organised is however not a distortion leading to lower recycling performances, according to our definition. Competition can be organised between PROs and between waste collectors/treatment plants working in the frame of a PRO. Also the mere status of the collection system or treatment plant (public or private) does not automatically make a difference in recycling performance. Nevertheless, lack of transparency can hamper inspection and enforcement, facilitate free-riders and hinder the generation of statistics and the assessment of the distance-to-target.

The legislative proposal in the Circular Economy package includes minimum operating requirements for extended producer responsibility, see Section 4.4 above.

5.2.2 *Box case 5: Failure to implement the polluter pays principle in extended producer responsibility schemes*

The limited cost coverage of the French packaging EPR scheme is regarded as a waste market distortion, due to its non-compliance with the polluter pays principle. In France a collective EPR scheme for household packaging waste is in use via 2 PRO's. Local authorities are responsible for collection and sorting of household packaging waste, being reimbursed by the collective schemes. The household packaging recycling rate was 67,1% in 2014. Taking into account the costs for collection, sorting, recycling and treatment, the system has a cost coverage of 74,8%, which is 5% below the legal objective of 80% cost coverage.

The French approach does not lead to effective market distortions as the non full cost coverage is not in breach with any legal provision from the Waste Framework Directive. Moreover no apparent lower recycling performance can be observed in France that might be caused by its EPR system. The limited cost coverage can however be regarded as non-compliant with the principles of PPP or can be perceived as an issue of social injustice, as part of the costs are to be covered by general public funds.

Apart from the non-full cost coverage, France also applies in parallel a performing system of true-cost attribution or eco-modulation. This latter system strengthens the incentive for individual ecodesign and may compensate for the former system of non full cost coverage. Cost coverage and cost distribution are only one aspect contributing to an efficient and environmentally effective EPR scheme (next to the problem of freeriding, recycling targets, true-cost, ...)

5.2.3 *Lack of harmonisation in methods measuring progress*

Member States, EPR schemes and stakeholders are confronted with recovery, recycling or landfill diversion targets measured against different benchmarks, like the waste treatment situation in a year in the past, a percentage of waste collected, a percentage of material put on the market. Guidelines or provisions on how to measure and calculate a distance to target are not always sufficiently harmonised. The Commission Decision 2011/753/EC for instance establishes rules and calculation methods for verifying compliance with the recycling targets set in the Waste Framework Directive, but provides four different calculation methods between which a Member State may freely choose.

The Communication 'towards a circular economy'¹¹ identifies the lack of harmonisation in the existing measurement method to assess what is actually recycled, as some Member States currently report waste collected as waste recycled despite significant material loss between these phases. There is scope for further streamlining and facilitating national-level data collection and reporting, and increasing the reliability of data and its consistency across the EU. Adopting common indicators will facilitate better monitoring and benchmarking of Member States' performance. The Circular Economy package contains a legislative proposal aiming to ensure the reliability of data and how Member States should report what is effectively recycled and can be counted towards the attainment of the recycling targets, see Section 4.4 above.

Selection of waste to be included or excluded for the calculation of a recycling target.

The collection rate of batteries is calculated on a moving average of the placing on the market of new batteries, but EBRA states that there is no clear definition of "consumer/portable batteries". Member States use different interpretations. EBRA argues that in the UK an exaggerated amount of lead-acid batteries are reported as collected consumer/portable battery. WEEE forum indicates how CFC fridges are in some markets mixed with other scrap appliances, while in others this is not allowed. In the first situation recycling targets are more easily reached.

Similar problems are raised by CEPI, MWE, CEWEP and FEAD on the lack of sufficient clarity in the definition of concepts of "municipal waste" or "household waste". Member States use different approaches to include or exclude similar commercial waste. This distorts the assessment of the 2020 target in the Waste Framework Directive stating that 50% of household waste should be recycled.

No definitions of household waste or municipal waste are included in article 3 of the Waste Framework Directive or in article 2 of the Waste Statistics Regulation, which is identified in case 10 as a major problem when applying the principles of proximity and self-sufficiency on municipal waste for incineration with energy recovery.

The metadata for EUROSTAT database [env.wasgen] based on the Waste Statistics Regulation annex I reporting, states in its chapter on comparability: "Some countries cannot distinguish precisely between municipal waste and waste generated by households. Municipal waste can also include waste generated by small businesses and offices." Metadata for EUROSTAT database [env.wasmun] based on the voluntary OECD/Eurostat Joint Questionnaire section waste, offer a definition represented in the box below:

The amount of municipal waste generated consists of household and similar waste collected by or on behalf of municipal authorities. For areas not covered by a municipal waste collection scheme the reporting countries estimate the amount of waste generated. The term 'municipal' is used in different ways in the separate countries reflecting different waste management practices. The bulk of the waste stream originates from households, though similar wastes from sources such as commerce, offices and public institutions are also included. Differences between countries are to some extent the result of differences in the coverage of these similar wastes. According to the OECD/Eurostat Joint Questionnaire municipal waste includes the following types of materials: paper, paperboard and paper products, plastics, glass, metals, food and garden waste and textiles. The definition also includes bulky waste (e.g. white goods, old furniture, mattresses), and garden waste, leaves, grass clippings, street sweepings, the content of litter containers, and market cleansing

¹¹ European Commission. (2014). Communication 'Towards a circular economy'

waste, if managed as waste. It includes waste originating from households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings). It also includes waste from selected municipal services, i.e. waste from park and garden maintenance, waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste), if managed as waste. It includes collected waste from door-to-door through traditional collection (mixed household waste), and fractions collected separately for recovery operations (through door-to-door collection and/or through voluntary deposits). For the purpose of the questionnaire, municipal waste refers to waste defined as above, collected by or on behalf of municipalities. The definition also includes waste from the same sources and similar in nature and composition which are collected directly by the private sector (business or private non-profit institutions) not on behalf of municipalities (mainly separate collection for recovery purposes), originate from rural areas not served by a regular waste service, even if they are disposed by the generator. The definition excludes waste from municipal sewage network and treatment, municipal construction and demolition waste.

The legislative proposal on amending the Waste Framework Directive, which accompanies the Circular Economy package released on 2 December 2015, contains a way to define municipal waste :

1a. "municipal waste" means

(a) mixed waste and separately collected waste from households including:

- paper and cardboard, glass metals, plastics, bio-waste, wood, textiles, waste electrical and electronic equipment, waste batteries and accumulators;*
- bulky waste, including white goods, mattresses, furniture;*
- garden waste, including leaves, grass clipping;*

(b) mixed waste and separately collected waste from other sources that is comparable to household waste in nature, composition and quantity.

(c) market cleansing waste and waste from street cleaning services, including street sweepings, the content of litter containers, waste from park and garden maintenance.

Municipal waste does not include waste from sewage network and treatment, including sewage sludge and construction and demolition waste;'

Due to the actual lack of clear legal definitions and broadly accepted guidance on what is included or excluded from terms like municipal waste, household waste or consumer waste, recycling performances can be calculated and assessed differently in different Member States which has an impact on the functioning of the waste markets, on effective enforcement or the desire to have a level playing field.

Methods to calculate a recycling rate can vary between Member States

Unclear definitions make it impossible to have comparable statistics on European level on the waste produced and recycled, on recycling rates. As stated above the Commission Decision 2011/753/EC foresees four different methods to calculate municipal waste recycling rates. Rates can be based on the amount collected for recycling or the much lower amount that is usefully recycled. These differences in interpretation make comparison hard. A harmonised monitoring system (using a usefully recycled 'output' approach) would be an improvement.

The Circular Economy package contains a legislative proposal aiming to ensure the reliability of data and how Member States should report what is effectively recycled and can be counted towards the attainment of the recycling targets, see Section 4.4 above.

Methods to calculate a recycling rate can be interpreted differently in Member States

EBRA illustrates how the amounts of batteries put on the market by the producers have to be reported in units, while all other tonnages (collected, recycled,...) are reported in weight. To calculate the quantity placed on the market and the collection or recycling rates, it is necessary to use average weights per battery type and size. This is an approximation of reality, and if done differently in different member States it can be a source of non-comparability.

Case 8 leads to the conclusion that uniform reporting templates (simple and clear) are needed that would unify and simplify the control method of the actually achieved levels of recycling and preparing for re-use and recovery of municipal waste.

See above regarding legislative proposal contained in the Circular Economy package (also relevant to the sections below).

Collection rates can be calculated based on what has been put on the market and based on what is available for collection.

Especially when there is a time lag between what is being put on the market and what is available for collection the approach can lead to different results. This is especially the case for long lasting products on a non purely replacement market, like PV installations; or for products which are not easily or completely made available for collection, for example by consumers hoarding discarded cellphones or batteries.

EBRA illustrates this effect with the collection performances of batteries. The collection rate achieved for non-rechargeable batteries is much higher than for rechargeable batteries due to the life time and hoarding effect for secondary batteries. Rechargeable batteries can have a lifetime of up to 10 years or more, while single use batteries have a lifetime of 1-2 years. Organisations involved with collection would prefer to have a collection rate calculated on what is available for collection, while the rate actually imposed on batteries does not make a distinction between non-rechargeable and rechargeable batteries. This proposal would make it easier to achieve the collection rates but it would reduce the overall tonnage collected and sent for recycling.

Quantities “collected for recycling” do not equal quantities “recycled”

A frequently recurring issue is the discrepancy between amounts `collected for recycling and amounts actually recycled. This can be generated by two aspects. Waste materials collected for recycling can still be landfilled or incinerated with or without energy recovery, in cases where the overall recycling performance already complies with EPR or other policy targets, and also in cases where recovery or landfilling remains cheaper. Secondly, recycling processes can differ in the quantity of recycling residue they generate, which is especially true in the case of transfrontier shipment which are difficult to control.

EBRA illustrates this phenomenon as for consumer/portable batteries there is no ban on landfilling. Therefore, batteries which are not identifiable are sometimes included in the collection rates but are in reality not recycled because of the lower cost of non-recycling of the batteries. Battery recyclers do not receive the whole tonnage even

when it is collected for recycling. CEPI notifies identical issues for the recycling rate of paper and MWE generalises: it is not clear which figures are to be taken into account: the quantities at the entrance of the sorting plant, at the exit of the sorting plant, or at the entrance of the final recycling plant.

When targets are based on quantities "collected for recycling" discrepancies can occur based on the actual recycling processes in the different Member States. At this moment, Member States can still choose between several calculation methods.

Data on quantities exported for recycling are not consistently or accurately collected.

PRO-Europe signals a lack of accurate statistics on waste shipments. Especially when quantities exported for recycling are taken into account when calculating recycling performances this can lead to distortions or non-comparable statistics. We assess that statistics on waste shipped for recycling and recycled in third countries can suffer from two main data problems:

- The quantity shipped for recycling could be interpreted as recycled without considering or knowing the quantities of recycling residue that are generated, even in the case of ESM (environmentally sound management) of the waste in line with article 49 of the Waste Shipment Regulation.

There is a big gap between quantities permitted for transfrontier shipment, as reported in box 5 'total intended quantity' of the notification document, and the sum of the shipped quantities as reported in box 5 of the individual movement documents of the actual shipments. Moreover, the latter data source depends on the often lacking return rate of the confirmations of receipt or certificates of recovery or disposal according to article 16 d and e of the Regulation, and of the administrative capacity of the Member States to manage the data in these documents.

5.2.4 Non-harmonised reporting methodology between Member States

Non-harmonised reporting methodology between Member States is a source of distortion in waste markets because it creates a barrier for market entry for companies wishing to deliver waste management activities in Member States other than their own. An example is the non-harmonised reporting methodology of recycling efficiencies of WEEE. Recycling efficiencies (RE) are to be reported to the national authority of the Member State of the recycling company, but also to the suppliers of the (for example) waste batteries (in most cases the EPR schemes), originating from other Member States. In the latter case, the calculation method of the Member State where the collection scheme is established must be followed. The lack of EU harmonisation can result in different recycling efficiencies for the same type of batteries recycled in the same process.

Case 8 proposes to introduce uniform reporting templates (simple and clear) that would unify and simplify the control method of the actually achieved levels of recycling and preparing for re-use and recovery of municipal waste.

Case 2 also looked at the different reporting requirements and practices across the Member States with regard to the Article 18 and Annex VII of the WSR. For example, many times reporting of the name and details concerning importer/consignee, waste generator, original producer, new producer or collector and recovery facility is not done due to confidentiality issues. However, this results in illegal shipment where it is difficult to track down the responsible people.

5.2.5 Non harmonised methodologies assessing the environmental performance of products, services and companies.

Lack of a common methodological approach to enable Member States and the private sector to assess, display and benchmark the environmental performance of products, services and companies based on a comprehensive assessment of environmental impacts over the life-cycle ('environmental footprint')¹² and thus no optimisation of the material resource efficiency of products (e.g. reusability/recoverability/recyclability, recycled content, durability). Reusability etc.. has a direct impact on the waste lifecycle phase of these products and its performance in line with the waste treatment hierarchy.

Case 8 refers to different levels of environmental performance of the service of municipal waste collection and (pre)treatment, and argues for the introduction of certified environmental technologies of municipal waste treatment with technologies that meet BAT requirements and which prove to bring the lowest environmental impacts. In concreto the case argues against municipal waste collection in only two containers (wet and dry).

5.2.6 Non uniform understanding of "periodic" inspections

The Commission report on the implementation of the EU waste legislation for the period 2007 – 2009 also stated that there was a different understanding of the requirements for "periodic" inspections and the related establishments affected by inspections under the Hazardous Waste Directive.¹³ This relates to the inspections based on specific cases and complaints, and whether these were sufficient to comply with the requirement for appropriate periodic inspections. The report adds that it was not always obvious whether the inspections and the reporting requirements really covered producers of hazardous waste or generally undertakings or establishments involved in waste management.

5.2.7 Different levels of enforcement and compliance between Member States

This type of waste market distortion has been identified as a major problem in the EU by several of the stakeholders interviewed as well as according to the latest Commission implementation reports on EU waste legislation.

Member States have various reporting obligations concerning implementation of waste legislation, see further <http://ec.europa.eu/environment/waste/reporting/index.htm>. The Commission report on the implementation of EU waste legislation for the period 2007–2009 stressed that there are doubts in terms of practical enforcement concerning the mixing ban and the related exemptions defined by the Hazardous Waste Directive. The report also stressed the lack of compliance with the 2006 WFD, mainly with the implementation of the waste hierarchy.¹⁴ This is mainly visible from the available statistics on the infringement cases, previous implementation reports and the Commission's own studies showing that there is still a high degree of reliance on landfilling.

The Commission's report on the implementation of WSR, published on 17 December 2015 for the years 2010-2012 (COM(2015)660) addresses shipments that have followed the notification procedure, and thus contains less information on non-compliance. However, the report provides some data on illegal shipments and the

¹² European Commission. (2011). Roadmap to Resource Efficient Europe

¹³ European Commission. (2013). Commission report on the implementation of the EU waste legislation for the period 2007 – 2009. COM(2013) 6 final

¹⁴ ibid

measures taken by Member States for their detection, see further <http://ec.europa.eu/environment/waste/shipments/reports.htm>. Many illegal shipments escape the control of enforcement bodies and do not show up in these statistics. IMPEL has conducted coordinated joint enforcement actions which have clearly shown the gravity of the situation, see further <http://www.impel.eu/>.

It is expected that the amendments to strengthen the enforcement and inspections of the Waste Shipment Regulation that were adopted by the European Parliament and the Council in 2014 (Regulation No 660/2014) will, if properly implemented, bring down the currently high levels of illegal waste shipments. These amendments provide e.g. powers to authorities involved in inspections to control waste shipments and requirements for Member States to establish inspection plans based on risk assessments on a regular basis (first inspection plans due on 1 January 2017).

More recent examples on divergent enforcement and compliance levels were collected from stakeholder interviews. For example, according to EBRA, not all of the Member States achieve the collection rate targets, even though recycling companies invested in recycling capacity to cope with the expected higher collection rates. WEEE Forum added that with regard to e-waste markets, Member State differences in enforcement are one of the largest problems in the EU.¹⁵

The lack of reporting and lack of (and variation in) force in terms of criminal sanctions for waste crime are examples of barriers to waste markets and contribute to the high levels of illegal shipments of waste. Some Member States have insufficient systems for permitting waste management, with high levels of illegal operations. Moreover, judges in different member states insufficiently communicate with each other and do not develop any common jurisprudence (although treaty adjustment has changed this).

Illegal transport of waste was mentioned by Eurometaux, stating that large flows of illegal waste are going from the EU to Asia or Africa. This results in non-compliance with Waste Shipment Regulations.

As illustrated by the survey "Your Voice", the lack of a Europe-wide enforcement of the Landfill Directive that either banned or severely discouraged landfilling, is a hindrance to the proper functioning of EU waste markets as its transposition to national legislation differs per country.

The Circular Economy package contains an action plan referring to measures to improve cooperation with Member States for better implementation of EU waste legislation, and to combat illegal shipments, see Section 4.4 above. The Commission has already launched a number of compliance promotion initiatives to ensure better implementation of EU waste legislation, including on municipal and hazardous waste and separate collection, and raise awareness at national level. According to the action plan, the ongoing close cooperation with Member States will be stepped up and better link waste legislation with wider actions in support of the circular economy, see further http://ec.europa.eu/environment/waste/framework/support_implementation.htm.

5.2.8 Divergence in verification and control systems between Member States

In the European Union, the production of waste and its management is monitored by statistics. These data are collected by EU Member States and must be reported to EUROSTAT on a regular basis. Nevertheless, reporting methodologies between Member States often differ creating a distortion in the waste market. An example is

¹⁵ See also Countering WEEE illegal trade (CWIT project), <http://www.cwitproject.eu/>

the amount of reported packaging placed on the market and the amounts of reported packaging recovered and recycled. A study (provided by Pro Europe/ DSD) by Sismega and Ffact (2013) analyses these data collected in Belgium, France, Germany, the Netherlands, Poland, Portugal, Romania, Spain, and the United Kingdom to identify potential differences in the application of EC Decision 2005-2007¹⁶. For instance, of the nine countries studied, only four countries (UK, BE, NL, DE) have implemented a verification and control system both for the amount of packaging placed on the market and the amount recovered and recycled. Thus, their data is more reliable compared to the others which are only controlling the amount of packaging placed on the market or to those that have not implemented either of the verification systems.

Another divergence in the verification and control systems that create distortion in the waste market concerns legal requirements that influence the illegal transport of waste. Often, in fact, waste is illegally transported to other countries and some Member States are stricter than others in respect to control systems. For example, for WEEE in France there is a ban on cash transactions, thus, everything has to be recorded and paid electronically. This enables a better control of the e-waste flow. This kind of control system is not in place in other countries.

5.2.9 Non uniform waste planning and implementation

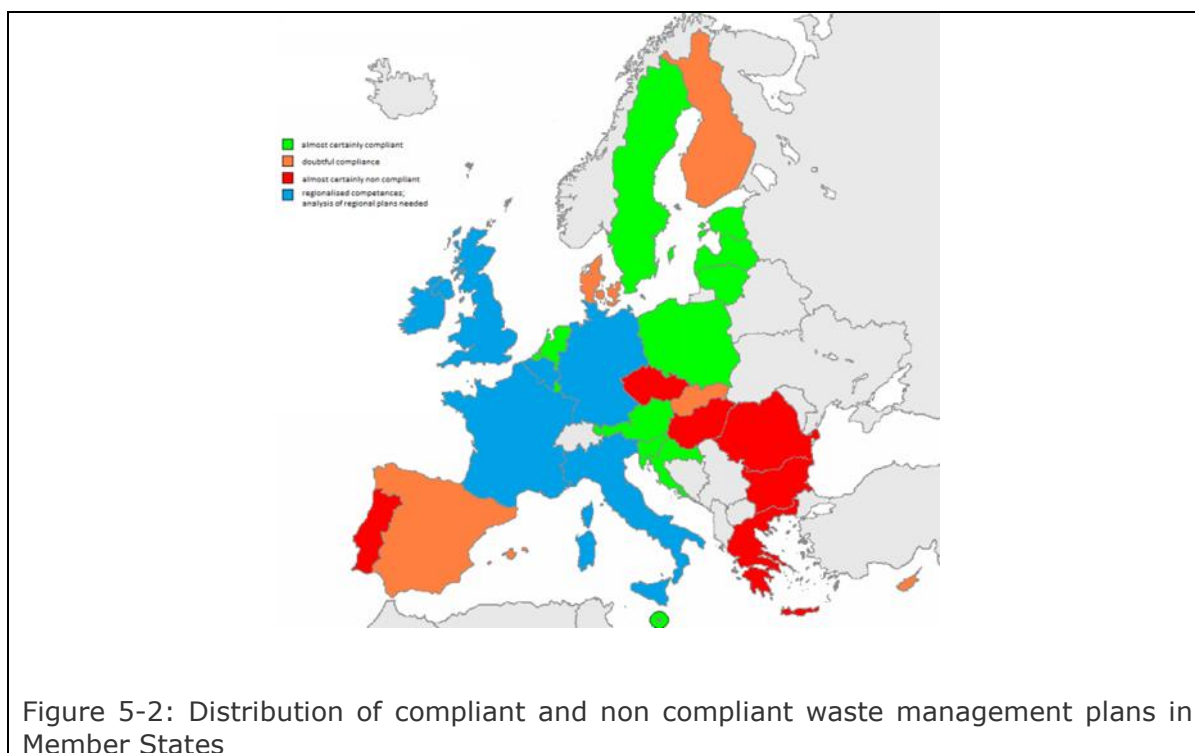
ARCADIS et al. assessed for DG Environment two specific ex-ante conditionalities regarding the consistency, completeness and adequacy of the waste management plans (WMP) and associated measures with the requirements of the Waste Framework Directive¹⁷. Would national or regional waste management plans be able to lead towards achieving the target on re-use and recycling. Only if regional or national WMP exist and are of sufficient quality DG Environment could advise DG Regio in a positive sense on possible ERDF or SF funding.

The study concluded: Very seldom a WMP complies with all aspects of conditionality 2 and 4. It would be useful to provide Member States or regions with a standardized structure for its WMP, in which they have to motivate why specific aspects of article 28 are not applicable for the Member State, because the existing collection schemes and waste treatment infrastructure is fully deployed and able to cope with the targets, because no waste treatment or disposal plants need to be closed, because no new landfills are planned etc...

There is no obvious relation between environmental performance and the quality of the national WMP regarding ex ante criterion 2, e.g. for the excellent scoring Baltic states with rather poor environmental performance, or for unexpectedly weak scoring Scandinavian countries with excellent environmental performances

¹⁶ Sismega and Ffact. (2013). EPR data verification study.

¹⁷ ARCADIS. (2013). Screening of national and selected regional waste management plans on ex-ante criteria 2 and 4.



The analysis on specific regional WMPs on the ex-ante criterion to cope now and in the future with generated waste amounts in line with targets and waste treatment hierarchy showed that of 13 cases 5 are definitely insufficient, 6 had clear weaknesses and 2 are good. The analysis shows large differences in the way Member States and regions cope with their obligation to make compliant waste management plans, of which the quality or the ability to handle waste management challenges is also very varied.

5.2.10 Differences between Member States in considering municipal waste collection as a service of general interest or not

This type of market distortion has been identified by two stakeholders (MWE and FEAD) during interview. The evidence shows that differences exist between Member States in the role that municipalities play in the municipal waste management systems. In most Member States, municipal waste management is considered as a service of general interest. Local or regional authorities are responsible for the prevention, collection and treatment of municipal waste (in many cases with the help of private contractors). However, in some other Member States this is not the case and municipal waste management is considered as a free market activity, sometimes resulting in “cherry picking” of the most valuable waste fractions, and gaps in the collection coverage (e.g. Ireland, some Eastern European Member States).

FEAD added that these divergent policies at Member State level can also lead to unfair competition for the private actors vis-à-vis local or regional authorities responsible for municipal waste. Since municipal waste management is considered in some Member States as a service of general interest, several municipalities have their own waste management companies, often without transparency in the price setting or separate accounting. Exclusive rights are awarded to them and private companies are excluded from the competition, thereby not fulfilling the Teckal criteria in the Public Procurement Directive. Moreover, these companies have their own treatment plants, and also operate in commercial markets, like in Norway and cause distorted markets

by agreeing binding contracts with municipalities to supply waste to their treatment plants over a certain period of time, to prevent empty capacity. This could limit the incentives to invest in innovative technology. In Sweden, the private sector has made a complaint to the EU, which is now in the infringement process. The question of how the Teckal criteria in the Public Procurement Directive should be interpreted needs to be answered at the EU level. The monopoly rights, as well as the long term contracts, restrict the ability of the private sector to carry out recycling and recovery operations.

Case 8 illustrates the effects of a shift of policy from a free market approach to a 'collection as a service' approach in Poland. Since 2013 the free market approach was left and municipalities have been given the duty to accept all municipal waste from owners of properties on their territory, to impose fees for the management of the collected municipal waste by the municipality, and to reach the EU targets before 2020. Since 2013 full coverage of municipal waste collection has been reached, selective waste collection increased by about 43%, prices of municipal waste collection have increased by approximately 30% compared to 2012, and a decrease in the amount of generated waste of almost 16% in comparison to year 2012 is observed. Preferred treatment techniques remain a cheap two container system ('dry' and 'wet' waste), treatment by MBT and low grade recycling.

5.2.11 Lack of harmonisation between local authorities on waste collection

Local authorities have a high degree of autonomy in terms of the way in which waste collection is organised. This can result in widely different practices within a country, demanding a high level of flexibility from waste companies and creating complexity in waste management. For example, the House of Commons report¹⁸ identifies a market distortion in the way recycling collections are governed in the UK. These are done on a local level, differing by area, i.e. different waste collection schemes are in place in different parts of the country. The report calls for a standardised approach to recycling services, i.e. a nationwide code for local authorities that would help manufacturers design for recyclability.¹⁹

5.2.12 Lack of waste treatment planning at a higher level than the national

According to MWE waste treatment investments and thus waste markets suffer from unstable and unreliable European legislation. Waste management planning happens in a non-harmonised way between Member States, resulting in difficult permitting processes. Environmental permitting of waste treatment facilities may suffer in some sensitive regions more from the effects of a perceived NIMBY syndrome than others.

Case 10 indicated how a combination of closed or open borders and under- or over capacity of waste incineration can lead to distortions. Open borders combined with overcapacity and low prices for incineration in a neighbouring Member State can lead, and have led, to loss of market share for recycling or other waste management infrastructure at home. Closed borders and a lack of homeland recycling capacity can lead to waste being landfilled because the available recovery capacity remains inaccessible.

Case 9 on incineration taxes in the Netherlands showed that indeed some harmonization of waste policies at EU level would be desirable, otherwise 'shopping

¹⁸ House of Commons Environmental Audit Committee. (2014). "Growing a circular economy: ending the throwaway society". Third Report of Session 2014-15. London: The Stationery Office Limited

¹⁹ EEF. (2014). Materials for Manufacturing.

behaviour' for the best deal will continue. This case also showed that some EU level planning is in particular needed for the incineration capacity, as some EU Member State have overcapacity, while others have under-capacity or no capacity at all. Open borders can support shipment of waste to treatment options higher up the waste hierarchy in other countries, however, some 'supporting' policies, such as export taxes or bans might be necessary to derive to the optimal waste treatment.

Similarly, during the second workshop, some participants pointed out that issues relating to over- and under capacity for waste incineration could be solved by EU-wide management of capacities.

In general the figures presented in case 10 might allow drawing the conclusion that in Europe significant regional overcapacities for waste incineration exist, but on the total aggregated level additional investments in waste incineration capacity might be useful to divert additional waste streams from landfilling.

5.2.13 Differences in national or regional strategies in terms of waste treatment capacity

The market for recovery through incineration has been opened at a European level and this could threaten the application of the principle of proximity set out in the Waste Framework Directive as well as the recommendations set out in the Roadmap to a Resource Efficient Europe, which advocates that a high priority should be given to prevention, re-use and recycling. The legislation in force states that only shipments to incinerators below the energy recovery threshold set in the Annex II of the Directive (EC/1013/2006) and shipments of mixed household waste need to be notified. As indicated by Birnstengel et al. (2011), there is currently an overcapacity of incineration for municipal waste in some European countries, while other countries have a shortfall in capacity, that generates an increasing volume of waste shipments.²⁰ This increase in waste shipments may slow some countries in the achievement of the recycling targets set out in the WFD. During the Symposium on international trade of waste in Brussels, Wante (2015)²¹ indicated an example in different national strategies on this topic: Flanders (BE) has chosen a strict implementation of the self-sufficiency and proximity principle and has therefore closed its borders for mixed municipal waste. On the contrary, the Netherlands chose to open its borders for municipal waste, set high taxes for the incineration of national municipal waste (to stimulate prevention and recycling) and does not set taxes for imported waste. Case 10 also indicates how differences in national open or closed border policies, in combination with over- of under-capacity for waste treatment, can lead for Europe as a whole to underperform in the waste treatment hierarchy.

Development of waste treatment networks leading to local overcapacities or under-capacities for different types of waste treatment (e.g. incineration) to the detriment of higher positioned treatment steps in the EU waste hierarchy has been ranked as no. 1 driver / cause of waste market distortions due to national, regional or local policies in Yourvoice survey. This is related to large capital and operating costs, and as such it is understandable why the respondents would regard this as having the largest distorting effect. For example, the large amounts of capital invested in waste treatment facilities provides a clear incentive for this capacity to be utilised (to make a return on the

²⁰ Brinstengel et al. (2011). Treatment capacity and cross-boundary waste flows in Europe, ISWA Beacon Conference on Waste-to-Energy. Malmö. Sweden. November 3 2011.

²¹ Wante J. (2015). Challenges from a policy perspective. Symposium on international trade of waste: economic research and policy implications. Brussels.

capital) even if it may be (or may have become) a sub optimal choice in terms of the waste hierarchy, as mentioned by a couple of respondents in the Yourvoice survey.

In terms of wood waste and biomass, the study Ex-post evaluation of certain waste stream directives²² indicates that one of the stakeholders commented that "Due to the high capacity of biomass incineration plants in north Europe and the competition that exists among the operators of incinerators, the price of wood is currently low and this is a counterincentive for the industry to increase recovery."

A huge overcapacity of waste incineration plants in some countries/ regions has been mentioned as an issue by FEAD and PRO Europe/ DSD who stress the negative effects on material recycling. For example, Germany's landfill ban led to intensive but uncoordinated building of incineration plants, which is resulting in 30% overcapacity (PRO-Europe/ DSD). FEAD points out that a huge overcapacity on waste incineration, mainly built by the municipalities, is a barrier to material recycling and reaching high goals. This relates not only to household waste but also commercial waste, when it is cheaper to incinerate. The same is currently happening with biogas plants and the monopoly services of municipalities for household food waste.

In the Netherlands, the incineration over-capacity is said to be the reason for opening the border for waste to be incinerated in the Netherlands, when the Dutch government introduced no import tax for waste to be incinerated in the Netherlands, while domestic incinerated waste is taxed (see case 9). However, this argument was refuted by the stakeholder interviewed in case 9, and the reason for overcapacity was given to be the decrease in domestic incinerated waste and increased efficiency of incineration plants. The interviewer in case 9 also pointed out that the incineration capacity should be looked at the European level rather than national level. From this perspective there is no overcapacity.

²² BIOIS et al.(2014b). Ex-post evaluation of certain waste stream Directives – Final report to DG Environment

5.2.14 Box case 7: Restrictions of waste shipments between regions in one member State

The national Italian regulatory framework has stipulated as follows a principle of Regional self-sufficiency: It is forbidden to dispose of non-hazardous MSW in different Regions than those where such waste was produced, unless the case of regional or international agreements, if the territorial factors and technical/economic possibilities to achieve optimized levels of served population so require. Where this provision narrowly applies to mixed (i.e. residual) municipal waste to disposal, legal discussion occurs on its applicability on pretreated waste (classified as "special" waste) or on waste incineration classified as R1. Court rulings often contradict each other and do not provide final clarification. In daily practice, pretreated waste falls out of the scope of the provision, but incinerators classified as R1 or D10 do, when they are subject to regional or provincial planning. The Government has adopted in 2014 a specific Decree to establish a "national network of incinerators" for those sites classified as "R1". Such incinerators can be used for national and not only regional needs. This legal provision is factually overrunning the restrictions on cross-regional shipment of MSW and makes the overcapacity of some Regions (e.g. Lombardy) available to other Regions with insufficient treatment capacity

The possibility to deviate from the principle of regional self-sufficiency is specifically linked to "territorial, economic, technical" factors, which makes it relatively complicated to justify, and for political reasons is seldom used. In some cases the combined effect of local under-capacities and the need to comply with the Landfill Directive has even led to shipment of waste abroad to northern European Member States with low gate fees, in spite of the availability of facilities within the same Member State.

The Decree establishing the national network is disputed at various levels for diverging from the waste treatment hierarchy, as it focusses on thermal treatment, disadvantages MBT and composting solutions, is not considering further possible increase of recycling rates in the mid- and long-term, allows deviation based on old and less ambitious waste management plans, re-attributes planning authority back to the national level without Strategic Impact Assessment, and implies that old incinerators are kept operational and be revamped. Conflicts between the Governmental plans and Regional/local decisions is causing friction at the Institutional interface.

The intended overarching goal by the national Government is however to overcome current critical situations in various areas around Italy. The bias towards incineration to the detriment of recycling and the lost possibilities to plan different treatment systems higher on the waste treatment hierarchy, like composting of material recovery and the risk for lock-in effects on incinerator investments may create a waste market distortion.

It is not the regulatory principle (be it the prohibition of cross-regional shipments, be it its contrary, i.e. the promotion of it) that causes constraints and distorted effects with regard to the waste hierarchy. What really matters is the overall strategy such constraints/permissions apply to. One should always carefully consider the mid-term evolution. Local plans and strategies must address the mid-term effect of EU Directives and policy, e.g. the Circular Economy package so as to avoid overcapacities of systems and technologies that may only deal with mixed

waste as it is the case with incineration. The application of the self-sufficiency principle for disposal and recovery through incineration at regional level in Italy distorts the market and makes incineration capacity inaccessible in a way leading to landfill. But the establishment of a national incineration grid, overcoming this regional self-sufficiency principle, on its turn causes a market distortion though its sole focus on incineration.

5.2.15 Differences in environmental regulations between Member States as a determinant of waste trade

Different environmental and social standards often exist between Member States and between EU Member States and countries outside the EU. Kellenberg (2010) hypothesises that: "*cross-country differences in environmental regulations are a significant determinant of waste trade*"²³. His empirical study found that waste imports increase for a country whose environmental regulations deteriorate vis-à-vis its trading partner, and that there is substantially less waste traded when both the importing and exporting country have ratified the Basel Convention on hazardous waste trade. This shows that the laxer the environmental regulation, the more likely waste trade is to happen and waste will flow to the country with the lowest environmental requirements. None of the stakeholders interviewed mentioned a specific example of this but some did mention (and agree with) the principle.

In addition, differences in waste legislation hinder waste trade when leading to supplementary administration and even might guide waste towards a suboptimal solution within one's own Member State because it becomes too complicated to reach a more optimised solution cross-border in another Member State. Case 3 illustrates this with the example of national or regional implementation of articles 25 and/or 26 of the Waste Framework Directive, creating specific regimes to register or permit waste transporters. When multiple Member States or regions have to be crossed, and they all have different regimes which are not accepting registrations or permits issued in another Member State, administrative burden can rise to a level where it blocks access to cross-border waste treatment solutions.

5.2.16 Differences in collection and recycling objectives and achievements

The recycling directives (packaging waste, WEEE and RoHS, batteries, ELV) and the Waste Framework Directive impose recycling targets for specific waste streams. Some Member States literally transpose legislation while others go beyond what's required. Some stakeholders call this 'gold plating'. In this case, several Member States impose stricter targets for these specific waste streams or targets for other waste streams. This could lead to a shift from disposal operations, which are to be realised in the Member State based on the self-sufficiency principles, to recycling operations, for which, to a certain degree, a free market is installed. This could lead to more transboundary movement and suggests that there is a need for better alignment on national and regional regulations in terms of waste movements. A perverse effect might be the shipment of waste for recycling to countries in the Far East where the risk of recycling under low environmental and human conditions is possible.

Furthermore, there are differences between Member States in the way individual Member States comply with imposed targets, or differences in the speed of achieving

²³ Kellenberg, D. (2010). Trading Wastes. *Journal of Environmental Economics and Management*, Vol 64-1, p. 68-87.

the targets. For example; for consumer/portable batteries, several Member States (Netherlands, Belgium, Switzerland,...) already achieve the collection rate targets because they started collection several years ago, while other Member states are just following the new targets (UK, Italy,...) or are running behind (Poland,...). Not achieving targets leads to important market distortions: companies who invested in recycling infrastructure based on the imposed and thus expected targets, have to cope with high overcapacities which has an influence on waste market prices and the profitability of recyclers.

Case 8 illustrates how some Member States opt for the policy to install on a wide scale MBT (mechanical biological treatment) of mixed municipal waste, either combined or not with a two recipients collection system of 'dry' and 'wet' waste. This might lead to low quality of recyclable waste and hinder the development of a high performing recycling industry, while other member States develop a recycling industry based upon performing source separation of municipal waste. Main driver for these differences is the higher operational cost for source separated collection and the lower investment costs for MBT, especially when local authorities are competent but lack financial resources.

5.2.17 Different choices in treatment options at national level

PRO-Europe/ DSD mentioned that lack of enforcement in some Member States is the main issue as well as variation in how waste is dealt with and treated at national level. There are countries with high degree of landfill while in others there is a strong push to increase energy recovery and recycling. In Member States with attractive prices for landfilling this creates obstacles to developing treatment capacity, energy recovery and recycling. In the case of Denmark, case 4, it was clear that the country depends largely on incineration of waste.

The latest available Commission report on the implementation of the EU waste legislation for the period 2007 – 2009 also shows that there is divergent application of EU waste legislation, in particular in terms of waste treatment options chosen. In the study Ex-post evaluation of certain waste stream directives (BIOIS; 2014b) part of the difference in meeting waste recycling and recovery targets is attributed to different types of waste management infrastructure throughout Member States. Some Member States do not have the required recycling infrastructure: some new Member States have only started with development of this infrastructure relatively recently and other small Member States lack the scale to make the recycling infrastructure cost efficient. This is the case of Denmark where there are currently no suitable sorting facilities for mixed plastics, which therefore are exported elsewhere for sorting prior to recycling. Statistics showed that many Member States were still largely depending on landfilling of household waste, which was not in line with the concept of the waste hierarchy. For example, the UK House of Commons report states that there are critics of the UK government for not going far enough in requiring local authorities to separate out waste and ignoring Europe's advice on source separation and good collection practice.

5.2.18 Environmental permitting of waste treatment facilities

There is also variation at regional level with respect to permitting of waste treatment facilities. MWE pointed out that there are no clear rules on the European level on where, how many and how treatment facilities need to be planned. Some regions are very sensitive with regard to NIMBY (not in my back yard) issues and permitting processes can be very difficult, resulting in under capacity in terms of treatment capacity, and thus a lack of proper implementation of the waste management

requirements on a local level. This waste market distortion also relates to the non uniform application of EU waste legislation.

Case 8 points at the need to introduce quality requirements for municipal waste collection and (pre)treatment that could lead to recyclables with higher value, needed to stimulate the development of a lucrative recycling industry.

5.2.19 Divergent tax policies across Member States

There are a couple of fiscal policies that have an impact on the functioning of waste markets.

Member states may apply different environmental taxation on different waste treatment options which results in different prices for treatment or disposal of waste. The Eunomia (2014) study on environmental fiscal reform potential in a number of Member States pointed out the large divergence in landfill and incineration tax rates across Member States, which hinders improved waste management. Construction waste and aggregates taxes are also different across Member States.²⁴ For example, as indicated by Wante (2015) the UK only applies a landfill tax, while Flanders applies a landfill tax as well as an incineration tax. The Netherlands applies different taxation on incineration of national waste than of imported waste. This has been further investigated in case 9. Since the Netherlands adopted recently (July 2015) an export tax on waste to be incinerated abroad, the waste tax policy does not create incentives for transborder movement to 'cheaper' locations, as was feared. Nevertheless, the open border with no import tax on incinerated waste may raise concerns whether such a policy does not hinder the waste treatment hierarchy in the Member States of origin, since those companies are inclined to export to incineration in the Netherlands, rather than send it for recycling in the home country. This would need to be investigated on a case by case basis.

The issue with divergent environmental taxes has also been raised by the interviewees. For example PRO-Europe/ DSD stated that landfill taxes vary between Member States, which triggers illegal transport of waste from one country to another (and sometimes out of Europe altogether). According to MWE differences in the way individual Member States organise their taxation system in terms of landfill taxes, incineration taxes, taxation and subsidies related to renewable energy from waste (which will be of higher importance with the new Renewable Energy Directive), can cause market distortions. As case 9 on Dutch waste taxes concludes, some harmonisation would be necessary, however, fiscal systems are the sovereignty of the Member States and the EU can only provide some guidelines about the potential impacts of divergent waste tax policies, giving concrete examples.

From case 6 it was concluded that the current high share of landfilled municipal waste (97%) is closely related to the postponement of the landfill tax from 2014 to 2017. Main actors on the waste market say that this blocking of the landfill tax is a pure political decision, which does not represent the needs of the Romanian society in terms of integrated waste management. As a result the competition between landfill versus separate collection & sorting is distorted and the years 2014-2015 can be seen as periods of stagnation for a better waste market functioning in Romania.

With regard to differing taxes leading to 'shopping', two respondents of the Yourvoice survey pointed out that while they agreed this happened, the obvious solution of

²⁴ Eunomia. (2014). Study on environmental fiscal reform potential in 12 EU Member States

harmonised EU taxes was not feasible, though a general approach of taxing waste exports and increasing taxes on landfill and incineration would help. Examples of such activity offered included the export of waste for incineration from Norway to Sweden (when Norway banned the landfill of any degradable waste); the export of hazardous waste from Germany for 'legal' reuse due to differing classifications of the hazard.

Divergent VAT rates might also have a distorting impact. The report on the use of economic instruments and waste management performances (EC, 2012) states the following: Within the scope of the existing VAT Directive (2006/112/EC), Member States have some discretion to support particular activities through reduced VAT levels. The repair of white goods (large household appliances) is a category of service which seems to comply with the spirit of the Directive. This might result in waste market distortions between Member States. It should however be evaluated whether differing VAT regimes lead towards less recycling of lower environmental performances to consider it a market distortion within scope of this exercise.

The fact that divergent VAT rates might lead to a waste market distortion has been pointed out by FEAD as well. According to FEAD, divergent taxation strategies for public and private companies implemented by Member States can create distortions of competition between public and private bodies and thus also between regions and Member States. Public entities might take advantage of the service of general interest where there is no VAT-regime associated with it in some Member States.

Another policy that may have fiscal implications is the **allowance of cash payments** within business or not. There are different national regulations on cash payments within business (mainly related to ELV and scrap metals) which can create a disadvantage for some companies operating in Europe (according to FEAD). These payments can lead to a fiscal advantage for companies who are able to (illegally) avoid taxation compared to the others. Such payments are forbidden in France but remain a common practice in other countries.

Case 8 point to the importance of **DIFTAR** systems to achieve a well performing source separate municipal waste collection and argues how one could introduce systems to encourage service providers (responsible for waste collection and management, and thus not only the individual consumer) to collect and receive waste in a selective manner.

5.2.20 Box case 9: incineration tax differences for domestic and imported waste

The Netherlands applies a higher level of incineration tax to national waste than to imported waste. In this study, it has been analysed whether and to what extent this could cause waste market distortions, as fiscal policies related to incineration can create incentives for transboundary movement and for more waste incineration. Incineration taxes which are intended to promote waste treatment options higher on the hierarchy, could have a perverse effect in some circumstances, especially when the savings associated with the difference in taxation compensate for the costs of shipment.

The analysis showed that the aim of the Dutch waste tax policy was in the first place to tax the residual waste to be incinerated and disposed of its own citizens and companies and to create for them incentives for more and better sorting and recycling, rather than to tax foreign waste to be incinerated – hence the no import incineration tax policy²⁵. The declining figures of domestic waste to be incinerated show that the policy has been successful in this respect.

Nevertheless, the policy created also a risk that waste would be exported to cheaper treatment options lower down the waste hierarchy in other countries. In July 2015, an export tax on waste to be incinerated in other countries has been introduced (equal to the domestic incineration tax) to mitigate this 'shopping behaviour' risk. In addition, the fact that there is no import tax also causes some concerns whether such a policy does not hinder the waste treatment hierarchy in the Member States of origin, since those companies are inclined to export to incineration in the Netherlands, rather than send it for recycling in the home country. The evidence shows that 80% of the imports come from the UK (1.6 mt/a), some from Italy, little from Germany, and that the Netherlands exports 300-500 kt to Germany. If the foreign waste would have otherwise been landfilled, then the open border policy allows waste to be treated at a higher level of the waste treatment hierarchy.

The Dutch government introduced a domestic tax on incinerated and landfilled waste as well as an export tax on incinerated waste and a ban on export of waste to be landfilled. From this perspective there is no waste market distortion.

5.2.21 Divergent subsidy policies between Member States

In terms of subsidies, **divergent subsidy strategies for waste recycling** can also lead to a waste market distortion. For example, the survey "Your Voice" pointed at subsidies and public monopolies as a source of unfair competition. During the Symposium on international trade of waste in Brussels, Wante (2015)⁸ indicated that differences in environmental subsidies might appear in different demands for import or export for specific waste streams. For example, countries which set targets and/or provide subsidies for a minimum recycled content within plastics produced in the country might attract higher amounts of plastic waste.

²⁵ However since 1 July 2015 a tax on waste to be exported for incineration outside the Netherlands has been adopted. Companies wishing to export waste for incineration need to apply for a permit to the Inspectie Leefomgeving en Transport (ILT) (The Human Environment and Transport Inspectorate) and specify the type and amount of waste to be exported for incineration. The export 'incineration' tax is set at the same level as the tax for incineration and landfilling in the Netherlands itself, i.e. 13 Euros per tonne.

Environmentally harmful subsidies (EHS) can also have a distorting impact. Market prices are the primary guide for purchasing choices and investment decisions but they do not necessarily reflect the true costs of using resources and their environmental impacts. In addition, these prices may be deliberately distorted by Environmentally Harmful Subsidies (EHS) by governments which confer an advantage on certain consumers, users or producers (notably in areas of fossil fuels, transport and water), in order to supplement their income or lower their costs, but in doing so, discriminate against sound environmental practice.²⁶ For example, many Member States have made use of funds from the European Union to fund treatment facilities mainly dealing with residual waste. Some concerns have arisen regarding the fact that this might lead to a switch of material from landfill to incineration with limited movement of waste management into the upper tiers of the waste hierarchy.²⁷

Moving away from EHS can deliver economic, social and environmental benefits, and allow for improved competitiveness. Member States have already been invited to eliminate EHS in the 2011 Annual Growth Survey in order to support budget consolidation. In the process of EHS removal, alternative mitigating arrangements may be necessary for the most affected economic sectors, regions and workers, or for dealing with energy poverty, and the impact of possible displacement of production to other countries needs to be considered.

5.2.22 Emission trading systems as a source of distortions

The Eunomia (2009) study also indicates emission trading systems as a source for market distortion: *"With the introduction of tradable certificates for CO₂ neutral energy, incineration of waste or other techniques to recover energy from waste can become financially more attractive than certain forms of material recovery and recycling of waste. In particular, high calorific waste fractions become interesting from the perspective of energy recovery. This can cause a partial shift, at the margin, from recycling to energy recovery, which can be translated in shifting trans boundary movements. The effects are clear where one of the solutions (either recycling or energy recovery) can be a local option and the other is a cross border option. This implies that the energy policies of foreign countries can influence the destination, and nature of treatment, of waste streams. This highlights the need for incentives to be compatible with the overall environmental consequences of waste management options."* This is a market distortion within the scope of this study whenever ETS systems lead to waste incineration above material recycling, e.g. when ETS leads to transfrontier shipments for incineration due to different implementation between the Member States.

²⁶ OECD. (2005). Environmentally harmful subsidies: challenges for reform

²⁷ Eunomia. (2014). Study on environmental fiscal reform potential in 12 EU Member States

5.2.23 Lack of harmonisation on waste collection charges between local authorities within a country

The European Commission study on the use of economic instruments and waste management performances²⁸ indicates that 17 Member States employ 'pay as you throw' (PAYT) systems for municipal waste. Many other Member States also charge households for waste collection/disposal, but through flat charges or municipal taxes rather than variable charging. It appears that only three Member States (AT, FI, IE) have PAYT schemes in place in all municipalities. In terms of the type of schemes in place (the basis of the variable charge within the PAYT schemes), 16 Member States use volume-based schemes, 15 use frequency-based schemes, nine use weight-based schemes, and six use sack-based schemes (N.B. several Member States use a mixture of different types of scheme). Attempts have been made to estimate the coverage (in terms of population or number of municipalities covered) of PAYT systems in the Member States that have them. This varies widely, from a very small proportion in ES (Catalonia only) and the UK, to over 20% of municipalities in NL, 40% of the population in LU, and up to nationwide coverage in AT, FI and IE.

5.2.24 Divergent fees for non-municipal waste within a country

The 2014 Eunomia study on environmental fiscal reform potential in a number of Member States also found that there are different fees for non-municipal waste within a country, with some countries applying more than 10 different rates depending on the waste stream.²⁹

5.2.25 Lack of attention on industrial waste in the Waste Directives

MWE and FEAD note that the Waste Framework Directive mainly focuses on municipal waste while industrial waste forms the biggest part (e.g. in Flanders up to 90% of total waste) and ask for more transparency of reported figures, more monitoring, and better waste management planning. Distortions e.g. on existing collection and recycling targets occur when different rules exist for similar waste fractions from municipal or industrial origin. Commercial waste is often used to fill overcapacity of publically owned incineration facilities.

5.3 Analysis on geographical variation of distortions

This section presents examples from literature and stakeholder interviews of regional differences with respect to the functioning of waste markets in the EU. The Yourvoice survey clearly demonstrates that the waste market participants think that there are very large differences between the Member States and how their waste markets function. 80% of respondents indicated these differences are large, 8% of respondents indicated that there are some differences but these differences are small.

²⁸ BIOIS et al. (2012). the use of economic instruments and waste management performances.

²⁹ Eunomia. (2014). Study on environmental fiscal reform potential in 12 EU Member States


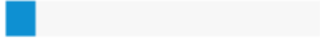
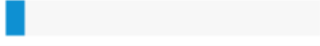
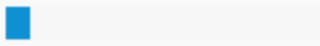
		Answers	Ratio
Yes, very large differences.		200	80.32 %
Yes, but the differences are small.		21	8.43 %
No differences.		0	0 %
Don't know.		12	4.82 %
No Answer		16	6.43 %

Figure 5-3: Perceptions on the differences between Member States

5.3.1 Waste transport obstacles due to divergent definitions of waste

Differences in definitions of waste have been seen to cause obstacles to transporting waste. For example, a German company wishing to export a waste (slag) that was rich in copper to a facility which could extract this copper in Belgium faced an extremely complex (and time consuming) procedure due to differing definitions of waste between the two countries. This made the transaction less profitable and attractive (Eurometaux).

Case 10 gives another example on the interpretation of municipal waste for which the proximity and self sufficiency principles are applicable in case of incineration. Some Member States (Germany, Greece) apply a very broad interpretation in which source selected waste fractions are included, while other remain at a strict interpretation of mixed municipal waste.

Case 4 illustrates the impact of a different approach in Denmark of the concept of mixed municipal waste.

5.3.2 Box case 4: Notifications for packaging waste, separate collected as one single waste stream

In Denmark, the identified distortion relates to the Waste Shipment Regulation (WSR) which lays down rules for controlling waste shipments in order to achieve environmental protection. Denmark adopted guidelines in 2011 on 'green listed' waste, i.e. waste that is exempt from prior notifications procedures and approval from the Danish environmental agency when it is exported from, or imported to Denmark for recycling or recovery. Only waste that requires simple treatment procedures is classified as 'green'. 'Mixed waste' is generally not classified as 'green'. Municipalities around Copenhagen provide kerbside collection of plastic waste as one 'mixed plastic' fraction. Denmark does not yet have a sorting facility for this mixed plastic fraction, which is currently exported for sorting.

Municipalities attempted to export these as 'green waste', but this was not accepted by the Danish Competent Authority. Consequently, 'mixed waste' exports therefore have to comply with the full notification procedure. This results in administrative burden for both the exporting company and the public authorities of the exporting and importing countries. Further, the notification procedure is overall a disincentive for the collection of mixed plastic waste.

The analysis of the case concludes that the distortion relates to the EU legislation (i.e. WSR) rather than the national legislation. The company exporting the waste could have shipped their waste samples under the exemption of Article 3.4 of the WSR if such samples had not been larger than the prescribed 25 kg. In the specific case the company exporting the waste did not provide a specification of the mixed plastic waste made it impossible for the Danish authorities to consider classifying it as 'green waste'.

5.3.3 Variation in waste treatment methods for municipal waste

The treatment methods for municipal waste vary significantly between Member States. In 2009 landfilling ranged from extremely high (Bulgaria, Romania, Malta, Lithuania and Latvia landfilling over 90% of their waste) to below 5% of landfilling (Belgium, Denmark, Germany, the Netherlands, Austria, and Sweden).³⁰ Incineration rates also vary greatly, with Sweden, Denmark, the Netherlands, Luxembourg, Belgium, Germany and France having the highest incineration rates.³¹ These large discrepancies were, to a certain extent, a result of the late implementation of waste legislation in the Member States which joined the EU after 2004.³² However, some older Member States have demonstrated consistently low levels of performance (e.g. Greece with 82% of landfilling, Portugal with only 20% of recycling).³³ The large differences in the way municipal waste is treated is also a result of what kind of treatment facilities are available in the Member States. For example, Denmark and the Netherlands rely a lot on incineration for recovery, and disposal has largely disappeared in case of the Netherlands (see case 9 for the Netherlands and case 4 for Denmark).

Case 8 demonstrates how in Poland low grade municipal waste collection techniques combined with MBT leads to low quality recyclates, and therefore leads towards

³⁰ European Commission. (2013). Commission report on the implementation of the EU waste legislation for the period 2007 – 2009; COM(2013) 6 final

³¹ *ibid*

³² *ibid*

³³ *ibid*

continued landfilling, demotivating civilians from better sorting at source and thus generating a vicious circle.

Case 6 shows how in Romania the presence of illegal or not-yet-closed non-compliant landfills and dumpsites attract waste as these are cheap solutions, both from private sources as from public waste collection schemes. Romania is realizing a good legal frame at national level, and thanks to multiple funding for investment programs is realizing a better waste treatment infrastructure. Although at regional and local level monopolies, low financial capacities of local authorities and lack of enforcement still lead to continued dumping.

Several participants in the second workshop stated that landfilling should be banned or further measures should be taken to reduce landfilling, and that separate collection needs to be improved on which issue several participants urged the Commission to put more pressure on Member States.

5.3.4 Box case 6: The impact of failing landfill compliance on the waste market

In 2012, nearly 97% of the 5.4 million tonnes generated municipal waste in Romania has been landfilled. The remaining 3% was recycled. Romania has by far the highest landfill rate. Landfilling takes place in landfills compliant and non-compliant with the Landfill Directive. Since 2010 several non-compliant landfills have been closed and for the period 2015-2017, 42 landfills are planned to be closed.

Romania fails compliance with the Landfill Directive which leads to distortions on the waste market efficiency. The capability of local and county authorities is still lacking to fully enforce the waste legislation. Economic systems such as landfill taxes are suboptimal or even inexistent. The continued presence of illegal or not-yet-closed non-compliant landfills and dumpsites attract waste as these are cheap solutions, both from private sources as from public waste collection schemes. Romania is establishing a good legal frame at national level, and thanks to multiple funding for investment programs is realizing a better waste treatment infrastructure. But at regional and local level monopolies, low financial capacities of local authorities and lack of enforcement still lead to continued dumping. The emerging and often informal waste sorting sector, recycling market and recycling industry suffers from a lack of material in sufficient quantities, and needs professionalization.

5.3.5 Variety in illegal shipment of waste

The countries reporting the highest numbers of cases between 2007-2009 were Germany, the Netherlands, Belgium, United Kingdom and Austria. For 2009, best practice on spot-checks were demonstrated by Poland with approximately 40 spot-checks for every 1000 tonnes of hazardous waste shipped into or out of the country. For the majority of the Member States this benchmark is at least 10 times lower.³⁴ According to IMPEL waste shipment enforcement report, the countries that have a higher percentage of violations detected from inspections are France, Norway, and Sweden.³⁵

³⁴ European Commission. (2012) Commission report on the implementation of the Shipments of waste regulations for the period 2007-2009, COM(2012), 448 final

³⁵ IMPEL. (2013). Enforcement of the European Waste Shipment Regulation.

A concrete example of illegal shipment of waste has been given by the International Review of Waste Management Policy (2009).³⁶ See box below:

“Illegal disposal of waste in Northern Ireland is a serious issue in terms of its potential to damage the environment and the local economy, as well as from the involvement of organised criminals. Illegal importation of waste into Northern Ireland displays a number of patterns, the most lucrative operation being the illegal disposal of waste (mainly household and municipal waste) from the Republic of Ireland in illegal dump sites in Northern Ireland. Waste is also transported from the Republic of Ireland into Northern Ireland under the guise of recycling. Instead of recycling, the waste is landfilled, either in legal or illegal sites in Northern Ireland.”

In this view, differences in policy between Member States to counter the involvement of organised crime activities related to waste management may have a significant effect on waste markets.

The difference in enforcement level was mentioned to be the largest problem in the EU according to the WEEE forum. The lack of reporting and lack of (and variation in) force in terms of criminal sanctions for waste crime are indicated as examples. According to Eurometaux illegal shipment of waste is triggered by cheap recycling in non OECD countries. Moreover transport to China is inexpensive as there are relatively empty cargo ships (Europe being a main net importer from China).

An explanation of problems with illegal shipment is given by the European Recycling Industries' Confederation (EuRIC). Documents that need to be filled are not always tailored to the business environment or current century.

5.3.6 Divergent fiscal policies

As mentioned above different Member States adopt different fiscal policies, such as taxes and subsidies that can have an impact on the efficient functioning of waste markets. One example of this is the aforementioned allowance of cash payments for businesses. In France there is such a ban on cash transactions for WEEE, as illustrated in paragraph 5.2.8 This improves control for e-waste flows as this ban was intended to remove parallel flows and make all e-waste flows “official”. Other countries do not have this approach.³⁷

5.3.7 In general lower performance in new EU Member States

Without identifying specific countries, the literature and stakeholders pointed out that the waste markets in the new Member States, in particular Central and Eastern European countries do not function as well as those elsewhere in Europe. For example in Slovakia the export of e-waste is not allowed in order to secure enough volume in the local plant, which although complying with the proximity principle is not in line with free trade. In Hungary the WEEE recycling compliance scheme has been nationalised and hence it is the state not the producers who are controlling it. This is against the EU principle of extended producer responsibility (WEEE Forum).

³⁶ Eunomia. (2009). International Review of Waste Management Policy: Summary Report, 78 p.

³⁷ Information obtained from WEEE Forum.

5.3.8 Divergence in the violations of the waste shipment regulations

The IMPEL report (2013) on the Enforcement of the European Waste Shipment Regulation shows the differences across Europe in regards to violation of the Waste Shipment Regulation concerning waste inspections and the illegal transport of waste. Among the countries that score highest in terms of number of waste inspections are Croatia, Norway, and the UK. As for the level of violations, the countries that have a higher percentage of violations detected from inspections are France, Norway, and Sweden.³⁸ The case 1 on the application of prior written procedure under the WSR also stressed that violations of the waste shipment regulations happen more often than expected.

The second workshop concluded that the enforcement of the Waste Shipment Regulation and the Waste Framework Directive is very uneven between Member States. Several participants asked for a stronger role for IMPEL, e.g. with some mandatory requirements for Member States to participate in IMPEL.

5.3.9 Cultural differences across Europe

There appear to be cultural differences across Europe related to the willingness of citizens to sort and recycle waste. These differences are often referred to as differences in the "recycling gene" which is stronger in northern Europe than in southern European countries.

5.3.10 Shipments from smaller island states

Obstacles to shipments of waste from smaller island Member States in the EU to other Member States have also been pointed out as problematic. This is due to that waste can only be sent by ship to mainland Europe, there is limited availability of shipping routes and in some cases shipping lines have been reluctant to load hazardous waste on-board their vessels. As regards Mediterranean Member States parties to the Barcelona Convention, further obligations under that Convention have also to be respected.

5.4 Analysis on impacts of waste market distortions

5.4.1 Improper recycling of waste, reduced resource efficiency

In general there are negative environmental impacts due to waste market distortions and other impacts. The main environmental impacts are that waste (e.g. end of life products) is sent to recycling or exported for recycling but this recycling is not always done properly (e.g. not all materials are recovered and the health and safety of the workers may not be respected) (Eurometaux). Hence there is no guarantee that waste is recycled properly and there is no transparency in the way waste is recycled, in particular outside of Europe. Case 8 argues how the quality of the collection system, in case for municipal waste, leads towards lower quality of the recycling options.

Reduced recycling and reuse has been no.1 negative environmental impact stated in the yourvoice survey (see figure below). Reduced resource efficiency has been stated as second.

³⁸ IMPEL. (2013). Enforcement of the European Waste Shipment Regulation.

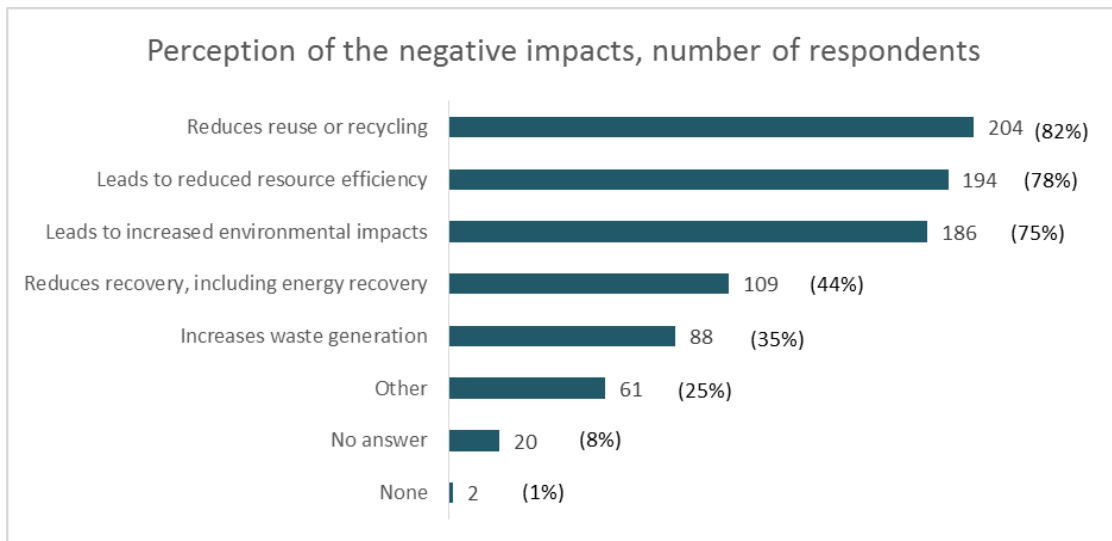


Figure 5-4: Perceptions of the negative impacts of regulatory obstacles to waste markets

5.4.2 Box case 8: Comingled waste collection and recycling efficiency

In 2013, a new municipal waste management system came into effect in Poland. A range of tasks of municipalities associated with the organization and supervision of waste management in the municipality has been added, including the provision of selective collection and recycling. Previously, waste collection took place on the principles of free market. Currently municipalities are obliged to accept municipal waste from owners of properties, and to impose fees for the management of the collected municipal waste. The municipalities use mainly the following municipal waste collection systems:

- A two container system, in which dry (eg. recyclable materials) and wet (eg. biodegradable) waste is collected separately
- A three container system, in which dry waste (eg. recyclable materials), wet waste (eg. biodegradable) and glass is collected separately
- A more than three container system, in which the mixed waste collection is complemented by selective collection of mostly paper, plastic, glass, metal and sometimes biodegradable waste.

In 2013, 100% of the population is included in the waste collection system. Prices of municipal waste collection have increased by approx. 30%, and the amount of generated waste decreased with almost 16%. The level of waste collected selectively increased by about 43%.

New members of the European Union often choose waste collection systems in which the waste is being mixed (eg. a two containers system). This results in a much lower capital cost, but eventually lower recycling efficiency due to greater contamination of recyclables. Pollution of collected waste also enhances the lack of awareness of the inhabitants, many people often throw mixed waste into the container for dry fractions. The waste treatment hierarchy is disturbed, relatively small amounts of waste can be recovered while large amounts of waste go to disposal through landfill. Due to a failing system of sorting at source and due to poor quality of waste fractions separated from mixed collection, the Polish recycling industry does not receive sufficient high quality waste material to develop profitable recycling cycles. The municipalities lack the financial capacity to build and maintain a more performing collection scheme.

5.4.3 Creating obstacles to complying with the waste hierarchy

The large differences between Member States in how waste is dealt with and treated at national level contribute to obstacles in developing treatment capacity, energy recovery and recycling in some Member States if landfilling prices are low (PRO-Europe/ DSD). The large differences between Member States have also been confirmed in the Commission reports on the implementation of waste legislation. These reports showed that there are large discrepancies between Member States in their choice of waste treatment option (e.g. landfill rates range from more than 90% to below 5%). This implies that there could be a large potential to improve the efficient functioning of waste markets. Case 10 identified how a large dependency on cheap landfill or incineration gate fees, especially when municipalities have no large financial capacity, can hinder the development of a homeland recycling industry.

5.4.4 Non-compliance with waste legislation

One of the inherent impacts of waste market distortions is the resulting non-compliance with waste legislation.

Literature also provides some indications of the scale of non-compliance with waste legislation:

- Joint enforcement actions of IMPEL-tfs showed that over 20% of shipments containing waste in the EU did not comply with Regulation (EC) No 1013/2006.³² The representative of IMPEL interviewed in case 1 also stressed the fact that there is a wide non-compliance with the waste legislation.
- For 2009, Member States reported around 400 cases of illegal shipments of waste, with some of the cases probably having been reported in duplicate, once by the country of destination and once by the country of dispatch.³⁹

Eurometaux indicated the legal problems with respect to shipment outside of EU (resulting in non-compliance with Waste Shipment Regulations) as the primary source of market distortions.

The Yourvoice survey also showed that non-compliance with waste legislation is one of the main negative impacts.

Case 2 on the divergent application of Article 18 and Annex VII found out that the WSR requirements for the shipment of non-hazardous waste or waste for recovery can cause a significant number of illegal shipments, as the information to be reported on is many times missing.

5.4.5 Excessive landfilling

The no.1 other than environmental impact of waste market distortions voiced in yourvoice survey has been excessive landfilling of waste. This problem was often stated in its relationship to increased environmental impacts, such as soil contamination. This problem also relates to the non-compliance with waste legislation stated above.

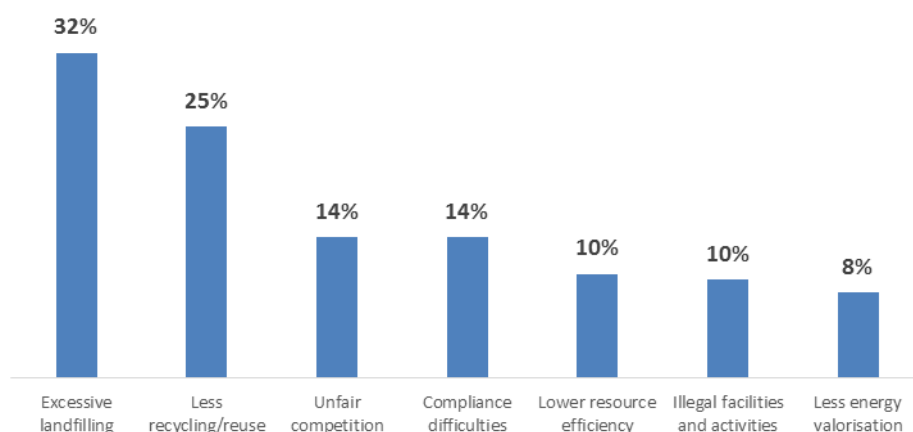


Figure 5-5: The main negative impacts of regulatory obstacles/ failures – examples from respondents

³⁹ Eunomia. (2014). Study on environmental fiscal reform potential in 12 EU Member States

5.4.6 Unfair competition

Unfair competition has been also stated many times by stakeholders in the workshops and the Yourvoice survey as one of the main impacts. This relates in particular to the competition problems resulting from monopolies and public privileges. This issue has been also pointed out in the Yourvoice survey and stated as one of the most common concerns. 15% of the respondents to the question asking respondents to give some evidence on impacts of the waste market distortions said that subsidies or public monopolies hinder the creation of a free and competitive waste market.

5.4.7 Illegal transport of waste and loss of important materials

Enforcement of the EU waste shipment regulations remains a priority in many Member States and substantial efforts are needed to move towards a level playing field in that respect.⁴⁰ In the study by IMPEL (2013), 31.97% was the average number of violations found as a proportion of the physical waste inspections that were undertaken.⁴¹ A lot of waste is being shipped outside of Europe and going to non-EU countries such as China due to the fact that transport is cheaper, recycling is cheaper and there are relatively empty cargo ships (since Europe imports much more from China than it exports to China). An aspect of this is that important resources are leaving Europe, which can be seen as a negative given Europe's relative lack of natural resources. A recently published UN University report on e-waste estimates that the e-waste discarded in 2014 contained some 16,500 kilotons of iron, 1,900 kilotons of copper, and 300 tonnes of gold as well as significant amounts of silver, aluminum, palladium, and other potentially reusable resources, with a combined estimated value of \$52 billion⁴². Out of all e-waste discarded, less than one-sixth is thought to have been properly recycled or made available for reuse.⁴³

5.4.8 Large differences in environmental taxes

See also paragraph 5.2.19 Divergent tax policies across Member States.

The report on the use of economic instruments and waste management performances⁴⁴ (EC, 2012) indicates that eighteen Member States currently have landfill taxes in place for the disposal of non-hazardous municipal waste sent to legal landfills (this will rise to 19 Member States when a planned tax is introduced in LT in 2012). The level of taxation ranges very widely, from €3 per tonne in BG to up to €107.49 per tonne in NL. According to the data found during the study, the total typical charge for landfill (i.e. the tax plus the middle of the range of gate fees) to landfill one tonne of municipal waste in the EU ranges from €17.50 in LT to up to €155.50 in SE. In terms of incineration taxes, only 6 Member States were found to have incineration taxes in place for the disposal of municipal waste (NL introduced a tax of €13 per tonne in 2014; CZ is considering introduction of an incineration tax; SE introduced a tax in 2006 that was abolished in 2010). The level of taxation ranges very widely, from as little as €2.40 per tonne in FR to €54 per tonne in DK. According to the data found during the study, the total typical charge for incineration (i.e. the

⁴⁰ IMPEL. (2013). Enforcement of the European Waste Shipment Regulation

⁴¹ Ibid.

⁴² UN University. (2015). The Global E-waste Monitor 2014: Quantities, Flows and Resources

⁴³ Ibid

⁴⁴ BIOIS et al. (2012). The use of economic instruments and waste management performances. Study commissioned by EC DG ENV

tax plus the middle of the range of gate fees) of one tonne of municipal waste in the EU ranges from €46 in the CZ to €174 in DE.

Eunomia (2014)⁴⁵ calculated the revenues that would be generated from introducing best practice pollution and resource taxes in 12 Member States. Landfill taxes would generate revenues of around 2 billion euros (in real 2013 terms), incineration taxes 0.41 billion euros and aggregates taxes 3 billion euros in 2025.

According to CEWEP, the Confederation of European Waste to Energy Plants, varying landfill taxes between Member States trigger illegal transport from country to country (waste could move from high to low tax areas). The European Battery Recycling Association (EBRA) added the Belgium ecotax as an example of diverging environmental fiscality between Member States. Apart from the fees of the producers, the EPR organisation also receives ecotaxes from the consumers which is equivalent to a legally fixed and high (non market conform) admission fee and which leads to accumulation of financial resources within the PRO. Also Municipal Waste Europe (MWE) mentioned divergent policy and legal requirements at national, regional and local levels as a major distortion of waste markets. An example herein are the incineration taxes in the Netherlands, which are higher for Dutch waste than for imported waste.

5.4.9 Beneficial market impacts of circular economy implementation

In its Communication towards circular economy⁴⁶ the Commission assesses that resource efficiency improvements all along the value chains could reduce material inputs needs by 17%-24% by 2030⁴⁷ and a better use of resources could represent an overall savings potential of €630 billion per year for European industry.⁴⁸ Business driven studies based on product-level modelling demonstrate significant material cost saving opportunities for EU industry from circular economy approaches and a potential to boost EU GDP by up to 3.9% by creating new markets and new products and creating value for business.⁴⁹

Resource productivity in the EU grew by 20 % in 2000-2011, but this may be in part due to the effects of the recession. Maintaining this rate would lead to a further 30 % increase by 2030 and could boost GDP by nearly 1 %, while creating over two million jobs more than under a business-as-usual scenario.⁵⁰

The UK House of Commons Environmental Audit Committee also recognised the large potential benefits of the circular economy. In its report⁵¹ it states that there are potentially billions of pounds of benefits for business across the economy by becoming more resource efficient. In the UK in 2010, 540 million tonnes of resources entered the economy, after industrial processes, consumption and wear-and-tear, 259 million

⁴⁵ *ibid*

⁴⁶ European Commission. (2014). Communication 'Towards a circular economy'

⁴⁷ Meyer, B. et al. (2011). Macroeconomic modelling of sustainable development and the links between the economy and the environment.

⁴⁸ Innova Europe. (2012). Guide to resource efficiency in manufacturing: Experiences from improving resource efficiency in manufacturing companies

⁴⁹ Ellen MacArthur Foundation. (2012). Towards the Circular Economy: Economic and business rationale for an accelerated transition

⁵⁰ Cambridge Econometrics et al. (2014). Modelling the Economic and Environmental Impacts of Change in Raw Material Consumption

⁵¹ House of Commons Environmental Audit Committee. (2014). "Growing a circular economy: ending the throwaway society"

tonnes were left to be managed as waste, out of which 117 million tonnes were recycled. The Environmental Services Association suggest that a more circular economy could increase UK GDP by £3 billion a year.⁵² A study for the UK Government in 2011 indicated that there were £23 billion of financial benefits from low/no cost improvements available to businesses in the UK.⁵³ "The Chartered Institution of Wastes Management (CIWM) drew on analysis from the EU estimating that full implementation of the 8 existing EU main waste-related directives could save €72 billion a year (€9 billion in UK). The value of the 'waste industry' in Europe could increase by €42 billion (€5 billion in UK), with 400,000 new jobs (50,000 in UK)."⁵⁴

It is however not to be expected that only the removal of market failures, without any further supporting measures, would lead to the development of the full circular economy and to the full scale of these predicted benefits. Removing barriers, as a measure, will however lead to important benefits.

PRO Europe points out that regarding packaging waste the current range of implementation models are not enough to move EU towards a circular economy. This was shown by the German situation where due to a 30% overcapacity for incineration, the recycling of plastics is competing with its use as energy recovery.

⁵² Environmental Services Association. (2013). Going for Growth: A practical route to a Circular Economy

⁵³ House of Commons Environmental Audit Committee. (2014). "Growing a circular economy: ending the throwaway society"

⁵⁴ House of Commons Environmental Audit Committee. (2014).

6 Conclusions and recommendations

This chapter links with the previous chapter 5, in the sense that the former chapter identified and evaluated the **problems**, using input from stakeholder consultations, literature and case analyses, while this chapter used the same sources to analyse the possible **solutions** which are translated in key and additional **recommendations**.

The chapter is structured as follows:

- A first block (6.1) contains the conclusions drawn by the author from the different sources and stakeholder interactions consulted.
 - Subchapter 6.1.1 summarises the outcome of the stakeholder consultation via the extended survey exercise.
 - Subchapter 6.1.2 summarises the outcomes of the other sources, stakeholder interviews, literature research, case studies and workshops. This outcome is thematically ordered.
- A second block (6.2) puts a specific focus on the recommendations made by third parties
 - Subchapter 6.2.1 integrates the recommendations originating from the case studies.
 - Subchapter 6.2.2 integrates recurring capita selecta retrieved from the other sources. The outcome is thematically ordered.
- A third and final block (6.3) develops the authors' policy advice in eight key recommendations on regulatory changes, clarification guidance and other non-regulatory elements.
- Supplementary conclusions and recommendations are included in
 - Annex VI.1 Additional Conclusions, and
 - Annex VI.2 Additional recommendations.

6.1 Conclusions

6.1.1 Conclusions from the stakeholder consultation

Table 4.1 on page 33 ranks the drivers / causes of waste market barriers relating to the application of EU legislation in terms of a combination of the number of respondents and their view of the severity of the impact.

This indicates that differences in the interpretation of the definition of 'waste', divergent classification of hazardous/non hazardous waste, use of national "end of waste" criteria, application by national authorities of the provisions concerning waste shipments through transit countries, and the application of the system of notification- and consent requirements are felt to be among the most important obstacles to waste markets. All of these drivers/causes scored above 500. Common to them are that they – themselves or their application in individual cases – may create barriers to movements of waste for recovery and recycling within the EU by influencing the requirements for waste shipments. Application of the 'proximity principle' resulting in an outcome which is inconsistent with the waste hierarchy is slightly lower ranked in terms of importance of impact on the waste market, however this issue has also important implications for waste shipments and could prevent treatment higher up in the waste hierarchy.

With regard to differing interpretations of 'waste' some stakeholders expanded on this point raising links to other EU legislation and policy. There were a number of

comments related to a lack of consistency on the application of the term by-product. With regard to the classification of waste as hazardous or non-hazardous, the most frequently raised point related to a lack of consistency between Member States on the level of contamination in a stream of reclaimed material (paper/ card, plastics, metal) that was needed to classify a shipment as hazardous rather than non-hazardous. The application of national end of waste (EoW) criteria was regarded as positive by respondents from some Member States, particularly the UK where national guidance on the issue was well regarded by some respondents in helping to create and stabilise a market for recovered material. 15 comments were received regarding the difficulties encountered when seeking to ship material from one Member State to another when they had different, or one had no, EoW criteria. An additional problem that was raised by some of those who made this comment was that if the material classified as meeting EoW criteria was used in a product then there may be difficulties associated with this product meeting product criteria (in the Member State or in other Member States) due to different criteria relating to component / material purity for products.

There were a large number of comments (16) confirming a variation between Member States in the interpretation of Waste Shipment Regulation. Some specific points and suggestions for addressing these that were mentioned included the need for consistent guidance (e.g. including illustrations and correlating waste descriptions from the Basel convention, OECD list and Waste Framework list) for customs officials so that they can classify waste shipments in the same way. Differences in the willingness to persecute the initiator (i.e. source) of the waste as opposed to the seller for non-compliance with information requirements were also raised. The practical problems of accurately describing / classifying waste streams made up from combined sources was also raised as a concern.

There were 25 submissions that provided further comment on the application of the proximity / self-sufficiency principle versus the application of the waste hierarchy. Ten of these comments made the suggestion that the proximity principle should be extended to the European border if it enabled waste treatment / recycling / reuse options that were high enough up the waste hierarchy.

In accordance with suggestions made in case 10 and in the second workshop, waste treatment capacity could be managed at EU level, not allowing for regional overcapacities that could hinder the development of recycling industry, but by foreseeing sufficient and equally spread capacity to prevent waste from being landfilled. This is in line with solutions proposed in case 9 on Dutch incineration taxes. Some participants in the second workshop also pointed out that issues relating to over- and under capacity for waste incineration could be solved by EU-wide management of capacities. They referred to that over-capacity can attract waste from other Member States to the detriment of their local recycling market and under-capacity combined with the proximity principle can lead to more landfill.

6.1.2 Conclusions from literature, interviews, interactive workshops and case studies

The main conclusions are hereunder summarised, more conclusions are included in Annex VI Additional conclusions and recommendations.

6.1.2.1 Harmonisation of definitions and key concepts

A problem that often came up in the interviews and in the case studies and the workshops was a lack in common definitions. This concerns issues directly affecting movements of waste for recovery, such as certain requirements for those shipping waste relating to notification and information in the Waste Shipment Regulation, e.g. requirements that a person is 'under the jurisdiction' of the country of dispatch. Other examples if an item is considered as 'waste', a 'by-product' or classified as 'hazardous'

or not under the Waste Framework Directive also influence the way shipments are classified and regulated. Such differences between Member States may cause several distortions in the market. Some have argued that it is the prior notification procedure and other requirements in the Waste Shipment Regulation, which create unnecessary, heavy administrative burden, others that more harmonisation of definitions in EU legislation is necessary, see further results from the survey "Your Voice". Case 10 referred to the definition of municipal waste and the inclusion or exclusion of source separated fractions from municipal origin. It also referred to the definition of recovery and whether backfilling should be considered recovery. Case 8 proposes to introduce uniform and simple and clear reporting templates.

The legislative proposal on amending the Waste Framework Directive, which is part of the Circular Economy package released on 2 December 2015, contains new or amended definitions for "municipal waste", "non-hazardous waste", "bio-waste", "construction and demolition waste", "preparing for reuse", "final recycling process" and "backfilling". It also generates clarification on the by-product and end-of-waste status. The Circular Economy Action Plan refers to these clarifications as facilitating industrial symbiosis and help creating a level-playing field across the EU. Its annex foresees the development of quality standards for secondary raw materials (in particular for plastics) from 2016 onwards. See further Section 4.4. above.

6.1.2.2 Setting criteria/producing guidance for the design of producer responsibility schemes and amend producer responsibility schemes

The EC report on the use of economic instruments and waste management performances⁵⁵ states the following:

"The most successful producer responsibility schemes appear to share some common features: a common, fully private body that is created, run, owned and supported by the obligated producers; requiring producers to fully fund the collection and recycling scheme; and high targets. Many other design features may influence the success of EPR schemes, and future research could be conducted into these: targeting both households and consumption of products 'away from home'; incentivising eco-design; greater application of individual producer responsibility (IPR); communication and best practice exchange between producers and between all relevant actors; basing variable fees on defined criteria; setting targets to better differentiate between materials; and appropriate involvement of governments, municipalities and waste management operators. Furthermore, The House of Commons paper suggests that the Government should reform the PRN scheme "to include an 'offset' or lower charge for products that have higher recycled content and ensure that funds generated from the operation of the scheme are distributed to bodies working to enhance materials recovery and product circularity. It should also introduce individual producer responsibility schemes in new sectors to make more producers design products with their end-of-life in mind."⁵⁶

There seems to be room to improve the OECD Guidance for EPR schemes to advise on how to avoid bad scheme design and poor scheme performance. There needs to be

⁵⁵ BIOIS et al. (2012). The use of economic instruments and waste management performances. Study commissioned by EC DG ENV

⁵⁶ House of Commons Environmental Audit Committee. (2014). "Growing a circular economy: ending the throwaway society"

willingness to shut down EPR schemes when they provide no benefit, for example when quality recycling is not self sustaining.

An inspiring criteria for EPR schemes has been encountered in case 5, by means of the the eco-modulation obligation. In France, producers are stimulated to perform ecodesign via a bonus/malus system, which is based on the recyclability and the producers' prevention efforts. By increasing the fees for non-recyclable packaging with 50% up to 100%, a signal to the producers is given for adaptations/innovations in packaging material.

Setting minimum requirements for EPR in Europe with clear and define guidelines has been also advocated by respondents in the yourvoice survey.

The legislative proposal in the Circular Economy package includes minimum operating requirements for extended producer responsibility, see Section 4.4 above.

6.1.2.3 Looking at Europe as a whole rather than acting on a national level

PRO-Europe/ DSD suggests that the European Commission takes a strategic approach by looking at Europe as a whole. For example, it could support an interregional cross border market for secondary raw materials rather than allowing action on a national level and the EU should offer Member States more guidance and platforms to discuss this.

A 'Green Deal' was concluded in March 2016 between the Netherlands, Belgium, the United Kingdom and France on making better use of secondary raw materials. The four countries decided to harmonise their policies for certain materials. The first resource streams to be traded under this agreement are incinerator bottom ash, compost and PVC. More information is available on: <http://www.wastematters.eu/news-from-europe/news-from-europe/north-sea-countries-agree-to-close-cross-border-value-chains.html>.

6.1.2.4 Developing soft policy instruments and guidelines

Soft policy instruments, such as Roadmaps, have been identified as potential solutions to waste market distortions. For example, FEAD points out with respect to the issue of overcapacity of waste incineration plants that there is a need to have a soft policy instrument such as a roadmap in order to map the existing treatment infrastructure and to plan for new or renovated facilities. This will help define the level of investment needed and to facilitate the development of cross-border EU waste markets (import/export) to allocate capital in the best possible way.

Case studies, for example case 4 on Denmark, case 9 on the Netherlands as well as case 1 on the WSR procedures also strongly recommended developing soft policy instruments, in particular in a form of EU guidance to support implementation of the EU waste legislation in a better way in the Member States, for example through guidelines on the standards for pre-consented waste facilities or guidelines on waste taxes. The yourvoice survey also stressed EU guidance as one of the important solutions to the waste market instruments with 61% of respondents indicating this option.

6.1.2.5 Monitoring and advice

An improvement in the monitoring of progress in countries with high landfill and incineration rates, namely in countries that joined after 2004 has been suggested as a

way of achieving a more uniform application of waste legislation.⁵⁷ For Member States with high landfill and incineration rates, progress should be encouraged in these countries through targeted advice⁵². The recommendation has also been made to add stronger national inspections and improve knowledge about waste management.

CEWEP identify the monitoring system as a reason for market distortions, as calculation methods and assumptions often differ from one country to another. A harmonised monitoring system using a recycled 'output' approach as subsequently proposed by the European Commission in its Circular Economy package would be an improvement.

Case 3 illustrates a distorted market as a consequence of delays through low quality of notification files for transfrontier shipment. This can be overcome by providing advice and support to stakeholders and authorities involved in transfrontier waste shipment.

6.1.2.6 Improving enforcement

Although it can be quite challenging within one Member State, cooperation between enforcement agencies should be enabled. An example would be for customs to share data with the police and environmental regulators. Another example would be establishing an EU forum to inform judges on how to prosecute waste crime (WEEE Forum).

Improving control and enforcement of waste streams has been also stressed by Eurometaux. It was suggested that in order to improve control over waste leaving Europe, it is important to improve facilitation of trade, have better controls and set up certification schemes for end of life products, as these are complex materials but very valuable. However, regulation on export outside of EU should not hamper intra-EU trade. The question of control is very important as some end of life products are shipped as second hand products (to avoid waste regulations), but they do not fulfil the requirements as second hand products (e.g. mobile phones do not have manuals, chargers, etc.). This is particularly relevant to WEEE (Eurometaux). One idea suggested by Eurometaux to improve enforcement is to provide customs with a matrix of risk to show where to focus their inspection activity (such as a checklist) using the authorised economic operator (AEO) standards.

The need for better implementation and enforcement of existing legislation – in order to secure a level playing field in European waste markets and decrease illegal shipment of waste and illegal landfilling has been also stressed by the respondents in the yourvoice survey.

6.1.2.7 Market conditions

Further measures could develop good framework conditions that are able to help eliminate market failures, for example:

- A fair distribution of costs and benefits should be set up between producers, investors, distributors, consumers and recyclers.
- Entrepreneurs are to be enabled to tap into potential new markets linked to circular economy, such as industrial symbiosis, the use of secondary materials markets, the presence of necessary skills in the labour market.
- Consumers should be empowered to make informed choices.

⁵⁷ European Commission. (2013). Commission report on the implementation of the EU waste legislation for the period 2007 – 2009. COM(2013) 6 final

- Materials, such as plastics, glass, metals, paper, wood, rubber and other recyclables, are to re-enter the economy as secondary raw materials at competitive prices.
- Minimum operating conditions for extended producer responsibility schemes are to be established that could be further developed at national level or in EU guidance documents, and promote the use of economic instruments in Member States.

The need to improve the market conditions in the EU waste markets has been also stressed in the yourvoice survey. The respondents indicated that there is a need for legislative changes that would develop the waste management and recycling market to become more market oriented and give all actors on the market the possibilities and incentives to develop a circular economy and become more resource efficient. These changes should promote opening up of waste markets rather than closing. This has been also voiced by the participants in the second workshop.

6.1.2.8 Administrative simplification

Where red tape can be considered as a market distortion, the Commission proposes in its Communication 'towards a circular economy' to *further simplify the waste acquis and ensure effectiveness and efficiency will build on efforts undertaken already to cut the administrative costs of waste policy, for example, through exemptions from requirements for take-back for certain SMEs or efforts to put in place mandatory electronic data interchange for waste shipments.*

FEAD proposed to lift unnecessary administrative burdens in the WSR, more specifically to revise objection 12.b (regarding waste shipments for recovery). The scope of the objection is perceived too broad and could be misused from a point of view of economic nationalism. However, as already mentioned above, from the point of view of IMPEL, the WSR procedures are currently absolutely necessary to safeguard the protection of the environment as a lot of violation is still happening and the Member States are far from having a similar level of ESM (see case 1). Nevertheless, some administrative simplification is needed, in particular for the prior notification procedure under the WSR (see case 1), which can be obtained by for example digitalisation and setting up of an online registration and monitoring system. Case 1 elaborates on further areas for potential simplification.

Similar findings came out of the survey "Your Voice", which also indicates a need for improving the administrative procedures around the WSR in order to make them less burdensome, in particular the notification procedure for waste. Other improvements such as setting pre-consented facilities and digitalising the systems to register or track shipments were also suggested to speed up the process.

The second workshop suggested to lift administrative burden through more guidance and clarification from the Commission, through closer cooperation between Member States and Commission, via a clearing house or help-desk to support common interpretation of the Waste Shipment Regulation and Waste Framework Directive, as well as via electronic data exchange on transfrontier shipment. A fast-track procedure for dealing with Waste Shipment Regulation notifications was suggested to be further developed and more strongly promoted.

The UK House of Commons paper suggests that "the Government should review how processes for environmental protections against illegal disposal of waste might be simplified to encourage businesses to re-use materials. More generally, it should explore the scope for regulating the minimum recycled content of particular products

in order to stimulate sustainable markets in recovered and recycled material.” This is in response to the argument that creating too much regulation for business might create excessive administrative costs which are prohibitive for some businesses. Taxation incentives/allowances could be linked to existing fiscal instruments minimising administration burden (e.g. differential rates applied via the VAT system, R&D Tax Credits linked to Corporation Tax as are Enhanced Capital Allowances).”

6.1.2.9 Standardisation to alleviate differences in interpretations

Differences in interpretation of a standard can be addressed by technical specifications through for example CENELEC (Comité Européen de Normalisation Electrotechnique), or through audit forms (to have same audit forms and procedures which reduce the risk of misalignment). When a Directive is prepared there is a mandate to develop standards – this should be used as a general policy (suggested by WEEE Forum). Some standards might be made mandatory (through an implementing act). For example, WEEELABEX/EN standards (on the handling of WEEE) are already mandatory in the Netherlands, Ireland, Flanders and France (WEEE Forum).

Clear demand for ‘harmonisation’ or convergence of waste legislation in different Member States through standardization has been stressed by the respondents to the yourvoice survey. These could be for example through:

- European Standards (if appropriate, legally binding);
- A certification system, which would certify that waste is treated in equivalent environmental conditions.

These solutions are all to improve the level playing field and improve the competition.

6.1.2.10 Better data

Another proposition is to improve data collection on waste and material flows as this is a significant barrier to informed decision making where to prioritise investments and to be able to match end-of-life materials with markets.

“Poor data is increasingly being cited by the waste industry as the key reason for under-investment in treatment facilities because it makes it unduly difficult for financiers to undertake due diligence⁵⁸.” *“Accurate information about levels of waste is vital for modelling future demand”* which is important to raise confidence for recycling businesses i.e. how much demand there actually will be.

Another aspect is the absence or disfunctioning of the electronic system for gathering the data. EFR, Eurometrec and ERPA called for an improved informatised system, in order to avoid long time delays from sending documentation. The Dutch initiative ‘Afval zonder papier’ can be cited as an example.

According to the conclusions of the second workshop, knowledge gaps should be filled. The gathering of data and the quality of the statistics should be improved at EU level. An electronic data exchange on waste shipments would help. Information and research should be compiled and presented regularly on waste flows, facilities and prices. The assessments prior to adopting legislative proposals should be improved, policy measures must be carefully assessed. Mentioned was the adoption of the WEEE Directive, where according to one participant statistical data and collection rates was not correctly assessed before adopting latest amendments.

⁵⁸ EEF (GCE0032) para 19f

The Circular Economy package includes actions to further develop an EU-wide raw materials information system and support to EU-wide research on raw materials flows, see Section 4.4 above.

6.2 Stakeholder recommendations

6.2.1 Policy recommendations from the case studies

Direct barriers to movements of waste within the EU.

6.2.1.1 Case 1: Distortions generated by the Waste Shipment Regulation's procedure with prior written notification and consent for intra-EU shipments

- Facilitating or abolishing current prior notification procedures for intra-EU shipments, see comments in "Your Voice" survey relating to EU Schengen area for waste.
- Making (part of) the procedure digital in order to speed up the process and set up an online registration and tracking system to register and track shipments as well as to see previous submissions.
- Developing "fast-track" procedures for waste shipments allowing immediate shipment for recycling to pre-consented facilities based on harmonised and strengthened criteria.
- Provide guidelines on the standards for pre-consented waste facilities. Legally binding standards and BREF reference documents could be used to create the lists of pre-authorized/ pre-consented recovery facilities. In this case, good enforcement/ monitoring is needed.
- Revision of the maximum allowed size of waste samples shipped for trials under the WSR, currently set at 25kg.
- If the ESM level of performance needs to be improved, some legislative changes/ harmonisation is necessary. Improved enforcement and compliance of laws is also needed in Member States that are lagging behind.

6.2.1.2 Case 2: Divergent application of Article 18 and Annex VII in the Waste Shipment Regulation

In order to address the extra risks, costs, administrative burdens and inefficiencies in controls entailed by the divergent application of article 18 the following recommendations can be made:

- Develop an Electronic Data Interchange system at EU level for hazardous and non-hazardous waste
- Create EU database listing by Member State the permits needed for waste transporters and which specific national/regional/local authorities that deliver such permits .
- Give public access to national documentation and authorizations through an EU centralized platform and national databases
- Draft guidelines for Member States on the interpretation of the Waste Shipment Regulation.

6.2.1.3 Case 3: Administrative issues on waste shipments through transit countries

- Simplifying the procedures when shipment goes through transit countries, e.g. the number of days for the transiting country to provide the acknowledgement of a written consent, conditional consent or objection could be diminished, to 20 instead of 30 days. Also tacit consent could be reduced to 20 days.
- Support and guidance to increase notification file quality and transparency.
- Harmonisation of national or regional procedures for registering or permitting waste transport may simplify the procedure, as well as mutual acceptance of a Member State's registration by other Member States.
- The practical application of notification requirements would be significantly enhanced by an electronic system. A top down approach, patronized by the European Commission, could be effective.
- The application of art 13.2 and art 17 of the Waste Shipmetn Regulation could be harmonized by developing an enhancing ICT automated message exchange to facilitate minor adaptations to approved shipments.
- Transit countries are to play an important role in quality assurance of the notification file, and are therefore an added value for environmental sound management of the shipped waste.

6.2.1.4 Case 4: Notifications for packaging waste, separate collected as one single waste stream

- Where the problem is the classification of wastes, the responsible authorities need to provide good guidance on which waste is classified as green listed and which amber or un-listed.
- Guidance is needed on good application of the precautionary principle, especially in case of non-listed but proven non-hazardous waste fractions or mixtures.
- Inclusion of non-listed but proven non-hazardous waste fractions or mixtures in the green list procedure can be considered for intra-EU shipments.
- If valid technical reasons exist to justify increasing the 25 kg threshold value for shipments of waste for testing, this threshold might be lifted in combination with documentary evidence on the technical necessity for larger sample.
- Co-ordination at EU level of costs that Member States can impose on companies for complying with inland administrative procedures of notifications.
- Cooperation between waste management companies and authorities is important as well as good communication between them.

6.2.1.5 Case 5: Failure to implement the polluter pays principle in extended producer responsibility schemes

- Impose general rules and guiding principles for Member States to follow when implementing EPR-systems, i.e. harmonise EPR schemes by setting minimum requirements.
- Impose the objective to cover 100% of all net costs by adapting local legislation where needed.
- Adapt and define the roles and responsibilities of the industry and local collectivities in order to increase efficiency and environmental performance.

- Define market-based reference costs for public infrastructure in order to avoid that PRO's divert a part of their costs to public services and do not take up the 100% cost coverage.

6.2.1.6 Case 6: The impact of failing landfill compliance on the waste market

- Apply a mixture of policy measures and market interventions.
- Implement landfill tax together with a landfill ban for certain recyclable waste streams, such as biodegradable waste.
- Appropriate infrastructure for reuse, separate collection and alternative treatment of municipal solid waste should be established.
- The informal collection and recycling sector could be integrated in the waste management of specific Member States, by creating conditions in which they can professionalize.
- Knowledge has to be disseminated on waste prevention, sorting and recycling and on resource efficiency and the circular economy in general.

6.2.1.7 Case 7: Restrictions of waste shipments between regions in one Member State

- Keep the principle of proximity and self sufficiency to enlarge and complete the needed treatment capacity.
- At the same time, repeal the fundamental assumption that this should be accomplished only by means of incineration, but stick to the general definition of "treatment" included in the Landfill Directive.

6.2.1.8 Case 8: Comingled waste collection and recycling effectivity

- Unify the standards of selective collection of municipal waste throughout the Member State.
- Increase landfill fees.
- Conduct environmental education and awareness on a large-scale.
- Vary the fees for municipal waste management for separately collected or mixed waste.
- Encourage service providers for source separated collection.
- Introduce minimum prices for recycled materials.
- Establish levels of use of secondary raw materials during production in enterprises.
- Unify the use of returnable packaging across the EU.
- Introduce uniform reporting templates (simple and clear) that would unify and simplify the control method of the actually achieved levels of recycling and preparing for re-use and recovery of municipal waste.

6.2.1.9 Case 9: Incineration tax differences for domestic and imported waste.

- Policy makers need to strike a good balance between creating incentives at home to move up the waste treatment hierarchy, while making sure waste is not exported abroad for incineration/ landfilling if it can be treated domestically, and while safeguarding the existing or developing waste recycling markets in Member States of origin.

- Solutions in terms of fiscal policies will need to be implemented at the Member State level as they concern national legislation. Guidance and steering is needed at a European level, towards greater convergence of waste taxation policies to reach higher recycling.
- There is a need for better control/ regulation of incineration capacity at the EU level.

6.2.1.10 Case 10: The application of the proximity principle to shipments within and between Member States

- Legal intervention is advised on the conditions under which Member States have to comply with the proximity and self-sufficiency principle at Member State level, on a harmonised definition of mixed municipal waste, on the cost structure of waste treatment at low levels of the waste treatment hierarchy, on management at a European level of equilibrated incineration capacity.
- Enforcement is advised on the illegal application of the proximity principle.
- Coordination is advised on the distinction between recycling/recovery and disposal, on the development of waste treatment capacity, avoiding an over-capacity of waste incineration at national or transnational level, on the application of articles 11 and 12 of the Waste Shipment Regulation and on an EU wide system of waste levies in order to prevent ecological dumping.
- Guidance is advised on the quality of the case judgements of waste shipment notification files and on the application of the proximity and self-sufficiency principles.

6.2.2 Analysis on recurring capita selecta policy recommendations from stakeholders

This section summarises the issues that have been most frequently mentioned in the consulted sources: literature, stakeholder interviews, two interactive workshops and yourvoice survey and links them with policy advice at the level of EU and national/regional legislation, administration or other policy instruments.

The section represents the analysis, the advice on regulatory changes, the advice on clarifying guidance, and other non-regulatory recommendations for following key recurring topics:

- Export of waste provisions are considered as an administrative burden
- Lack of clear and harmonised definitions and recycling rate calculations
- Lack of transparency in EPR schemes
- End of waste criteria generate market distortions
- Lack of market for recycled products
- Different fiscal regimes and gate fees can generate distortions
- Large investments and sunk costs block the waste markets
- Industrial waste is under-represented in the legal provisions
- Differences in enforcement efforts create loopholes
- Emission trading systems and environmentally harmful subsidies

Only the most important advice is included, supplementary advice is presented in extenso in Annex VI Additional conclusions and recommendations.

6.2.2.1 Export of waste provisions are considered as an administrative burden

The Waste Shipment Regulation is frequently mentioned as blocking the effective functioning of the waste market, due to its real or perceived unnecessary red tape. The Regulation is developed from the following basic concepts:

- Green listed (annex III, IIIa, IIIb ~non hazardous) waste for recycling needs to be identified but benefits from a relatively free market, although some in clarity on task division continues to exist. Article 18 and annex VII are not used in a harmonized way throughout the Union.
- Amber listed (annex IV, IVa ~ Hazardous + mixed municipal) waste and all waste for disposal is submitted to a stringent follow-up system, based on a prior consent regime and reporting on each individual shipment.
- Waste shipments to non-OECD countries can be submitted to more stringent procedures on request of the partner country and is banned for disposal or for amber listed waste.
- Member States can object against a shipment for recovery or for disposal using a limited list of elements, among which non-compliance with the own waste management plan.
- All shipped waste should be treated using environmentally sound management (ESM) which is broadly comparable to the EU acquis.

Market distorting aspects are:

- Often not related to the legislation itself, but the unequal way in which it is implemented and used in the different Member States. . In particular, some MS request further requirements and conditions to accept the shipped waste.
- The length (and thus costliness) of the procedures can hinder the smooth functioning of the waste market, and possibly lead to sub-optimal waste treatment options which do not need transfrontier shipment. However, these procedures are currently justified for the higher goal of protecting the environment as there are many non-compliant shipments and the ESM performance of Member States varies greatly. Where ESM can vary greatly within a same Member State, title III of the Waste shipment regulation on "shipments exclusively within Member States" can be applied. Member States may, but are not obliged to, apply the system provided for transfrontier shipment also internally.
- Transfrontier shipment of products at the end of their useful life as second-hand to third world countries make it difficult to use recycling percentages referring to the amounts put on the market. ESM of such a second hand product once it becomes a waste cannot be guaranteed, and materials leak away from the EU markets. This can distort resource availability and efficiency for the EU market.
- Transfrontier shipment for recycling, when not sufficiently inspected or enforced, can compete with European recycling infrastructure. Due to trading waste for recycling, waste can end up at the cheapest solution in third countries and it can distort the targets for recycling or resource availability and efficiency within Member States.
- Because Europe has not yet reached harmonisation of environmentally sound waste management, waste can move within the EU borders to places where ESM is the least developed, as it is often the cheapest solution. Before ESM has reached an equally high level in all Member States, proper checks and balances continue to be needed.

- Some Member States might be more lenient than others, and are sometimes even pushed by waste management industry actors to accept specific shipments, which distorts the functioning of the waste markets by setting a non-level playing field.
- The threshold to ship waste for testing of possible treatment in another member state or country is limited to 25 kg. This is a rather arbitrarily chosen threshold value which does not always correspond with the technicalities of the testing procedures for specific waste streams. Nevertheless, the existence of a threshold prevents abuses of shipments disguised as test shipments.

6.2.2.2 Lack of clear and harmonised definitions and recycling rate calculations

6.2.2.2.1 Definitions

Different interpretations by Member States of rather broad definitions add to the amount of administration or to the length of procedures, as clarity and agreement on what the specific waste concept means and includes needs to be sought for. Key definitions needing clarification in order to ameliorate the functioning of the waste markets are:

- **Recovery and recycling.** Making a distinction between front end collection for recovery or recycling (inclusive of what will become the sorting residue), back-end recycling feedstock (inclusive of what will become the recycling residue) or back-end recycled material. The way in which Member States interpret and use the definition of recovery and recycling can lead to market distortions and hinder market access for high level recycling. Discussions between Member States on the distinction between recycling and other treatment may lead to prolongation of the administrative procedures for transfrontier waste movement, and in specific cases to broad or to narrow use of backfilling as recovery operation also leads to market distortions.
- **Waste or no waste, end-of waste.** See paragraph 12.2.4
- **Hazardous or non hazardous.** Especially in the case of transfrontier movement of waste the distinction between hazardous or non-hazardous, or more correct between amber-listed waste and green-listed waste, causes large impacts on the functioning of the markets in case of recycling. Green-listed waste can be shipped under a rather simple identification provision, while amber- (or non-) listed waste requires a cumbersome notification procedure. The identification of hazardous or non hazardous waste has been more or less harmonized between the CLP Regulation and the Waste Framework Directive, although differences occur and issues around HP14 (ecotoxicity) still need clarification. But there is less harmonisation between the EU hazard characteristics and its identification methods and the application of article 1(1)a of the Basel Convention. In all cases, defining whether a waste is hazardous or not, especially in case of mirror code in the List of Waste, or in case of occurrence or variants on both the A and B list of Basel, is a complicated task, which can lead to market distortions or to disagreements between Member States.
- **Municipal waste.** Although a rather complicated definition is included in the metadata of the joint OECD/EUROSTAT questionnaire, no legally binding definition is used yet to define the nature and quantity of waste from economic activities that can be included in municipal waste. In this way it distorts the functioning of the waste markets when municipal waste is attributed to municipalities (often bound by large historic investments in e.g. incineration capacity) and when commercial/industrial waste is attributed to a more free market. The legislative proposal on amending the Waste Framework Directive, which accompanies the

Circular Economy package released on 2 December 2015, contains a way to define municipal waste.

- The lack of a clear distinction between mixed municipal waste and partly sorted municipal waste (e.g. in 'wet' and 'dry' fractions, or in 'still mixed recyclables' and 'residual' waste) may distort the application of the proximity and self-sufficiency principles in case of incineration with energy recovery⁵⁹. Finally a lacking definition may interfere with data comparability and measuring waste generation or the achievement of recycling or treatment targets.
- The tipping point between municipal waste and pretreated waste (e.g. through mechanical/biological treatment or MBT) defines in which way Member States do have to comply with the landfill diversion targets. These targets are applicable on biodegradable *municipal* waste and not on pretreated MBT or other wastes derived from treatment of MSW. In the same way Member States have to comply with the recycling objectives in the Waste Framework Directive which also are only applicable on waste *from households and possibly from other similar origins* but not on wastes further on in the treatment chain.

6.2.2.2.2 Recycling rates

The way in which recycling rates and recycling performances are calculated has a large impact on Member State's policies. Indicator values allow for mutual comparison but also indicate whether a region or a Member State has achieved its targets, and whether supplementary investments are needed, whether specific pathways are followed (e.g. using capacities in neighbouring Member States or in third countries) and whether market instruments like EPR systems, taxes, fees or subsidies are used to enhance recycling. This can have a large impact on waste markets and the way they function both in the Member State in question and at the transnational level.

Recycling rate indicators face multiple issues. The three major ones are:

- Lack of harmonised calculation methods.
- Lack of clear definitions on which materials can be counted in (see above).
- Lack of raw data of sufficient quality.

6.2.2.3 Lack of transparency in EPR schemes

Some waste streams are submitted to extended producer responsibility (EPR) as a part of the implementation of European directives, while other EPR schemes are established at the discretion of the Member States. All are however implemented in line with the subsidiarity principle which leaves freedom to Member States and regions to apply take back obligations, financial responsibilities and incentives, trading systems, monopoly or competing producer responsibility organisations (PROs). These PROs act as data collector and reporter, financier, organiser or market actor, under rules of public or private procurement.

Within many Member States and for different waste streams tensions exist between the waste generators organised in a PRO and the private waste collection or treatment sector, mainly on question of a level playing field and market access. Monopoly systems and restriction to market access may however impede innovation and the development of better functioning options.

⁵⁹ In accordance with art. 3.5 of the Waste shipment Regulation, mixed municipal waste for energy recovery should be submitted to the same procedure as waste for disposal, including the application of proximity and self sufficiency principles.

Financial obligations in an EPR system divert by nature from the polluter pays principle, because the financial responsibility is placed intentionally at the sole level of the producer of the products that become waste, while the pollution is a shared responsibility for producer and consumer.

When no full cost coverage is asked in an EPR-system, although this is requested by article 14.1 of the Waste Framework Directive, and when different levels of public money are used for cost coverage, a PRO and the waste management facilities realised or engaged by it, might acquire a competitive advantage. Waste will go towards the cheapest solution, which does not necessarily lead to the environmentally best solution. To achieve the best possible environmental solution, competition should take place on the offered environmental quality instead of on price.

Lack of "true cost" coverage, in which a participant of an EPR scheme doesn't pay a contribution fully related to the true collection and recycling costs of the individual products he puts on the market, leads to continued use on non-recyclable solutions. EPR schemes aggregate costs for a whole sector and calculate recycling performances for a whole sector or for the sum of all their members. When a PRO succeeds in reaching its targets by collecting and recycling the easy fractions in a market or sector, some members that produce difficult recyclable products can benefit from the performance of colleagues with easier products. By paying an admission fee to a PRO, such producers do not have an incentive to use eco-design to produce more recyclable products. The incentive only remains valid if true costs are reflected in such an admission fee. EPR systems can distort the recycling market by keeping non-recyclable products and packaging artificially on the market.

6.2.2.4 End of waste criteria generate market distortions

The Waste Framework Directive foresees end-of-waste criteria that can be implemented through specific Regulations. When end-of-waste criteria are not defined at EU level, Member States are free to implement their own set of criteria. The Directive also foresees by-product Regulations at EU level, which are until now not developed.

Market distortions can be generated by unequal policy conditions for (end-of-) waste in specific Member States. These conditions have an impact on transnational markets in which the Member States with less demanding policies attract wastes from more demanding Member States.

A different use of end-of-waste criteria between Member States can also generate loopholes for export of materials to third countries, as end-of-waste materials are no longer regulated by the Waste Shipment Regulation. This can lead to distorted markets between Member States that use, and others that do not use, specific end-of-waste criteria.

Finally different regimes in different Member States generate administrative complexity which hinders actors active in a crossborder waste market.

6.2.2.5 Lack of market for recycled products

While the collection and the recycling of materials is highly regulated and supported by obligations, targets and other policy instruments, the use of these recycled materials is much less regulated. This can create a lack of equilibrium in the waste markets where recycled materials are generated that cannot sufficiently compete with the corresponding primary raw materials. Not regulation but a lack of regulation is causing the market distortion. The open market in which a producer can freely choose between primary and secondary raw materials could be adapted with levies or

subsidies to promote the choice for secondary raw materials and in this way to realise resource efficiency on longer term.

The quality of the recycled products is very depending on the quality of the waste collection strategy, with sorting at source or sorting after mixed collection. This is the case for both municipal and commercial or industrial waste.

In order to achieve a better market for recycled products or primary materials, industrial users should be convinced of the quality of the recycled alternative which is at the same or higher level than the primary material, while simultaneously they should benefit from better prices compared to primary materials.

6.2.2.6 Different fiscal regimes and gate fees can generate distortions

Public bodies, performing a duty of general interest, are free from VAT-regimes in certain Member States, in contrast to private actors. Levies, gate fees, contributions of a diverse nature on the contrary can sometimes be fiscally deducted but only if an actor has to pay taxes. These aspects generate market distortions which mainly affect the level playing field between public and private actors. They only indirectly affects the performance of the waste markets if this unfair competition disadvantages options which are high on the waste treatment hierarchy and create benefits for energy recovery, incineration of landfill solutions.

A similar problem occurs when neighbouring public bodies use different charges for similar waste management performances. This could lead to distortions when landfill or incineration in a neighbouring region becomes cheaper than recycling in ones own region. This can be managed by the Member States by imposing for example export taxes for waste to be incinerated and/or export bans for waste to be landfilled.

Overcapacity of MSW incineration is a major driver for distortions. Investments in incineration facilities represent large sunk costs and need to be paid off. This creates a need of waste being sent to incineration, rather than prevented or recycled, e.g. through lower gate fees. Member States policy on open or closed borders can go hand-in-hand with such treatment over-capacity (see paragraph 12.2.7). To influence the gate fee levels, Member States can use separate VAT regimes to support import for treatment and to discourage export.

6.2.2.7 Large investments and sunk costs block the waste markets

Incineration of waste, either with or without energy recovery, requires large investment in major infrastructure. These investments are frequently made by public authorities or bodies, and have long amortization periods. The investments are made based on long term policy planning by Member States or regional authorities. A perverse effect is probable when waste is attracted to these installations by lower gate fees, in order to maintain a sufficient capacity to cover costs. Initiatives for source sorted collection or for the development of competing recycling capacity, either public or private, can be delayed for this reason. Overcapacity of incineration plants can lead to prices that are lower than for recycling. It can drain waste away from the recycling market to incineration within the Member State or in neighbouring states.

Waste treatment planning at a higher transnational level is lacking and distorts investments in recycling solutions. In some cases however lack of regional planning or poor quality of regional waste management plans distort the market as well because no safe investment climate for recycling is generated.

6.2.2.8 Industrial waste is under-represented in the legal provisions

EUROSTAT reports how only 8.5%⁶⁰ of all reported waste generation comes from households. Several stakeholders however indicate that the Waste Framework Directive, and especially the recycling targets, focus on household or municipal waste only. There are no recycling targets for paper, glass, metal, plastic or other main waste streams when generated in an industrial context. A recycling market is thus stimulated for municipal waste (e.g. through public investments in separate collection, through national or regional sorting-at-source obligations etc.) But this is not done in a similar way for comparable industrial waste. This distorts the waste market and its performance. A lack of equilibrium also exists at national levels in the way the recycling market for industrial wastes is less supported than the recycling market for household or municipal wastes.

6.2.2.9 Differences in enforcement efforts create loopholes

National authorities are competent to organise enforcement on both the national and the European provisions, e.g. on freeriders in EPR schemes, on illegal export, on illegal waste disposal or non-compliance with environmental permits or conditions for waste treatment, on non-compliance with the essential requirements from the Packaging and Packaging Waste Directive, on the mixing ban, etc..

If the differences between Member States or regions in the way they organise their inspection and enforcement are very large, low performing Member States can attract waste and market share from high performing Member States. This can generate substantial market distortions in the transnational or transregional waste markets and generate waste-tourism for the cheapest solutions.

Distortions can be caused by administrations setting other priorities on enforcement or applying diverting inspection techniques and frequencies, by judges generating diverting jurisprudence and/ or by lack of good human resources and finances to inspect and enforce more and better.

6.2.2.10 Emission trading systems and environmentally harmful subsidies

Various systems of emission trading and environmentally harmful subsidies can lead to distortions when applied on waste management.

- Landfill allowance trading schemes, as in the UK, can have as an effect that local efforts for development of a local recycling market are sold off.
- Trading CO₂ certificates can be harmful to the market of high calorific recyclables. Especially for wood waste recycling and energy recovery are in competition, where energy recovery is subsidised by CO₂ certificates although recycling is higher on the waste treatment hierarchy.
- Some other subsidies also confer advantages on certain consumers, users or producers by not taking into account or even discriminating against sound environmental practice. This may be the case when waste solutions at the bottom of the waste treatment hierarchy are subsidised (e.g. via CO₂ certificates for biowaste incineration) and in this way block the development of waste recycling capacity.

⁶⁰ EUROSTAT database [env_wasgen] based in annex I of the Waste Statistics Regulation 2150/2002/EC: total waste generated in EU-28 in 2012 for all NACE including households: 2.515.110.000 tonnes, generated by households: 213.410.000 tonnes.

6.3 Policy advice on key recommendations

For all ten above mentioned issues policy advice has been developed. Hereunder are the 10 more important proposals summarized in the field of regulatory changes at EU level, clarifying guidance at EU level, and other non-regulatory or non EU recommendations. More recommendations for all ten topics are included in Annex VI Additional conclusions and recommendations.

The selection between key recommendations and additional recommendations is mainly based on the outcome of the second workshop, in which all previous stakeholder consultation and all case studies and literature research have been culminated. This outcome is included in Annex III.4 outcome of the workshops: Key conclusions of the second workshop

6.3.1 Policy advice on regulatory changes

6.3.1.1 KEY RECOMMENDATION 1: Develop a Schengen area for waste for recycling and recovery

The Waste Shipment Regulation's notification requirements create heavy administrative burden and costs for recycling businesses, as identified during the stakeholder consultation and research conducted within this study. A solution could be to develop a 'waste-Schengen zone', i.e. a zone without administrative burden, ensuring free movement of waste for recovery and recycling to environmentally sound facilities in Member States, combined with stringent controls at the borders of this zone. This could overcome most of the mentioned market distortions, in particular WSR's notification system causing heavy administrative burden and costs. In practice, this would mean abolishing the notification requirements for waste for recovery and recycling within the EU. The most effective option would be to include all currently notifiable waste (hazardous, unlisted and mixed municipal waste) in the waste-Schengen zone.

It would be necessary to amend the Waste Shipment Regulation to install such a zone, in particular the provisions relating to prior written notification and consent (current Article 3 etc.).

Challenges to be assessed would be to:

(1) Address the traceability of waste e.g. through the WSR's information system (current Article 18 and Annex VII of the regulation). This recommendation has to be combined with a guaranteed high level of environmental performance on waste treatment within all covered Member States and thus no leakage towards the lowest performing and cheapest solution. Currently, the WSR's information system in Article 18 and Annex VII aims to ensure such traceability for green, non-hazardous waste by enabling national authorities to check that waste shipped goes to environmentally sound facilities, see further Article 49 WSR.

(2) Ensure ESM of waste by taking appropriate inspection and enforcement measures for which Member States' implementation of Regulation 660/2014 will be a key factor. Member States' implementation of the new provisions on inspections and enforcement in Regulation 660/2014 will be instrumental to safeguard the objectives of protecting the environment and public health.

(3) Foresee the possibility for safeguards if needed in certain exceptional circumstances

(4) Assess links with international requirements, in particular the Basel Convention, e.g. whether a submission to the Basel Convention would be required. Article 4 of the Convention states that "Parties shall prohibit or shall not permit the export of hazardous wastes and other wastes if the State of import does not consent in writing to the specific import". In case of free movement within a waste-Schengen zone, Parties are no longer requested to consent in writing. Article 11 of the Basel Convention stipulates that Parties shall notify the Secretariat of any Bilateral, Multilateral and Regional Agreements and Arrangements which they have entered, for the purpose of controlling transboundary movements of hazardous wastes and other wastes which take place entirely among the Parties to such agreements. Additional information can be obtained from the ECOLEX portal, which is an information service on environmental law jointly operated by FAO, IUCN and UNEP. This portal includes information on national legislation, treaties, judicial decisions and technical guidance documents and can be accessed at www.ecolex.org, see also further: <http://www.basel.int/Countries/Agreements/tabid/1482/Default.aspx>; and <http://www.basel.int/Countries/Countryfactsheets/tabid/1293/Default.aspx>, and Enomia study (2009). International review of waste management policy - exports and imports of waste.

A waste-Schengen zone should also not close the borders beyond the export bans of the Basel Convention, as waste flows are global and commitments relating to free trade and WTO rules have to be respected.

(5) It has also to be assessed if the whole EU or only part should be covered by the removal of notification requirements. Article 30 of the WSR provides a possibility for "Border-area agreements", however, this is explicitly limited to exceptional cases.

How to do in practice:

- Assess the material and geographical scope of a "waste Schengen zone".
- Amend Articles 3 etc. of the WSR, and require application of the general information requirement of article 18 and Annex VII for shipments of all waste for recovery and recycling between Member States.

Avoiding negative side effects:

- Ensure traceability and adequate environmental safeguards.
- Ensure ESM of waste by taking appropriate inspection and enforcement measures for which Member States' implementation of Regulation 660/2014 will be a key factor.
- Assess the relationship with international requirements (Basel Convention).

6.3.1.2 KEY RECOMMENDATION 2: Harmonise and strengthen the system of preconsented facilities

Excessive time-delays for companies trying to ship waste to appropriate recycling facilities in the EU have been identified as severe problems for the efficient functioning of the EU's waste markets. Foresee legislative changes or strong EU guidance regarding the minimum criteria/ standards for (pre-consented) waste facilities. Legally

binding standards for waste facilities, like included in the BREF reference documents under the IPPC Directive/Industrial Emissions Directive have been introduced for several treatment options, setting minimum requirements. They could be used to create the lists of pre-authorised/ pre-consented recovery facilities.

Pre-consented recovery facilities in line with article 14 can be the basis of a fast track procedure for transfrontier waste shipment. A body installed by the Commission might guard the quality of preconsent decisions made by Member State authorities and label such decisions as valid for all competent authorities when the EU acquis and the requested high level of ESM is reached together with an impeccable track record on infringements. Shipment to a pre-consented facility, for the wastes covered by this pre-consent, could be considered as safe and would not need further approval, although provisions on tracking and reporting may still be necessary.

How to do in practice:

- Harmonise the system for pre-consented facilities by amending article 14 of the WSR.
- An alternative option could be to improve the application in Member States of the current provision in Article 14, e.g. through guidelines.
- Request that a pre-consented facility always can prove fully compliance with the best available techniques as described in the BREF.
- Do not recognise any facility as pre-consented if non compliant with the corresponding BAT, or when no BAT is formalised in an approved BREF.
- Shall only apply with the EU/EEA, i.e. limit the attribution of pre-consent to Member States' or EEA countries' facilities, as for these the EU legislation on e.g. industrial emissions are applicable.

Avoiding negative side effects:

- The competent authorities of the involved Member States carry full responsibility for the waste shipments they approve or disapprove. Within the lines of the Cassis de Dijon ruling, they should remain in the possibility to contest pre-consent given by another Member State, to avoid loss of autonomy in breach with the subsidiarity principle.
- The scope of the BREFs for waste treatment and waste incineration do not cover all possible destinations of waste shipments. Cement industry or wood-based panel production, paper production, textile industry (for which BREFS exist) and many other accept large quantities of recyclable materials as a raw material. With an expanding trend of industrial symbiosis even larger variety of receiving industrial sectors will occur. To avoid market distortions in the sense that only the traditional waste treatment and waste incineration could receive pre-consent, other BREFS need to be adapted to transfrontier waste shipment, as well as new BREFS need to be drafted. Main criteria are the ESM of the waste management operations performed and the sound destination of recycling residues.

6.3.1.3 KEY RECOMMENDATION 3: Ensure more harmonised classification system for waste shipments

Differences between Member States of classifications of 'waste', 'hazardous' and 'recovery' and 'disposal' have been identified as severe problems for the efficient functioning of the EU's waste markets. Opposing opinions on definitions and

classifications which block the functioning of the EU's waste markets have to be avoided.

The annexes to the WSR contain the classifications relevant to determining which procedures shipments of waste shall follow and consequently, amendments of them could contribute to simplifying the procedures, e.g. by moving certain waste to the green-list. This could be done without actually changing the regulation itself.

Different regimes apply to shipments of hazardous and "green-listed" non-hazardous wastes. The shipment of hazardous wastes and of wastes destined for disposal is generally subject to notification procedures with the prior written consent of all relevant authorities of dispatch, transit and destination (Articles 4-17). However, the shipment of "green-listed" wastes for recovery within the EU and OECD does not require any prior consent of the authorities (the shipment shall be accompanied by an information document, see further Article 18 and Annex VII).

An extension of the 'green'-list of the WSR with additional types of wastes requires an amendment of the Annexes of the Regulation. Such an amendment can take place either through the adoption by the Commission of a delegated act to take account of changes agreed under the Basel Convention and the OECD Decision, or through the ordinary legislative procedure (see further Article 58 of Regulation (EC) No 1013/2006).

It is true that if certain waste would be added to the 'green'-list, their shipment to other countries for recovery would be facilitated since the 'lighter' control procedure concerning shipment of 'green'-listed waste for recovery would apply. However, any action to change the current rules should be compliant with the provisions of OECD Decision C(2001)107/Final and the Basel Convention which the EU is bound to.

A possible extension of the 'green' list with other types of non-hazardous waste could be assessed in the context of a review of the Regulation which is expected to take place by 2020 in accordance with Article 1(9) of Regulation (EU) No 660/2014.

Although article 28 of the WSR foresees an approach in case of differing opinions, a centralised approach might be installed in which decisions made by an Member State, in line with the Commissions guidelines and helpdesk support, is acceptable for all other Member states for a specific shipment of a specific waste stream. Key discussions submitted to a centralised approach may include issues on recovery/disposal, hazardous/non hazardous, waste/non waste.

Article 28 allows Member States to impose unilaterally and on a case-by-case approach import restrictions based on their own evaluation of waste-non waste, hazardous-non hazardous or recovery-disposal of a specific notified waste shipment. In the *Cassis de Dijon* case⁶¹ the European Court of Justice defines conditions under which exceptions are possible on the free movement of goods. Where waste can be considered as goods, e.g. for recycling, there are more reasons than the grounds explicitly mentioned in the present Treaty art 36: protection of public morality, public order, public security, health and life of humans, animals or plants, national artistic, historic or archaeological grounds or the protection of industrial and commercial property. These are called the 'Rule of Reason'. Additionally the case implies to assess whether there may have been harmonisation, whether the measure is a public interest, whether the measure is applied proportional and whether the case is not an arbitrary discrimination.

⁶¹ Judgment of 20. 2. 1979 — Case 120/78

Article 28 of the Waste Shipment Regulation, article 36 of the Treaty and the Cassis de Dijon ruling can be harmonised by including the judgement grounds from the case, which are supplementary to those explicitly included in the Treaty, in the provision of article 28 WSR. Only in line with these grounds and the grounds of the Treaty, a Member State can unilaterally overrule the opinion of another Member State on waste/non-waste, of hazardous/non-hazardous or on recovery/disposal. In case of non-agreement between Member States, not the opinion of the more stringent should prevail, but arbitration e.g. via a centralised approach is necessary.

How to do in practice:

- Amend the Annexes to WSR to simplify the system of classification, move certain waste to the green-list if necessary, and make consequential changes of Article 28 to of the WSR avoiding opposing opinions between MS.
- Foresee guidance to further clarify the distinction between 'waste' and non-waste; 'hazardous' and 'non-hazardous' and 'recovery' and 'disposal'.

Avoiding negative side effects:

- Disagreement between Member States may lead to non-approval of a shipment, and therefore a de-facto veto of each competent authority as it exists today. To avoid this the centralised procedure should be quick, reliable and with sufficient authority to convince both parties of a harmonised approach.

Apply standard detailed criteria to discern specific end-of-wastes and specific by-products

General conditions on the end-of-waste or by-product status of materials have been included in articles 5 and 6 of the WFD⁶². These general conditions are not directly applicable but need to be implemented with specific criteria for different material types and processes. The actual Waste Framework Directive provides that Member States may consider wastes as end-of-waste or as by-product, if it complies with the general conditions and with specific criteria. These criteria are to be defined via comitology procedure, but when EU wide criteria are lacking Member States can use their own national or regional criteria for end-of-waste.

The proposal to amend the Waste Framework Directive, accompanying the Communication on Circular Economy of 2/12/2015, proposes to lift the voluntary character in which Member states 'may' consider a waste as end-of-waste or by-

⁶² For end-of-waste:

- (a) The substance or object is commonly used for specific purposes;
- (b) a market or demand exists for such a substance or object;
- (c) the substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and
- (d) the use of the substance or object will not lead to overall adverse environmental or human health impacts

For by-product:

- (a) further use of the substance or object is certain;
- (b) the substance or object can be used directly without any further processing other than normal industrial practice;
- (c) the substance or object is produced as an integral part of a production process;
- (d) further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

product. Member states will have to 'ensure' that wastes complying with the conditions are to become end-of-waste or by-product. Furthermore it empowers the Commission to adopt delegated acts establishing detailed criteria on the application of an EU wide harmonised set of by-product and end-of-waste criteria to certain wastes, including for a specific use.

Historically many Member States have established rules for the use of specific wastes as a raw material in diverse applications like road construction etc. They have done it by declaring the material a non waste, by allowing its use as a waste, by adapting conditions for waste treatment, in many different forms. While Member States are in transition to fully apply articles 5 and 6 of the WFD, these often older conditions continue to work as national or regional rules under article 6.4 of the WFD⁶³. This scattered situation hinders the working of a waste (or end-of-waste) market at EU level.

The Commission can increase harmonisation on the waste and non-waste statuses and limit in time the application of case-by-case decisions at Member State level, using often outdated or contradictory Member State case law.

How to do in practice:

- Implement the amendments as proposed to generate harmonisation
- Avoid national legislation to remain operational, even when no EU alternative exists yet. In this way everything which is not fully harmonised at EU level falls back in the waste status, which is also a harmonised status and will generate a level playing field
- Foresee supplementary regulations for not yet covered waste streams that may fall under the general conditions

Avoiding negative side effects:

- Foresee decisions on wastes not falling under the general conditions for end-of-waste and by-product, to prevent scooping the waste definition, as both instruments may be vulnerable for strong industry lobby.
- Avoid that the end-of-waste or by-product decisions also apply of transfrontier shipments to non-OECD countries which have lower ESM-performances. Limit its field of application to the EU.

Support Member States in deciding on waste/non waste, hazardous/non hazardous, disposal/recovery or other discussed issues.

Develop a guideline, if possible supported by a web tool, to guide stakeholders and Member States in a harmonized way through the analyses for distinguishing between hazardous and non hazardous waste, between waste and non waste (see also key recommendation 6) and between recovery and disposal. A helpdesk service can be installed in which Member States can get support on the implementation of the legislation and the use of its definitions and provisions in specific cases. Such

⁶³ Where criteria have not been set at Community level under the procedure set out in paragraphs 1 and 2, Member States may decide case by case whether certain waste has ceased to be waste taking into account the applicable case law. They shall notify the Commission of such decisions in accordance with Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services where so required by that Directive.

guideline, tool and helpdesk service should have sufficient authority to contribute to harmonisation between member States and might be consulted by way of conciliation in case of differing opinions. Enforce the way in which industry or local authorities or service providers distinguish between municipal and commercial/industrial waste, between recycling, recovery and disposal, between hazardous and non-hazardous (or green and amber) waste.

How to do in practice:

- Invest in a helpdesk service and a webtool at EU level
- Prepare and promote a manual or FAQ on key returning issues

Avoiding negative side effects:

- Include the hazardous/non hazardous waste criteria from the Waste Framework Directive into the way in which the annexes III and IV of the Waste Shipment Regulation should be read, to avoid discrepancy between the EU hazardous waste approach aligned with CLP and the Basel Convention approach.

6.3.1.4 KEY RECOMMENDATION 4: Facilitate compliance with export of waste administration

Through electronic data exchange

Electronic data exchange can be important to balance the administrative burden against the effectiveness of the system, and as such some new processes and in particular digitalisation could decrease the red tape and improve the timeliness of the procedures, while enhancing the tracability of the waste shipments. When a bottom-up approach fails to be implemented quickly throughout the Union, a top-down approach managed and financed by the Commission may be necessary.

How to do in practice:

- Set up a programme for electronic data exchange in the frame of transfrontier waste shipment, in line with the Trasys Feasibility Study for the establishment of an Electronic Data Interchange for Waste Shipments (2014)
- Invest in centralised tools and support at EU level
- Adopt the system as the EU standard system

Avoiding negative side effects:

- As a bottom-up system of competent authorities EUDIN has started in 2000 and knew a very long and difficult development period with multiple partners joining and leaving the project. To avoid this a top-down approach, leaving sufficient space for adaptation to local context but managed from an EU level might lead more quickly to an applicable result.

Supplementary recommendations are included in Annex VI.2 Additional recommendations.

Through support in applying articles 11, 12 and 49 of the Waste Shipment Regulation.

The Commission can offer guidance and legal clarification on how to use the articles 11 and 12 as well as art 49, with clear do's and don'ts when referring to these articles

to object against a shipment. Specific attention is needed on the application of proximity and self-sufficiency principles, on the reference to national waste management plans, on the application of the precautionary principle in case of lacking data or unclear information and on the evaluation of ESM.

How to do in practice:

- Invest in a helpdesk service and a webtool at EU level
- Prepare and promote a manual or FAQ on key returning issues
 - Refer to the Treaty, the principles of the open market and the conditions under which can be deviated from these principles : the Rule of reason (art 36) and the Cassis de Dijon ruling of the Court of Justice
 - Refer to the precautionary principle in the Treaty (art 191) and in Resolution 14328/00 of the Council to object shipments in case of insufficient data to guarantee ESM
 - Illustrate the legal position of national waste management plans and principles and European acquis in case of transfrontier exchange.
- Evaluate whether guidance and helpdesk is sufficient, or amendments in articles 11, 12 and 49 are needed to take into account these aspects.

Avoiding negative side effects:

- Article 11a in the proposal for revision of the WFD accompanying the Circular Economy Communication of 5/12/2015 proposes in point 8: "*Waste exported from the Union for preparation for re-use or recycling shall only count towards the attainment of the targets /.../ in which it was collected if /.../ in accordance with Regulation (EC) No 1013/2006, the exporter can prove that the shipment of waste complies with the requirements of that Regulation and that the treatment of waste outside the Union took place in conditions that are equivalent to the requirements of the relevant Union environmental legislation.*" In order to avoid discrepancies, article 49 of the WSR may be amended to replace the terminology 'broadly equivalent' and refer to the stricter interpretation as in the proposed amendments of the WFD.

6.3.1.5 KEY RECOMMENDATION 5: Address delays in shipping waste via transit countries

The application by national authorities of the provisions concerning waste shipments through transit countries creates obstacles due to delays and specific conditions/objections.

How to do in practice:

- Simplify the procedures when shipment goes through transit countries, e.g. by limiting the intervention by transit authorities
- Adapt article 7 to 9 to limit the role of transit countries

Avoiding negative side effects:

- Address concerns about tracability and environmental sound management of waste.

6.3.2 Policy advice on other non-regulatory aspects

6.3.2.1 KEY RECOMMENDATION 6: Address problems of cooperation between authorities at different levels

Information flows between competent authorities in countries of dispatch, transit and destination, or different authorities in the same country, can be slow and delay shipments.

How to do in practice:

- Improve information flows between authorities through a centralised platform, e.g. based on current structures (waste shipment correspondents' group)

6.3.2.2 KEY RECOMMENDATION 7: Upgrade waste management systems in the EU

The Commission could introduce guidelines on how to organize schemes for extended producer responsibility, disregarding whether these are obligatory or voluntary. These guidelines should take into account rules for a transparent calculation of the collection and recycling performances, rules for true cost attribution and distribution and for ways to implement as much as possible the polluter pays principle. The following principles could be included:

- The definition and objectives of EPR should be clarified
- The responsibilities and roles of each actor should be clearly defined along the whole product life cycle
- The design and implementation of an EPR scheme should at least ensure the coverage of the full net costs related to the separate collection and treatment of the end-of-life products.
- The fees paid by a producer to a collective scheme should reflect the true end-of-life management costs of its specific products.

The legislative proposal on amending the Waste Framework Directive, which accompanies the Circular Economy package released on 2 December 2015, contains a new proposed article 8a with general requirements for extended producer responsibility schemes. This includes the need for Member States within their EPR schemes to:

- define in a clear way the roles and responsibilities of producers of products placing goods on the market of the Union, organisations implementing extended producer responsibility on their behalf, private or public waste operators, local authorities and, where appropriate, recognised preparation for re-use operators.
- define measurable waste management targets, in line with the waste hierarchy, aiming to attain at least the quantitative targets relevant for the scheme.
- establish a reporting system to gather data on the products placed on the Union market by the producers subject to extended producer responsibility. Once these products become waste, the reporting system shall ensure that data is gathered on the collection and treatment of that waste specifying, where appropriate, the waste material flows;
- ensure equal treatment and non-discrimination between producers of products and with regards to small and medium enterprises.

Among other provisions, the article also contains provisions which impose how:

- Member States shall take measures to create incentives for the waste holders to take part in the separate collection systems in place, notably through economic incentives or regulations, when appropriate.
- the financial contributions paid by the producer cover the entire cost of waste management for the products it puts on the Union market.
- the financial contributions paid by the producer are modulated on the basis of the real end-of-life cost of individual products or groups of similar products, notably by taking into account their re-usability and recyclability.
- the financial contributions paid by the producer are based on the optimised cost of the services provided in cases where public waste management operators are responsible for implementing operational tasks on behalf of the extended producer responsibility scheme.

How to do in practice:

- Realise the amendments as foreseen in the Waste Framework Directive revision.

Avoiding negative side effects:

- Bring clarity in the formulation of the proposed amendment

*Art 8a point 4 (b): Member States shall take the necessary measures to ensure that the financial contributions paid by the producer to comply with its extended producer responsibility obligations are modulated on the basis of the real end-of-life cost of individual products **or groups of similar products**, notably by taking into account their re-usability and recyclability.*

Foresee binding guidance on how to define such a group of similar product to avoid that the groups become too large (e.g. plastic post-consumer packaging). Too large groups may reach the target but may allow low-performing products to benefit from the results of better performing products or of the group as a whole. In this way the individual incentive for producers to reconsider e.g. their packaging strategy would disappear. Foresee that the real end-of-life cost of individual products is always the basis for contributions, to generate individual and effective incentives.

6.3.2.3 KEY RECOMMENDATION 8: Improve enforcement in MS

Member States' effective and targeted enforcement of the provisions of the Waste Shipment Regulation and the Waste Framework Directive could be supported by services provided for by IMPEL. This organisation could expand its policy domain, managed and financed by the Commission. Participation in IMPEL might be made mandatory.

How to do in practice:

- Give IMPEL a legal structure going beyond the memorandum of understanding of core elements for future collaboration, comparable with the statute of EEA as an independent agency formalised with a Regulation.
- Give Member States a mandatory task on collaboration with IMPEL.
- Make IMPEL the key actor in harmonising and increasing effectivity of environmental enforcement at supra national level, through advice, guidance and collaboration.
- Give IMPEL a role in enforcing the enforcer, to guarantee sufficient and equal enforcement efforts between Member States

Avoiding negative side effects:

- Take care that IMPEL can guard its independent position, even when legally embedded and with expanded duties, because enforcement should remain able to define its priorities, in line with but not steered by policy makers.

7 Annex I : Methodology

7.1 Annex I.1 General overview

The identification of possible market distortions consisted of two main steps:

- Collecting and documenting from literature and from stakeholder input all real or perceived examples of market distortions, without evaluation.
- Checking whether these distortions affect environmental or resource efficiency performance. Only those that do so were retained for further analysis.

To identify and document possible distortions following sources have been consulted:

- Literature research
- Stakeholder interviews
- An on-line survey on the 'your voice in Europe' platform
- ten specific and detailed case studies
- Two interactive stakeholder workshops

A global overview of the applied methodology is offered in this annex.

7.1.1 Literature research

Data from previous studies, EU, national, regional and local policy and legislation, and other data sources on the topic have been collected and compiled to clarify the context and to identify potential sources of market distortions, taking into account the purpose, background and scope of this study.

The literature research focused on gathering evidence and defining which market distortions exist, identifying in which Member States they occur and finding evidence on the size, scope and effects of the market distortions. Potential solutions to improve the efficient functioning of the EU waste markets fed into the identification of policy options and recommendations.

7.1.2 Stakeholder interviews

We conducted a number of face-to-face or telephone interviews with ten selected key stakeholders. Further interviews related to the case studies have been conducted during a later phase of the project.

A topic guide was prepared which summarised the questions to be asked during the interviews. The topic guide was largely based on the literature review and on expert knowledge on the topic. It was tailored to the type of stakeholder interviewed, as national, local and regional authorities were asked different questions to than industry actors.

Topic guide and methodology can be found in Annex I.4 Stakeholder interview methodology and Annex I.5 Topic guide for stakeholder interviews.

Following stakeholders have been interviewed:



A broad list of identified stakeholders not selected for interviewing were referred to the Your Voice survey.

7.1.3 “Your voice in Europe” survey

The aim of the public consultation was to consult European citizens and stakeholders on the nature and the extent of regulatory failures and obstacles causing undue distortions to the EU waste markets in different Member States for recycling and recovery, to collect evidence on their drivers, potential impacts and potential solutions to improve the situation. For the purpose of the consultation, regulatory failures are defined as situations in which the regulatory environment hampers the efficient functioning of the waste markets (i.e. where waste meant to be recycled or recovered can move freely within the EU, without unjustified restrictions) and fails to ensure optimal implementation of the waste hierarchy.

A background document and a Your Voice questionnaire (see Annex I.7 survey objective and questionnaire) was prepared in consultation with the Commission. The public consultation ran from 12 June 2015 until 4 September 2015.

The results of the Your Voice consultation have been assessed and analysed in a consultation report, which can be found in Annex IV Outcome of the survey. Responses were collated based on the categories and themes of the questions to establish the most appropriate format to facilitate the subsequent analysis. The raw data obtained was collated and synthesised into qualitative and quantitative data,

grouped under recurring themes, noting particular trends (or lack of) and clustering the responses.

7.1.4 Case studies

Based on the outcome of the literature research and the interviews a long list of cases has been selected. Out of these 7 were selected for analysis, taking into account an equal spread over topics and geography. 3 more cases have been selected later, based on the outcome of the survey.

The initial longlist is included in Annex I.6 Case study methodology.

Following cases have been selected:

7.1.4.1 Direct barriers to movements of waste within the EU

- Case 1: Distortions generated by the Waste Shipment Regulation's procedure with prior written notification and consent for intra-EU shipments
- Case 2: Divergent application of Article 18 and Annex VII in the Waste Shipment Regulation
- Case 3: Administrative issues on waste shipments through transit countries
- Case 4: Notifications for packaging waste, separate collected as one single waste stream
- Case 7: Restrictions of waste shipments between regions in one Member State
- Case 10: The application of the proximity principle to shipments within and between Member States

7.1.4.2 Wider distortions of the EU's waste markets

- Case 5: Failure to implement the polluter pays principle in extended producer responsibility schemes
- Case 6: The impact of failing landfill compliance on the waste market
- Case 8: Comingled waste collection and recycling effectivity
- Case 9: Incineration tax differences for domestic and imported waste.

7.1.5 Stakeholder workshops

Two stakeholder workshops have been organised:

- A fact-finding workshop with 28 participants, on 21 May 2015
- An analysis, solution-finding workshop with 87 participants, on 16 November 2015

Both full-day workshops contained presentations on progress of the study, stakeholder witness of keynote speeches and time for debate and exchange of opinions.

The workshops contained a good mix of industry federations (both waste generating as waste collecting/treatment industry), NGO, national authority representatives and Commission officials.

Lists of participants are included in Annex II.2 List of stakeholders participating in the workshops. Detailed minutes are included in Annex III.2 presentations and minutes

workshop 21/05/2015 and Annex III.3 presentations and minutes workshop 18/11/2015.

7.2 Annex I.2 Inventory of possible distortions

7.2.1 What is a distortion

In the context of this exercise we consider market distortions as situations which hamper or distort the efficient functioning of the waste markets. They can be described taking into account a broad view on what an efficient functioning waste market would be. Obstacles and regulatory failures affect the functioning of waste markets in the EU, and thus prevent the realisation of the higher levels in the waste treatment hierarchy, of resource efficiency and of a circular economy.

Distortions can be translated in terms of environmental and circular economy policy goals. Waste needs to flow between municipalities, regions and Member States to facilities where it can be best treated through reuse, recycling or recovery, e.g. energy recovery, and thereby fit into the higher levels of the waste hierarchy, as opposed to the lowest, i.e. disposal. Market failure occurs if waste cannot freely move around in this sense.

EU policy and legislation stipulates that waste for recycling and recovery, including energy recovery, shall move freely within the EU without any unjustified restrictions imposed by national, regional or local policy and legislation. The idea is that waste for recycling and recovery must be allowed to move to the facility where it is best treated. This principle of free movement does not include waste which the holder intends to dispose of. Such waste can be kept by Member States within national borders referring to the principles of proximity and self-sufficiency. As a consequence, if the holder intends to recycle or recover waste, e.g. through energy recovery, in another Member State, national authorities may not prevent the movement of this waste without legitimate justification (Article 12 of the Waste Shipment Regulation). Within a Member State, the situation is of course the same because of the obligation to respect the waste hierarchy (Article 4 of the Waste Framework Directive 2008/98/EU).

7.2.2 Categories of market distortions

Four main categories can be identified:

- Lack of harmonisation of waste management requirements through EU legislation. In the absence of harmonisation through EU legislation, divergence between Member States' requirements on waste management may lead to distortions of waste markets.
- Lack of uniform implementation or application of EU waste legislation. Different interpretation and application of EU legal requirements in Member States may distort the efficient functioning of waste markets.
- Divergent policy and requirements at national, regional and local levels. Divergent national, regional and local policy and legislation may create distortions of waste markets between Member States as well as within a Member State. A region or local authority/municipality may adopt policy or legislation that affects companies from other regions or municipalities in the same country. In some cases this may also affect businesses established in other Member States.
- Obstacles to waste management activities for companies from other Member States. National, regional and local policy and requirements may create obstacles to waste management activities specifically for companies from other Member States.

A more practical categorisation can identify distortions within two groups :

- Direct barriers to movements of waste within the EU. This includes barriers created by the application of EU legislation, mainly the Waste Shipment Regulation, hindering operators from shipping waste to environmentally sound recovery facilities. According to the Waste Shipment Regulation, waste to be prepared for re-use, recycled or subject to other recovery activities should move freely within the EU, without any unjustified restrictions. In line with Article 12 of the regulation, only certain specific reasons may be used to restrict the free movement of waste for recycling and recovery (e.g. that the person shipping the waste has previously been convicted of illegal shipments). For example, this category covers the application of requirements to notify and provide information prior to waste shipments. This category also includes definitions and provisions in the Waste Framework Directive which directly affect procedures for shipments of waste, for example whether an item to be shipped is 'waste', 'hazardous' etc.
- Wider distortions of the EU's waste markets. Such distortions could result from the absence of harmonised requirements at EU level creating an uneven playing field for waste operators. This category includes differences between Member States distorting the functioning of the EU's waste markets for recycling and recovery, such as differing taxes or fees leading to internal or cross border 'shopping' behaviour, development of networks leading to local overcapacities or under-capacities and divergences in designing or implementing extended producer responsibility schemes.

Within this exercise the latter approach is used to categorise distortions

7.2.3 Inventory of possible distortions

Market distortion, in line with the above suggested definition, can be illustrated with some examples. These examples serve to illustrate the concept:

- Differing taxes and fees in Member States are distorting the waste market if and when they lead to situations where a low grade treatment, i.e. disposal, becomes cheaper, whether or not combined with export, than high grade treatment like reuse, recycling or recovery. Low taxes or even subsidies for reuse/recycling/recovery should not be considered as a distortion when they stimulate these operations, although it may result in attraction of waste flows from other Member States and competes with disposal operations, i.e. incineration without energy recovery and landfilling.
- Fiscal inequalities between private and public operators are a market distortion. Nevertheless, if they are not linked to different waste treatment practices this is not within the scope of this study and it is considered an issue that should be tackled elsewhere.
- A broader interpretation of the concept 'municipal waste' (e.g. in Denmark) is a distortion if it results (as is the case) in a preference for municipal waste incineration without energy recovery at the expense of reuse/recycling/recovery. If public and private actors have a similar high level of environmental and resource efficiency performance, measures supporting one actor above another are not market distortions in the sense of the proposed definition. It is irrelevant (within the scope of this exercise) whether jobs are created in the public or private sector.
- It has to be considered that many national/regional/local restrictions of waste movements are related to EU requirements, such as the EU Waste Shipment Regulation. Distortions may result from EU legislation, e.g. notification requirements for waste shipments, even if the measures (to object to waste shipment

notifications) are taken in practice by Member States' authorities. Authorities may apply the Waste Shipment Regulation to block shipments of waste (Article 11-12 of the Waste Shipment Regulation). The notification requirements might also cause delays of the shipments. Other similar issues may be restrictions on waste shipments due to the need to notify all transit countries through which the shipment passes.

- In order to decide if the application by Member States of EU legislation, e.g. interpretation of the definitions of waste (or end-of-waste), recovery etc is considered a distortion there is a need to evaluate whether the application or non-application of the definitions leads to higher or lower environmental protection, e.g. through the applicability of the Waste Shipment Regulation and the related need for environmentally sound management, the permits for recycling plants, the ease of industrial symbiosis, higher reuse levels, etc. Differences in the application of the definitions are distortions if they lead to shopping for the cheapest status and if this cheapest status leads to lower environmental protection or resource efficiency. Purely administrative burden is not a criterion to define a distortion and is therefore considered out-of scope of this exercise, as this topic should be covered by more general approaches on legal quality.
- More stringent inspection, or a more stringent application of the objections in article 12 on transfrontier export of (mainly hazardous) wastes are not to be considered a market distortion, if the alternative for export for recycling/recovery would be local recycling/recovery. In case the alternative is incineration without energy recovery or landfill this has to be considered case by case, and life cycle thinking should be applied. Less stringent inspection and application can be a market distortion if it leads to waste flows towards lower grade foreign treatment, if foreign treatment is indeed lower grade or higher risk, and if higher level local treatment is deprived of material.
- The distinction between R1 and D10 (energy recovery and incineration as disposal operation) is a market distortion if D10 and R1 do not technically differ from each other, with equivalent environmental impact, or if costs or administrative burden allocated to D10 are of a nature to send materials to landfill.
- Different Extended Producer Responsibility (EPR) systems clearly lead to different costs and different efficiency. They can be considered a market distortion a.o. when border effects occur between different systems, e.g. between Member States or between different regional entities within a Member State. Although the effect of consumers purchasing goods in one area and disposing of them in another area should quantitatively not be over-estimated, this issue is frequently mentioned as a distorting factor leading to less efficiency, less polluter-pays-principle and less transparency. Different EPR schemes may also have an impact on market access for producers or for waste treatment operators, which is a market distortion. However, if it has no impact on environmental performance, this type of market distortion lies outside the scope of this study.
- European waste legislation regarding the objectives of Treaty article 191 (environment objectives) can be implemented by Member States in a way adapted to its local condition by adding supplementary, more ambitious, provisions. This might be perceived as a market distortion towards Member States that do not implement equivalent supplementary measures, but it is a discretionary competence of each Member State to judge, based on the subsidiarity principle. When legislation is based on Treaty article 114 on approximation of laws to establish or ensure the functioning of the internal market, Member States are much more restricted and have fewer possibilities to install supplementary provisions. Distortions in this field frequently refer to a level playing field, but this might be out of scope for this exercise.

- Not mutually recognising permits and registrations between Member States or even regions can be considered a market distortion in line with the above cited definition, if it leads to costs and administrative burdens that would lead waste to lower ranked (on the waste hierarchy) treatment options. If for example source selected collection of waste is prohibited because the permits of other actors are not accepted, and if local actors cannot provide the requested level of environmental performance, and if receiving a local permit is too costly or time consuming and a valid reason for foreign actors not to enter the local market, then the situation is a market distortion. If all three conditions are not met it may still be a market distortion but without impact on environmental performance and thus out-of-scope.

7.3 Annex I.3 Literature research

In this first part of the study, data from previous studies, EU, national, regional and local policy and legislation, and other data sources on the topic are collected and compiled to clarify the context and identify potential sources (i.e. national, regional and local policy and legislation) of market distortions which are within the scope of this study.

The focus in this task is on gathering evidence on the following issues:

- Possible market distortions within the scope of this study – the purpose is to define which market distortions exist and which category they could be classified under.
- Member States where such market distortions (might) exist – this feeds into the selection of case studies in the next task.
- Potential stakeholders that can be consulted/ interviewed across the Member States – this provides input for stakeholder interviews and online consultation.
- Evidence on the size, scope and effects of the market distortions – in order to give us a better understanding of the different market distortions.
- Evidence on potential solutions to improve the efficient functioning of the EU waste markets, as far as it is available – this feeds into the next task on the options and recommendations,

During the literature research, several sources, including communications of the European Commission and several research reports, were screened on market distortions which are already identified. Following sources have been screened:

- European Commission (2010). Europe 2020 Strategy
- European Commission. (2011). EU flagship initiative 'Resource efficient Europe'
- European Commission. (2011). Roadmap to a Resource Efficient Europe
- European Commission. (2011). Raw Materials Initiative
- European Commission. (2014). Industrial Policy Communication
- European Commission. (2014). Communication 'Towards a circular economy'
- European Commission. (2010). Member States implementation reports of waste legislation
- Eunomia. (2011). A Comparative Study on Economic Instruments Promoting Waste Prevention.
- Eunomia. (2014). Study on environmental fiscal reform potential in 12 EU Member States.
- UK Environmental Audit Commission. (2014). report - on growing a circular economy.
- BIOIS. (2014a). Development of Guidance on Extended Producer Responsibility.
- BIOIS. (2014b). Ex-post evaluation of certain waste stream Directives.

- ARCADIS. (2013). Screening of national and selected regional waste management plans on ex-ante criteria 2 and 4.
- BIOIS. (2012). Use of economic instruments and waste management performances
- RPA. (2012). The Feasibility of Introducing a Certification Scheme/Standard for Recycling Treatment Facilities, with regard to transfrontier shipment of waste.
- BIPRO. (2012). Scoreboard report "Screening of waste Management performance of EU Member States.
- Eunomia in collaboration with ARCADIS. (2009). Dept. for environment Ireland, International Review of Waste Management Policy –, especially Annex 65 to Main Report - Exports and Imports of Waste).
- Scottish Government. (2014). Fiscal instruments to stimulate a more circular economy

7.4 Annex I.4 Stakeholder interview methodology

We conduct a number of face-to-face or telephone interviews with key stakeholders, In this phase we have interviewed 10 stakeholders. Further interviews related to the case studies have been conducted during a later phase of the project.

A topic guide is prepared including the questions we submitted during the interviews. The topic guide is largely based on the literature review and on expert knowledge on the topic. The topic guide is tailored to the type of stakeholder interviewed. For example, different questions will need to be asked to national, local and regional authorities than to industry actors.

A broad dataset of stakeholders is included. Stakeholders not selected for interviewing are referred to the Your Voice questionnaire

The set of possible interview questions is compiled.

Selected interviewees are:

- ACR+ : Association of Cities and Regions for Recycling and sustainable Resource management ~this stakeholder could not participate
- CEPI, CITPA : confederation of european paper industries, confederation of paper and board converters in Europe
- CEWEP : Confederation of European Waste-to-Energy Plants
- EBRA : European battery recycling association
- EFR, Eurometrec and ERPA: european ferrous recovery and recycling federation, european metal trade and recycling federation, european recovered paper association
- EUR-ISA : European Industrial Symbiosis Association ~this stakeholder could not participate
- Eurometaux, EAA : association representing the European non-ferrous metals industry, european aluminium association
- FEAD : European Federation of Waste Management and Environmental Services
- Municipal Waste Europe : association representing municipalities responsible for waste management
- PRO-Europe : umbrella organisation for European packaging and packaging waste recovery and recycling schemes
- RReuse : association representing social enterprises with activities in reuse, repair and recycling
- WEEE Forum : WEEE producer responsibility organisations

7.5 Annex I.5 Topic guide for stakeholder interviews

The study consortium of Arcadis and Trinomics is carrying out this study for DG Environment. Not all of the following questions will be relevant to all of the interviewees.

Identification of the perceived key market distortion(s)

In this study we define a market distortion as follows:

Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of prevention, reuse, recycling, recovery, but also resource efficiency and a move towards a circular economy.

- Do you think the waste market within the EU is distorted? In other words, do you think that there are any obstacles to the efficient functioning of waste markets within the EU, e.g. problems for companies to establish and carry out recycling and recovery operations?
- When considering the definition above, which aspect(s) of the national, regional or local waste and materials policy do you see as hindering a sound waste market, if any?
- Is this aspect linked to a piece of legislation, administration or other policy? If so, is this EU policy or national/regional/local policy?
- Does this distortion lead to less recycling or recovery, less waste prevention, more environmental impact, more transport, less resource efficiency, something else?
- Does this aspect lead to the distortion of a level playing field and a free market?
- How are you aware of this market distortion/these obstacles? E.g. reported by members of your organisation, as complaints reported to the authority, from literature, from own market analysis, opinion ...
- Have you taken actions to reduce the impact of this (or any other) market distortion? E.g. select or avoid certain markets or Member States...

Identification of other market distortions

We consider four different types of market distortions

1. Divergent policy and legal requirements at national, regional and local levels
2. Lack of uniform implementation or application of EU waste legislation
3. Lack of harmonisation of waste management requirements through EU legislation.
4. Obstacles to waste management activities for companies from other Member States

Divergence of national, regional and local policy

The first type of obstacles looks at divergent national, regional and local policy and legislation which may create distortions in waste markets between Member States as well as within a Member State. A region or local authority/municipality may adopt policy or legislation that affects companies from other regions or municipalities in the same country. In some cases this may also affect businesses established in other Member States.

Lack of uniform implementation or application of EU waste legislation

The second type of obstacles relates to a lack of uniform implementation or application of EU waste legislation. Different interpretation and application of EU legal

requirements in Member States may distort the efficient functioning of waste markets. This type of obstacles is about how Member States implement EU Directives, on which they have a degree of freedom to adapt legislation to local conditions.

Lack of harmonisation of waste management requirements through EU legislation

The third type of obstacles looks at a lack of harmonisation of waste management requirements through EU legislation. In some cases EU legislation lacks harmonisation which leads to divergence between Member States' requirements on waste management and to distortions of waste markets. This type of obstacles is about how waste management requirements can diverge between Member States because EU Directives miss provisions on harmonisation of e.g. definitions or instruments.

Obstacles to waste management activities for companies from other Member States

The fourth type of obstacle relates to barriers for market entry for companies wishing to deliver waste management activities in Member States other than their own. National, regional and local policy and requirements may create obstacles to waste management activities specifically for companies from other Member States. This type of obstacles is about how applying policy could have protectionist effects.

Questions:

- Do you perceive market distortions that can be described as one or more of these types?
- What are the drivers of these market distortions?
- How do they affect performances in the field of environmental impact or resource efficiency?
 - E.g. reduced reuse, reduced recycling, increased transport of waste, lack of market access, etc.
- What qualitative and quantitative evidence on costs and benefits or job creation related to the market distortions (if any) could you share with us?
- Are you aware of any of the following possible examples of distortions? Do they occur in your own policy or market context? Are they important? Why?
- Which specific market distortions, of all issues discussed above, do you consider to be the most important distortion?

Possible case studies

Can you suggest some examples of market distortions for case studies?

A case study should cover an important market failure, with clear impact on environmental performance or resource efficiency, caused by national, regional or local policy (legislation, administration, enforcement...) and transferable to multiple Member States and markets. It should also provide useful 'lessons learned'.

Geographical distribution

- Are you aware of whether certain Member States perform better or worse than others in terms of market distortions?
- Do you think there are large differences across the Member States in the way the waste market functions? What are these differences and where do they occur?
- Why do you think there are large differences across the Member States in the way the waste market functions?
- Do differences lead to transfrontier movement of waste between Member States?

Possible actions to reduce market distortions

- What kind of solution do you think could help resolve the market failures already discussed in this interview? Why?

Other aspects and next steps

- Are there any key messages you would you like to share with the research team with regards to waste market distortions?
- Would you be interested in participating in a stakeholder meeting on 21 May and 12 November 2015?
- A list of names and organisations consulted will be included in the annex of the report. There will be no direct quoting. Is this acceptable to you?

7.6 Annex I.6 Case study methodology

7.6.1 Approach

At least ten case studies from at least five different Member States had to be examined. We started with a broad tour-de-table in which possible cases are described shortly and presented to the Commission. Together with the Commission a selection is made of ten which are relevant for multiple Member States, with an equal spread between Western European and eastern European Member States and with a geographical spread from north to south. 7 cases have been selected based upon the feedback of literature research, the interviews with stakeholders and the first workshop, 3 cases have been selected later based upon the feedback from the 'your voice in Europe' survey.

Following cases have been selected:

Direct barriers to movements of waste within the EU:

- Case 1: Distortions generated by the Waste Shipment Regulation's procedure with prior written notification and consent for intra-EU shipments
- Case 2: Divergent application of Article 18 and Annex VII in the Waste Shipment Regulation
- Case 3: Administrative issues on waste shipments through transit countries
- Case 4: Notifications for packaging waste, separate collected as one single waste stream
- Case 7: Restrictions of waste shipments between regions in one Member State
- Case 10: The application of the proximity principle to shipments within and between Member States

Wider distortions of the EU's waste markets:

- Case 5: Failure to implement the polluter pays principle in extended producer responsibility schemes
- Case 6: The impact of failing landfill compliance on the waste market
- Case 8: Comingled waste collection and recycling effectivity
- Case 9: Incineration tax differences for domestic and imported waste.

Information on these cases is found in literature as well as through interviews with well selected key witnesses, representatives from government, market actors, NGO or other expertise centres depending on the specificities of the case.

Based on the collected information and views, we prepare a concise but to-the-point report for each case. The research questions we seek to answer include the following:

- How to describe this market distortion and situate it in the legal and policy context?
- How to evaluate the impact of this market distortion? (economic, environmental, social, public health, sustainability, resource efficiency...)
- Which factors influence the occurrence and the impact of it?
- What is needed to remediate the distortion? (legal intervention, enforcement, guidance, harmonisation...)
- Who is able to remediate? (subsidiarity level)
- What can be learned from this case with respect to application in other Member States? (transferability of lessons learned)

7.6.2 Instructions and guidance

Step 1 : context

Describe the context. What is happening in the waste market of the Member State. Give the legal context; which legal instruments of administrative procedures are directly related to the case. Try to quantify as much as possible relevant aspects, using national data or EUROSTAT data (<http://ec.europa.eu/eurostat/data/database>), e.g. quantities of shipments covered by the case, quantities of packaging, landfill, mixed waste fractions, collection systems, height of levies etc... Situate shortly the broader context but focus on illustrating the case as neutral and fact-based as possible.

Step 2: allegation

Describe the allegation. Who is telling that this is a market distortion? How do they argue that this is a distortion? Please keep in mind the definition of distortion that we use for this study, and that differs from mainly a free market obstruction:

Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy.

- Formulate the allegation of distorting effects as clear as possible: check in the report on the literature research, in the interview reports and in the minutes of the stakeholder meeting where the allegation comes from.
- Describe the allegation in sufficient detail, give examples.
- Check if the alleged distortion is related to national, regional or local legislation including national etc... implementation measures for EU legislation. The focus is clearly on the levels below the EU level.
- Check if the distortion complies with the definition above. Describe how the distortion hinders the waste treatment hierarchy, resource efficiency or circular economy.
- Decide whether the allegation really is a market distortion as intended.

Step 3: interview

Complete the collected data with an interview with a key witness. This can be an official, an NGO, a national or regional sector federation, a representative from an enterprise etc... We interview other stakeholders than those already interviewed in the

earlier stages. Nevertheless, we can contact (where useful) these respondents or the participants to the stakeholder meeting to ask them for a good interviewee.

- Identify a good witness.
- Possible interview structure, please be flexible but include at least following elements:
 - Describe the goal of the study; the European Commission likes to find out whether local legislation or local administrative practices could hinder the efficient functioning of the waste markets. Next to literature research, interviews with European stakeholders, workshops and a 'your voice in Europe' survey, we want to analyse possible distortions through some detailed case studies.
 - Describe the case study, using the outcome of step 1 and 2.
 - Use the following short topic guide to structure the interview; ask at least:
 - Identification of the interviewee, and how he is connected to the described case. How best to classify the stakeholder (one or more classifications could fit): competent authority (granting permits, preparing policy...), inspection/enforcement service, industry representative waste generating and/or resource using industry, industry representative for SME, industry representative waste collection/treatment/recycling industry, consumer organization, environmental NGO, expertise center, academic, other:...
 - Does the described case hinder the waste treatment hierarchy, or the European Union's ambitions to reach high levels of prevention, reuse, recycling, recovery? Does the case leads to waste being landfilled or incinerated instead or recycled or prevented... Why?
 - Does the described case hinders resource efficiency? Does it lead to unnecessary loss of material resources or to a missed opportunity to safe or re-enter resources in the cycle? Why?
 - Does the described case hinders the development of a true circular economy, e.g. industrial symbiosis or exchange of materials directly between companies, resource saving business models like leasing, renting, co-use, collaboration and co-creation, repair, refurbishment, increased longevity of goods and equipment,... Why?
 - Do you have data, figures, documents that could help us in the analysis of the case?
 - What kind of legal instrument or practice at regional or local level do you consider as the source of the distortion? Do you agree with the analysis (step 1 and 2) that we have made?
 - What kind of solution do you see to solve the problem and to increase the efficient functioning of the waste market?
- Invite the interviewee to participate in the survey : http://ec.europa.eu/environment/consultations/waste_market_en.htm
- Make a report of the interview, send it over for approval or completion to the interviewee, finalise it.

Step 4 : analysis

- Review the outcome of steps 1 and 2 and complete or correct based on the outcome of the interview.
- Draft a report with 4 chapters:
 - Context: Describe the market and situate it in the legal and policy context.
 - Allegation: describe the allegation and evaluate it
 - Case description: facts + impacts of the distortion (economic, environmental, social, public health, sustainability, resource efficiency...)
 - Conclusions
- The conclusion chapter should give answer to following questions, giving the interpretation of the consultant, based on its own expertise and appreciation:
 - Is the case a real and an important distortion of the efficient functioning of the waste market?
 - What (legal, administrative, economic, cultural, ...) factors are influencing the occurrence and the impact of the distortion.
 - What are the lessons learned from this case?
 - Is the case or its lessons learned transferable to other Member States and contexts?
 - How could the problem be solved? What policy advice would you formulate based on this case? (legal intervention, enforcement, guidance, harmonisation...)
 - Who is able to remediate? (subsidiarity level)

7.6.3 Long list of possible cases

	source	Short case description
Austria	interviews	distorted recycling figures due to no differentiation between incineration, RDF and material recycling. All of them count as recycling.
	interviews	Austria considers all batteries as hazardous waste, slag from recycling is also considered as hazardous and cannot be recycled as construction material.
Belgium	interviews	Fees paid by battery producers are legally fixed and high (non market conform) and leads to accumulation of financial resources within the PRO.
	literature	A failing definition of taxes, levies and retributions has led to distortions in the Flemish waste disposal markets
	interviews	The shipment of non-hazardous residual waste for energy recovery is hampered: the Dutch borders are open but closed in Belgium.
	literature	A failing mutual recognition of waste transport registrations leads to waste market distortions in Flemish and Walloon regions of Belgium
	literature	Flanders has chosen a strict implementation of the self-sufficiency and proximity principle and has therefore closed its borders for mixed municipal waste.
	literature	A failing definition of the concept of recycling residue has led to distortions in the Flemish waste treatment markets
	workshop	Companies recovering metals from waste from other metal recovery facilities receive very mixed batches. This is very difficult to ship across borders, due to non adapted administration.
	workshop	On small MS or regions (like Brussels): We need to take into account the differences in capacity (staff, budget,...) between Member States of the national/regional administration for implementation of the legislation. The legislation is too complex and there is not always enough technical staff available.
Bulgaria	interviews	Not severe enough enforcement leads to multiple parallel (i.e. unregulated) waste flows
	literature	Failing statistics distort the implementation of the landfill diversion targets in Bulgaria
	literature	Low collection rates of oils and EEE distorts the availability of secondary raw materials on the Bulgarian market and cause other distortions
Croatia		no cases
Czech republic		no cases
Cyprus	workshop	On small MS or regions: We need to take into account the differences in capacity (staff, budget,...) between Member

	source	Short case description
		States of the national/regional administration for implementation of the legislation. The legislation is too complex and there is not always enough technical staff available.
Denmark	literature	Failure to diversify in waste treatment capacity leads to disproportionate incineration in Denmark
	literature	Danish ban on aluminium worked as an obstacle to free movement of goods in the EU. The removal of this ban led to a focus on reducing the amount of packaging waste and to the introduction of a container deposit scheme.
	workshop	Denmark knows a system of separate collection of packaging as one single stream. This stream is sent to sorting plant outside Denmark for enhanced recycling options. As it concerns a "mixed waste fraction" it is classified as amber and a difficult and expensive notification procedure hinders to go up the waste hierarchy.
Estonia	interviews	Member States who consider municipal waste management as a free market commodity suffer from cherry picking of the most valuable waste fractions and from gaps in the collection coverage
	literature	National waste management plans in the Baltic states score good on consistency, completeness and adequacy, while yet rather poor environmental performances are achieved.
Finland	interviews	Municipalities and communally owned waste management companies have been granted a monopoly on household waste and similar waste, while municipal waste management companies have binding longterm contracts for supplying waste to municipal energy companies. Municipal waste management companies do not have an incentive to sort mixed waste and monopoly rights hinder the private sector to carry out recycling and recovery operations.
	interviews	Municipalities have a secondary right to collect and manage waste from the private sector, as the private waste management sector is expected not to be willing to cover all industrial waste given the long distances in the sparsely populated country. This principle is applied to largely and in this way distort market operations.
France	interviews	High competition between PRO's Scred and Corepile has led to savings on awareness campaigns, lower to no investments in new sorting and recycling facilities
	interviews	Separate collection systems for paper allow in France the comingled collection with glass
	interviews	In France WEEE has a ban on cash transactions: everything has to be recorded and paid electronically in order to have better control of e-waste flow. This improves control for e-waste flows, and avoids fiscal advantage for companies

	source	Short case description
		subtracting themselves from taxation . ('best practice' case)
	literature	Failure to implement the polluter pays principle in extended producer responsibility schemes in France, in France producers cover only 75% of these costs.
	workshop	the French system foresees the a bonus malus systems by relating the shares for entering an EPR scheme with the recyclability of the packaging the producers puts on the market. ('best practice' case)
Germany	interviews	Fluegas of municipal waste incineration counted as recovery in German salt mines, while in France and other MS this is disposal.
	interviews	German export of copper containing slag to Belgium for recycling is hampered due to different interpretation of the definition of waste
	literature	Failure to coordinate the introduction of landfill bans disturbs the recycling industry in neighbouring MS, Germany's landfill ban led to intensive but uncoordinated building of incineration plants, which is resulting in 30% overcapacity.
	workshop	The self-sufficiency principle is implemented at the regional level (Bundesland) – in which environmental rules are sometimes used for protectionism and hinder the movements of waste.
	workshop	In Germany and Greece there is no distinction between separated and non-separated waste – both are classified as municipal waste falling under the proximity principle.
	interviews	Germany has lower treatment standards when allowing e-waste to be stored in salt mines, and this counts for the recycling targets.
	workshop	remunicipalisation can also lead to 'cherry picking' compared to free market. Privatised years ago: re-municipalised, mainly in urban areas, a lot of waste at short distance (more than 60-70%) of large German cities is serviced by municipalities and the more rural areas are left over to private companies where profits are lower.
Greece	workshop	In Greece, there is a law which implements the self-sufficiency principle by making the shipment of any type of waste illegal. Waste being generated on an island has to stay there, which minimises options for reuse and recycling.
	workshop	In Germany and Greece there is no distinction between separated and non-separated waste – both are classified as municipal waste falling under the proximity principle.
Hungary	interviews	The WEEE recycling compliance scheme has been nationalised and the producers are no longer controlling it. This is against the EU principle of extended producer responsibility.

	source	Short case description
Ireland	interviews	Member States who consider municipal waste management as a free market commodity suffer from cherry picking of the most valuable waste fractions and from gaps in the collection coverage. Ireland maintained an entirely privatised service: there are problems with coverage of the door to door service. They totally recreated the legislation and now prices are correct, everyone is served and a minimum service is guaranteed.
Italy	interviews	lack of environmental permitting of waste treatment facilities due to NIMBY effects, e.g. in the Naples region, lead to disfunctional waste markets.
	workshop	There is no incineration capacity in the south and there is overcapacity in the north, but because of waste shipment difficulties, it is very difficult to transport waste from the south to the north.
Latvia	literature	National waste management plans in the Baltic states score good on consistency, completeness and adequacy, while yet rather poor environmental performances are achieved.
Lithuania	literature	National waste management plans in the Baltic states score good on consistency, completeness and adequacy, while yet rather poor environmental performances are achieved.
Luxembourg	workshop	On small MS or regions: We need to take into account the differences in capacity (staff, budget,...) between Member States of the national/regional administration for implementation of the legislation. The legislation is too complex and there is not always enough technical staff available.
Malta	workshop	On small MS or regions: We need to take into account the differences in capacity (staff, budget,...) between Member States of the national/regional administration for implementation of the legislation. The legislation is too complex and there is not always enough technical staff available.
Netherlands	interviews	Hazardous waste from NL can and is exported to DE/BE because the Dutch government assessed in those countries equivalent treatment conditions, thereby benefiting from adequate price settings and removing market inefficiencies. ('best practice' case?)
	literature	A failing definition of transit leads to distortions in waste export markets between Member States
	interviews	Higher incineration taxes for Dutch waste than for imported waste.
Poland	interviews	Poland has minimum 18 different collection systems for batteries, which makes it almost impossible to collect reliable statistics.
	workshop	The self-sufficiency principle is applied in a very strict way at a regional level: Member States like Sweden and

	source	Short case description
		Denmark are ready to import mixed waste, while waste in Poland is landfilled instead of incinerated.
	interviews	Member States who consider municipal waste management as a free market commodity suffer from cherry picking of the most valuable waste fractions and from gaps in the collection coverage
	workshop	In Poland waste management was made completely private, but companies are now giving back the responsibilities to the municipalities.
Portugal		no cases
Romania	interviews	Lack or enforcement undermines good implementation or EPR mechanisms
	literature	Failure to implement the polluter pays principle leads to disrespect of the waste hierarchy in Romania
	literature	Failing compliance with the Landfill Directive in Romania leads to distortions in the waste treatment hierarchy
	literature	Failure to implement harmonised standards and taxes / fees nationally in Romania
Slovenia		no cases
Slovakia	interviews	Waste market stakeholders complain that PROs might achieve to much impact in new Slovak legislation
	literature	Divergent local fees for municipal waste in Slovakia distorts waste separation at source
	literature	High costs and low effectiveness of EPR schemes in Slovakia distort cost-effectiveness; producers pay a high fee, but collection rates are low. The low cost-effectiveness of this scheme leads to less willingness to comply and to avoidable public spending to cope with the non-collected waste fractions.
	literature	In Slovakia the export of e-waste is not allowed in order to secure enough volume in the local plant, the proximity principle is applied on recycling which is not in line with free trade.
Spain		no cases
Sweden	interviews	Municipalities have two monopolies; household waste and district heating and there is no transparency in the price setting. The private sector has made a complaint to the EU, which is now in infringement procedure for violating the Teckal criteria.
	interviews	Many municipal incineration plants are built with significant overcapacity. Up to 70 % of the capacity in these municipal incineration plants needs to be filled with commercial waste. The incineration overcapacity leads to low prices in the commercial waste market, which makes sorting of waste/recycling a less competitive alternative.

	source	Short case description
	workshop	Export of waste from UK to Sweden can take place to avoid landfilling in UK and optimise incineration capacity in Sweden. The proximity principle is applicable on disposal (landfill or incineration) but not on incineration with energy recovery.
UK	interviews	calculation of recovery rates : inclusion of lead-acid accumulators in municipal waste figures
	interviews	Obligarory competition between EPR systems has led to setting op "reserves" of collected batteries one year to be sure of achieving the targets the next year, and to selling collected tonnages to other competitors at very high prices.
	interviews	Separate collection systems for paper allow in the UK the comingled collection with glass
	literature	Low recycling rate and fees paid by producers for packaging in the UK distort cost coverage for waste treatment
	literature	Pressure to fulfil contracts with privately financed incinerators in the UK leads to waste import and lack of focus on recycling
	literature	Failure to implement the polluter pays principle in extended producer responsibility schemes in the UK, producers cover only 10% of these costs.
	literature	Existing producer responsibility schemes are lacking sufficient incentives for single producers to increase recyclability of products
	literature	A high degree of autonomy in terms of the way in which waste collection is organised at municipal level results in widely different practices within the UK, demanding a high level of flexibility from waste companies and creating complexity in waste management.
	workshop	Regional application of the self-sufficiency principle: Scotland wants to keep most of the waste within their barriers.
EU wide		
	interviews	differing approaches on 'collection for recycling', e.g. inclusion of non identifiable batteries that are not recycled
	interviews	differing approaches on collected, recyclable, to-be-recycled and recycled e.g. paper
	interviews	New Member States often choose for a comingled collection system with primarily lower investment cost but finally lower recycling effectivity due to higher contamination of the materials.
	interviews	CFC containing fridges are sometimes allowed to be mixed up with other scrap to achieve higer recycling targets
	interviews	Not all of the member states achieve the collection rate targets, while recycling companies invested in recycling

	source	Short case description
		capacity to cope with the expected higher collection rates.
	interviews	There are differences in information flows on packaging placed on the market between member states.
	interviews	There are differences in reporting recycling efficiencies of batteries - the lack of EU harmonization can result in different RE for the same type of batteries recycled in the same process.
	literature	Collection rates can be calculated based on what has been put on the market and based on what is available for collection. Especially when there is a time lag between what is being put on the market and what is available for collection the approach can lead to different results. This is especially the case for long lasting products on a non purely replacement market, like PV installations; or for products which are not easily or completely made available for collection, for example by consumers hoarding discarded cellphones or batteries.
	literature	A lack of accurate statistics on waste quantities exported for recycling influence calculation of recycling performances. Quantities shipped for recycling are mis-interpreted as recycled. Quantities permitted for transfrontier shipment are mis-interpreted as quantities shipped.
	literature	The application of national EOW criteria distort markets when it is easier for a company in one Member State to achieve recycling efficiency than for a similar company in another Member State.
	literature	Different environmental and social standards often exist between Member States. Cross-country differences in environmental regulations are a significant determinant of waste trade
	literature	Part of the difference in meeting waste recycling and recovery targets is attributed to different types of waste management infrastructure throughout Member States. Some Member States do not have the required recycling infrastructure. Some Member States are pushing to increase energy recovery and recycling, while others still mainly apply landfilling, at attractive tariffs.
	literature	With the introduction of tradable certificates for CO2 neutral energy, incineration of waste or other techniques to recover energy from waste can become financially more attractive than certain forms of material recovery and recycling of waste. ETS systems can lead to waste incineration above material recycling, e.g. when ETS leads to transfrontier shipments for incineration due to different implementation between the Member States.
	literature	Different environmental standards for non-EU treatment facilities distorts the level playing field and hinders control if (all of) the waste is effectively being recycled and how

	source	Short case description
		much of the waste ends up as recycling residue in facilities outside the EU.
	workshop	Differences occur in the detail of MS requirements on the recording of transfrontier waste shipments.
third countries	workshop	stiftung autorecycling in Switzerland can be taken as an example as it guards and supports countries with know-how, technology, to guarantee good conditions to recycle efficiency without the loss of material for the world's economy.
	workshop	both Sweden and Norway have waste treatment capacity. In Sweden, the subsidies for renewable content of the energy are higher and this attracts waste from Norway. Norway would essentially have a right to say that they invested in their own capacity and stop the export of their waste, but they don't.

7.7 Annex I.7 survey objective and questionnaire

7.7.1 Survey objective

Consultation Title: Public consultation on the functioning of Waste Markets in the European Union

Policy field(s): Environment, waste management

Target group(s): Stakeholders and experts on waste management

Period of consultation: From 12/06/2015 to 04/09/2015

Objective of the consultation:

In January 2015, the Commission launched a study to examine obstacles and regulatory failures affecting the functioning of waste markets in the European Union (Tender ENV.A.2/ETU/2014/26, The efficient functioning of waste markets in the European Union - legislative and policy options).

The EU's waste management industry has a high potential for growth and job creation. In order to fulfil such potential and facilitate the transition towards a more Circular Economy, it is important to deepen our understanding of EU waste markets, focussing in particular on possible regulatory failures.

According to existing rules, waste to be prepared for re-use, recycled or subject to other recovery activities should move freely within the EU, without any unjustified restrictions. In line with Article 12 of the Waste Shipment Regulation (Regulation (EC) No 1013/2006 of the European Parliament and of the Council on shipments of waste, OJ L 190, 12.7.2006, p.1), only certain specific reasons may be used to restrict the free movement of waste for recycling and recovery (e.g. that the person shipping the waste has previously been convicted of illegal shipments).

In some cases, however, the regulatory environment may hamper the efficient functioning of waste markets and fail to ensure optimal implementation of the waste hierarchy (according to Article 4(1) of the EU waste framework directive, the following

waste hierarchy shall apply as a priority order: prevention; preparing for re-use; recycling; other recovery, e.g. energy recovery; and disposal).

Such regulatory failures may result from policy and legislative actions taken at EU, national, regional or local levels. Some may arise in connection with the application and interpretation of EU legal requirements (e.g. the Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council on waste, OJ L 312, 22.11.2008, p.3) or the Waste Shipment Regulation); others may be the result of national, regional or local rules and requirements which are not directly linked to EU legislation. Within the context of this consultation both types of regulatory failures are considered (see parts B and C of the questionnaire).

The goal of this consultation is to obtain a better understanding of the nature and the extent of regulatory failures causing undue distortions to EU waste markets for recycling and recovery.

The information gathered will contribute to the finalisation of the above-mentioned study and will be taken into consideration in preparation of the new initiative on the 'Circular Economy'.

Please note that a broader public consultation on Circular Economy was launched on 28 May.

7.7.2 Questionnaire

Please enter your country of residence/establishment

If relevant, please specify the non-EU country of your residence/establishment:

Your name or organisation:

Please provide your EU Transparency Register ID number (if you have one)

If your organisation is not registered, you can register now (please see the introduction to this consultation under 'How to submit your contribution'). Can your reply be published? Please tick the box of your choice.

For information on how your personal data and contribution will be dealt with, please refer to the privacy statement in the introduction to this consultation. I am replying to this consultation as...

If you are replying on behalf of a company, please specify in which of the following markets you predominantly operate:

If relevant, please specify the non-EU country in which you predominantly operate:

If you are replying on behalf of a company, please indicate the number of its employees:

1. Do you think there are any regulatory failures or obstacles currently affecting the functioning of EU waste markets?

2. What do you think is the most important aspect of policy and/or legislation that creates distortions in the waste markets or creates unjustified obstacles to the proper functioning of waste markets in the EU?

3. Could you provide an example of such a regulatory failure/obstacle? Please describe it briefly.

4. What do you think this regulatory failure/obstacle is linked to? (multiple answers possible)

- EU legislation or policy
- National legislation or administrative decisions
- Regional legislation or administrative decisions
- Local legislation or administrative decisions

Please briefly describe which specific policy/policies, legislation(s) or decision(s) is/are to blame for this:

5. Which of the following impacts do you think such regulatory failure/obstacle has within the EU? (multiple answers possible)

- Reduced reuse or recycling
- Reduced resource efficiency
- Increased environmental impacts
- Reduced recovery, including energy recovery
- Increased waste generation
- other

If relevant, please provide additional information in relation to your above reply.

6. How did you become aware of this regulatory failure/obstacle? (multiple answers possible)

- Reported by members of your organisation
- Through complaints reported to the authority
- From literature
- From own market analysis
- Own experience
- Other

If relevant, please provide additional information in relation to your above reply.

7. What actions are you aware of that could solve or mitigate this problem? (multiple answers possible)

- ✓ Legislative changes;
- ✓ Changes in the policy or decision-making by authorities
- ✓ EU guidance on waste legislation or policy
- ✓ Co-operation between authorities in different Member States
- ✓ Co-operation between authorities in the same Member State (39%);

If relevant, please provide additional information in relation to your above reply.

8. Are there other important aspects of policy and legislation that distort the waste market or create obstacles to the functioning of waste markets? If yes, please describe these taking into account the previous questions.

9. Do you consider that there are any obstacles to the functioning of waste markets connected to the application of EU waste legislation or other EU legislation?

10. What are the drivers/causes of these regulatory failures or obstacles to the efficient functioning of waste markets? (Rate in a scale of 0–5, with 0 not important, 5 very important)

- a) Application of the system of notification- and consent requirements under the Waste Shipment Regulation (Articles 4-17 and 26-33 of the Waste Shipment Regulation).
- b) Application by national authorities of the provisions concerning waste shipments through transit countries (Waste Shipment Regulation).
- c) Other controls imposed on waste or waste shipments by application of EU waste legislation.
- d) Different interpretations of the definition of 'waste' according to the Waste Framework Directive.

- e) Diverging classifications of waste as 'hazardous' or 'non-hazardous' (Waste Framework Directive).
- f) The distinction between 'recovery' and 'disposal' (Waste Framework Directive).
- g) Application of the 'proximity principle' resulting in an outcome which is inconsistent with the waste hierarchy (Waste Framework Directive and Waste Shipment Regulation).
- h) Divergent application of the so-called 'R-codes', i.e. the recovery operations listed in Annex II to the Waste Framework Directive.
- i) Application of national end-of-waste criteria established in accordance with the Waste Framework Directive, see further Article 6(4) of the directive.
- j) Application of the grounds for reasoned objections to shipments of waste for recovery, as listed in Article 12 of the Waste Shipment Regulation, or the requirement for environmentally sound management (ESM), see further Article 49(1) of the regulation.
- k) Other obstacles not listed above.

If relevant, please provide additional information in relation to your above reply.

11. Please provide qualitative or quantitative evidence of the impacts of these distortions (e.g. in terms of additional costs for businesses, missed new job opportunities, environmental impacts etc.)

12. Do you consider that there are any distortions created by waste policy, requirements or decisions taken at national, regional or local levels?

13. What are the drivers/ causes of these market distortions? (Rate in a scale of 0–5, with 0 not important, 5 very important)

- a) Differing taxes or fees leading to internal or cross border 'shopping behaviour', i.e. waste is transported to locations where it is cheaper to manage to the detriment of more environmentally sound management options which are locally available.
- b) Distribution of roles and responsibilities for municipal authorities and private companies in waste management.
- c) Development of waste treatment networks leading to local overcapacities or under-capacities for different types of waste treatment (e.g. incineration) to the detriment of higher positioned treatment steps in the EU waste hierarchy.
- d) Inefficient use of available capacity in recycling or energy recovery in a neighbouring country or within the country itself.
- e) Regulatory barriers that lead to shipments of waste in spite of facilities existing nearer to the source that could treat the waste in an equivalent or better manner in terms of environmentally sound management and the waste hierarchy.
- f) Design and implementation of extended producer responsibility schemes leading to competition distortions or market access problems for producers and waste operators.
- g) Permits and registrations which are not linked with EU legislation, requested from companies established in other Member States, even if they have fulfilled similar requirements in their home Member State.
- h) Excessive controls on waste or waste shipments by national/regional/local policy, decisions and legislation that go beyond EU requirements ('gold plating').
- i) Distribution of roles and responsibilities for municipal authorities and private companies in waste management.
- j) Other obstacles not listed above.

If relevant, please provide additional information in relation to your above reply.

14. Please provide qualitative or quantitative evidence of the impacts of these distortions (e.g. in terms of additional costs for businesses, missed new job opportunities, environmental impacts etc.)

15 Please rank the three most important drivers of market distortions and obstacles according to their importance with respect to being tackled first to improve the efficient function of waste markets. Please indicate the relevant number and sub-letter from 10a)-k), 13 a)-j).

16. What do you feel are the negative impacts within the EU of such obstacles? Please rank them between 0 (no impact) to 3 (high impact).

- a) Increased waste generation or less reuse
- b) Less recycling
- c) Less recovery, including energy recovery
- d) Less environmentally sound management of waste
- e) Less resource efficiency
- f) Lack of market access
- g) Other

If relevant, please provide additional information in relation to your above reply.

17. Do you consider that there are large differences between the Member States in the way their waste markets function?

18. Please briefly describe the differences between Member States, perceived as obstacles to the functioning of waste markets:

19. What solutions would you propose in order to address the regulatory failures or obstacles you have identified above?

20. Would you be interested in participating in a stakeholder meeting on these issues that will be held on 12th November 2015?

My contact details are (optional):

8 Annex II : List of stakeholders consulted

8.1 Annex II.1 List of stakeholders interviewed

8.1.1 Stakeholders interviewed

- Ulrich Leberle - CEPI, CITPA : confederation of European paper industries, confederation of paper and board converters in Europe
- Ella Stengler - CEWEP : Confederation of European Waste-to-Energy Plants
- Alain Vassart - EBRA : European battery recycling association
- Emmanuel Katrakis, EuRIC (including EFR, ERPA and EUROMETREC)
Ross Bartley, Adviser to EuRIC.
- Annick Carpentier - Eurometaux, EAA : association representing the European non-ferrous metals industry, European aluminium association
- Nadine De Greef - FEAD : European Federation of Waste Management and Environmental Services – internal data gathering with members in France, Netherlands, Norway, Sweden, Austria, Slovakia, Finland, Belgium, compiled by Nadine De Greef
- Vanya Veras - MWE Municipal Waste Europe : association representing municipalities responsible for waste management
- Ursula Denison - PRO-Europe : umbrella organisation for European packaging and packaging waste recovery and recycling schemes
- Michal Len - RReuse : association representing social enterprises with activities in reuse, repair and recycling
- Pascal Leroy - WEEE Forum : WEEE producer responsibility organisations

8.1.2 Stakeholders contacted and interviewed in the frame of case studies

- Werner Annaert, FEBEM Belgian federation of recycling industry, case 10
- Christian Fischer, Deputy Head of Soil and Waste Division in charge of Waste Shipment Regulation team Danish Ministry of Environment and Food, case 4
- Berit Hallam, Technical Advisor Danish Ministry of Environment and Food, case 4
- Sylvain Pasquier, products and material efficiency service of ADEME, the French national environmental agency, case 5
- Dick Hoogendoorn, Vereniging Afvalbedrijven, the Dutch waste management industry federation), case 9.
- Anonymous, representatives of the Romanian competent authority and a Romanian PRO, case 6
- Bogdan Pasko, Main Specialist at Waste Economy Department of Silesia Voivodship Office; Urząd Marszałkowski Województwa Śląskiego, case 8
- Katie Olley, Senior Environment Protection Officer within the Producer Compliance and Waste Shipment Unit at the Scottish Environment Protection Agency (SEPA) and Project Manager for IMPEL's Enforcement Actions, case 1
- Ann van Poucke, official responsible for transit waste shipment in Belgium within the national and later the interregional competent authority in Belgium, case 3.
- Massimo Centemero: MD of CIC (Consorzio Italiano Compostatori, the Italian Composting Association), case 7

8.2 Annex II.2 List of stakeholders participating in the workshops

8.2.1 Participants workshop 21/05/2015

Annick Carpentier (Eurometaux)
Dana Stefan (Europen)
Delphine Clement (VEOLIA)
Ella Stengler (CEWEP)
Emmanuel Katrakis (EuRIC)
Enrique Fernandez (EuRIC)
Jakob Rindegren (ESAUK)
Jan Van Heukelom (Umicore)
John Wante (OVAM)
Lieze Cloots (OVAM)
Marc Guirard (Eucolight)
Matthias Pflüger (BDE)
Milda Basiulyte (FEAD)
Nathalie Buijs (FEAD)
Olivier Thomas (ERPA)
Rodolphe Paternostre (Environment Irisnet BIM/IBGE)
Sergio Tartaglia (MEPA)
Ursula Denison (PRO EUROPE)
Valérie Plainemaison (FNADE)
Vanya Veras (MWE)
Virginia Janssens (Europen)
Mike Van Acoleyen (ARCADIS)
Linde Raport (ARCADIS)
Rob Williams (Triple E)
Peter Wessman –DG ENV Legal Officer, Waste management & recycling unit;
Karolina D'Cunha – DG ENV Deputy Head of Unit, Eco-innovation & Circular economy unit;
George Kiayias – DG ENV Policy officer, Waste management & recycling unit
Victorio Gente – DG Research and Innovation, Unit Eco-innovation

8.2.2 Participants workshop 16/11/2015

Pille Aarma	ministry of environment Estonia
Ali Akdag	CIRFS, European Man-Made Fibres Association
Werner Annaert	FEBEM/FEGE, Federation of Environmental Companies, Belgium
Piotr Barczak	EEB, European Environmental Bureau
Richard Barnish	DHL courier service
Valentina Bolognesi	Digitaleurope, digital technology industry in Europe
Julien Bouyeron	FCD Fédération des entreprises du Commerce et de la Distribution France
Martin Brocklehurst	ISWA, international solid waste association
Annick Carpentier	Eurometaux, European association of metals
Isabelle Conche	Eucopro, European Association for Co-processing
Christel Davidson	Eurocommerce, association for retail, wholesale and international trade interests
Nadine De Greef	FEAD, European Federation of Waste Management and Environmental Services
Nicolas de la Vega	EBA European biogas association
Luigi Della Sala	Eurogypsum, Gypsum Industry Europe.
Mark Dempsey	HP, HewlettPackard
Sandrine Devos	UEPG, Union Européenne des Producteurs de Granulats
Bianca Drogosch	VKU, Verband Kommunalen Unternehmen
Manuela Ernst	VKU, Verband Kommunalen Unternehmen
Rosa Gaspar Ferran	Zero Waste Europe, NGO empowering communities to rethink their relationship with resources
Lorenzo Ferrucci	Food Drink Europe, industry federation
Maxime Furkel	LexMark, creates enterprise software, hardware and services
Magdalena Garczynska	EAA European Aluminium Association, represents the value chain of the aluminium industry in Europe
Magnus Gislev	European Commission DG GROW
Gunnar Grini	Norsk Industri, Confederation representing corporate Norway
Soeren Grumtman	VDMA, Verband Deutscher Maschinen- und Anlagenbau, German Engineering Federation
Marc Guiraud	EUCO Light, The European association of collection and recycling organisations for WEEE lamps and lighting.
Carl Hagberg	Stena Metall, recycles and processes metals, paper, electronics, hazardous waste and chemicals.
Michael Hale	Central Lobby, an independent parliamentary and public affairs consultancy.

Christian Hartmann	Cambre Associates, Brussels-based integrated public relations and public affairs consultancy.
Alain Heidelberger	Hazardous Waste Europe (HWE), represents hazardous waste treatment installations in Europe
Michael Heinzlreiter	Next Generation Group (NGR), Design and manufacture of extruders, shredders, etc for the plastics recycling industry.
Chris Heron	Eurometaux, european association of metals
Nicolas Humez	Hazardous Waste Europe (HWE), represents hazardous waste treatment installations in Europe
Luca Ibelli	Cefic, European Chemical Industry Council
Alagonda Elisabeth Jager	Janus Vaten, conditioning and sale of new and second use drums and IBC
Hendrikus Janus	Janus Vaten, conditioning and sale of new and second use drums and IBC
Svend Erik Jepsen	Confederation of Danish Industry (DI) representing corporate Denmark.
Mikołaj Józefowicz	Independent consultant providing private sector clients with advice on Extended Producer Responsibility
Lorena Jurado	Conseil General de Cambres de Catalunya, Catalonian chamber of commerce
Emmanuel Katrakis	EuRIC, Confederation representing the interests of the European recycling industries.
Raziyeh Khodayari	Svenskfjarrvarme, Swedish District Heating Association
Franz Kirchmeyr	Kompost & Biogas Österreich, umbrella organization for five Austrian compost & biogas organisations.
Michal Kubicki	European Commission, DG Grow
Torsten Laksafoss Holbek	Head Of Office MEP Morten Løkkegaard
Stijn Lambert	Arcadis Belgium
Kristy-Barbara Lange	European Bioplastics
Krzysztof Laskowski	Euroheat & Power, international association representing District Heating and Cooling and Combined Heat and Power sector in Europe
Hélène Lavray	Eurelectric, The association of the electricity industry in Europe
Ulrich Leberle	Cepi, industry federation for the European pulp, paper and board industries.
Ji un Lee Shin	Umicore, non ferrous metals producer
Marc Leemans	OVAM, public Flemish Waste Agency
Michal Len	RREUSE, represents social enterprises active in re-use, repair and recycling.

Andreas Loukatos	ETVA, environmental services consultant
Vagner Maringolo	CEMBUREAU, European cement association
Natalia Matting	European Commission, DG GROW
Marcello Missaglia	Missaglia e associati, independent consulting
Christian Monreal	REMONDIS, recycling, service and water company
Sarah Mukherjee	Veolia, waste management operator
Isabelle PACE	Veolia, waste management operator
Guillaume Perron-Piché	Eswet, European Suppliers of Waste to Energy Technology
Matthias Pflüger	BDE Federation of the German Waste, Water and Raw Materials Management Industry
Adrian Platt	Befesa, technology solutions for industrial waste management
Joachim Quoden	Expra, umbrella organisation for packaging and packaging waste PROs
Mitra Qurban	DP DHL, Deutsche Post DHL courier service
Umberto Raiteri	ERP, European Recycling Platform, implementing regulations on the recycling of electrical and electronic waste
Rauno Reinberg	Republic of Estonia, Ministry of Public Affairs
Britt Sahleström	AI Swedish Recycling Industries' Association
Oliver Santiago	Unesid, union of Spanish steel industry
Helmut Schmitz	Der Grüne Punkt, German PRO
Christophe Scius	Suez Environnement S.A. French-based utility company for water treatment and waste management
Elisa Setien	EFCC, European Federation for Construction Chemicals
Arjen Sevenster	Plastics Europe, Represents the interest of the plastics manufacturing industry in Western Europe
Baudouin Ska	FEBEM/FEGE, Federation of Environmental Companies, Belgium
Ella Stengler	CEWEP, represents Waste-to-Energy Plants across Europe.
Jane Stratford	Defra, UK Department for Environment, Food & Rural Affairs
Jane Stratford	Defra, UK Department for Environment, Food & Rural Affairs
Emilie Stumpf	CECED, European committee of domestic equipment manufacturers
Katarine Svatikova	Trinomics
Andreas Tack	WV Stahl, Wirtschaftsvereinigung Stahl, German steel industry federation
Mike Van Acoleyen	Arcadis Belgium
Patrick Van den Bossche	Agoria, Belgian technology industry federation
Vincent Van Dijck	ETIRA, European Toner & Inkjet Remanufacturers Association

Konstantinos Velis	University of Leeds
Vanya Veras	MWE Municipal Waste Europe, European association representing municipalities responsible for waste management
Ronalds Vitins	KP Konkurrences Padome, Lithuanian competent authority on competition
Rebecca Walker	SEPA, Scottish Environment Protection Agency
Peter Wessman	European Commission, DG ENV
Rob Williams	Trinomics

9 Annex III : Minutes of interviews and workshops

9.1 Annex III.1 Interview reports

9.1.1 Interview CEPI

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: CEPI (the Confederation of European Paper Industries)

Contact person: Ulrich Leberle

Date: 18/03/2015

Place: Office CEPI, Brussels, Belgium

Interviewer: Linde Raport, ARCADIS Belgium

Identification of the stakeholder organisation

The Confederation of European Paper Industries (CEPI) is a non-profit-making organisation, headed by Director General, Marco Mensink, with a staff of 17, based in Brussels. It has three standing committees, which take long-term strategic perspectives on the issues affecting the industry. These are the Environment and Safety, Climate Change and Energy and Raw materials committees under which a number of ad-hoc issue groups operate. Mr. Leberle is member of the Energy and Raw Materials committee. The members are 18 national associations.

Some figures on the European Paper Industry:

- Total production 2014: 91 million tonnes, of which approx.:
 - 40% graphic paper;
 - 40% packaging;
 - 10% tissues (diapers, tissues,...);
 - 10% specialties (filters,...).
- Total turnover: 75 billion euros;
- Raw materials consist of approx. 50% wood and 50% paper for recycling
- Overall recycling level of 71.7% and this will increase when separate collection system will be introduced in Poland, Romania,... The highest achievable recycling rate is estimated by CEPI at ±80%.

Identification of the perceived key market distortion(s)

Following barriers and key market distortions were identified during the interview and immediately divided into the four main waste market distortion types.

Lack of harmonisation of waste management requirements through EU legislation

1.1 Calculation of the recycling rate

- Distortion: While calculating the recycling rate, it is not clear which figures are to be taken into account: the amount of paper waste being collected separately or the

amount of paper waste being recycled (at the entrance of the sorting plant, at the exit of the sorting plant, sorting at the final recycling plant, at the entrance of the final recycling plant,...).

- Suggestion: CEPI argues that the amount of paper waste at the entrance of the final recycling facility should be taken into account when calculating the recycling rate.

1.2 Definition of "municipal waste"

- Distortion: While calculating the recycling rate, it is not clear which figures are to be included in "municipal waste".
- Suggestion: The definition of "municipal waste" should focus only on waste produced by households (and the very similar waste originating from little retail, collected in the same collection scheme for household waste), since the separate collection of commercial/industrial is already well-functioning and targets are specifically useful for the more difficult separation of household waste.

Divergent national and regional strategies for introducing EPR-schemes for paper and cardboard packaging waste

- Distortion: Since there is no general framework or a set of rules for the implementation of EPR schemes, all 28 Member States have a different system of organising EPR for paper and cardboard packaging waste. The EPR-schemes are not harmonised at all and the lack of transparency is making it very difficult to find the most optimal and efficient way to collect and process the waste. Is there at this moment somehow a drainage of paper to be recycled to other Member States because of this?
- Suggestion: setting minimum requirements

2. Lack of uniform implementation or application of EU waste legislation

2.1 Different interpretation of "separate" collection of paper waste

- Distortion: A provision has been set in the WFD (2008) art 11.1 third sentence to set up separate collection for paper. The goal of this provision is to maintain the quality of the material, to avoid cross contamination resulting in loss of part of the material and thus lower the costs of further sorting or treatment. Some Member States allow the comingled collection of "*recyclables*" assuming this also accounts as separate collection, but which is less effective in terms of recyclability of the material.
- Example:
 - Member States where separate collection systems were already in place: UK organises the comingled collection with glass (problematic in terms of cross contamination), France also.
 - New Member States are setting up new collection systems, often choosing for a comingled collection system, since this has a primarily lower investment cost in terms of collection trucks, etc., but finally, amounts being recycled effectively will be lower and treatment costs higher, due to higher contamination of the materials.
- Suggestion: The European Innovation Partnership on Raw Materials should also address this issue.

3. Obstacles to waste management activities for companies from other Member States

3.1 Different environmental standards for non-EU treatment facilities

- Distortion: The requirement for export of waste materials outside the EU, is that the waste will be treated following equivalent standards as the ones which apply to European Companies (BREF, ETS, environmental permits...) respecting 'environmentally sound management' of the waste. As there is no certification system or controlling/inspection system for this, it is seen as a big distortion resulting in no level playing field at all. Furthermore, there is no control if (all of) the waste is effectively being recycled and how much of the waste ends up as recycling residue in facilities outside the EU.
- Suggestion: Setting up a certification system with a minimum of control.

9.1.2 Interview CEWEP

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: CEWEP (the Confederation of European Paper Industries)

Contact person: Ella Stengler (CEWEP)

Date: 26/03/2015

Skype conference

Interviewer: Sabina and Rob

Background

- CEWEP→ CEWEP (the Confederation of European Waste to Energy Plants) is the umbrella association of the owners and operators of Waste-to-Energy Plants, representing some 394 Waste-to-Energy Plants from 18 European countries. They make up 86% of the Waste-to-Energy capacity in Europe. Waste-to-Energy Plants thermally treat residual household and similar waste that cannot otherwise be reused or recycled in an environmentally beneficial way, and generate energy from it.

Questions

Do you think the waste market within the EU is distorted? Why? Examples of distortions?

- Yes
- European Union waste legislation is generally well designed and good: For example the Waste Framework Directive and the landfill directive were positive milestones in waste legislation.
- What market distortions there are relate to a lack of uniform implementation of legislation. This is due to various reasons such as the use of different definitions between member states or because there is much focus on municipal waste which is important but only accounts for a small part of total waste production (2nd source). Commercial and industrial (C+I) waste should also be taken into account, but there is a lack of robust data on C+I waste in comparison to data on municipal waste. It would be good to improve the quality of C+I statistics. Transparency is necessary to see where the waste streams end up. (This transparency is given for WtE, where it is clear what is the input and what is the output). Transparency would also be necessary for other waste treatment options, e.g. tracing where the residues from recycling and recycled products are used. Some say that this information is commercially sensitive, so they are resistant.
- Another reason for market distortions is due to the monitoring system (1st source) and the calculation methods/assumptions that often differ from one country to another. For instance, the Waste Framework Directive sets a target for 2020 that 50% of household waste should be recycled. However there are a number of ways in which this recycling rate can be calculated. It can be based only on some waste streams (plastics, paper, glass, metal) or on the total of municipal waste. And the monitoring can be based on the amount collected for recycling or the (lower) amount that is actually recycled and is replacing virgin materials. These differences in calculation make comparison hard. A harmonised monitoring system (using a

usefully recycled ('output') approach as suggested by DG ENV, would be an improvement here.

The WtE sector is strictly regulated. The requirements are consistent throughout Europe. WtE is more common in some parts of Europe than others. In Northern countries for instance, there is more need for heat, which is produced by WtE plants, often in combination with electricity (combined heat and power). If the necessary infrastructure (e.g. district heating) is there, WtE plants can achieve higher efficiencies than in regions without district heating or cooling networks.

What do you think about transport of waste from one country to another?

- It is better that waste goes to a WtE plant instead of being landfilled. Existing capacities in Europe should be used and cooperation among municipalities should be encouraged. Countries which still rely heavily on landfilling should make careful capacity planning, considering source separation, recycling and WtE. Regarding the concern of overcapacity in WtE, it must be stated that at the level of the EU as a whole (where a huge amount of waste is still landfilled) there is not overcapacity of WtE.
- The issue of exporting waste out of the EU can be of concern if environmental and social (labour) standards are below European requirements (e.g. in Africa or China). The data on waste exports is hard to get, but the estimates are that 50% of post-consumer plastic waste leaves the EU. Some MSs seem more willing to accept imports of waste to their WtE plants, e.g. NL and Scandinavia are more willing than Germany. This may relate to cultural differences, with some viewing waste traditionally as a 'fuel', whereas others need more time to recognise waste as a resource and not as a matter of concern (pollutant).

Other differences in classifications - RDF

- There is no legally binding definition for Refuse Derived Fuel (RDF) or SRF (Solid Recovered Fuel). Some MSs appear to see the production of RDF/SRF as an alternative to waste incineration and "forget" that it is a pre-treatment – the waste still needs to be burnt or landfilled. WtE plants are equipped with specific flue gas cleaning devices, so that they can accept the (heterogenous) waste as it is. For them the pretreatment to produce RDF/SRF is not necessary. Industrial plants generally ask for some requirements of the RDF/SRF (in order to ensure that their plants are not damaged and the product (e.g. cement) is not polluted (e.g. heavy metals). Treating RDF/SRF as a product runs the risk to bypass waste regulation, e.g. for waste incineration. If it is not considered waste any more, it can be burned in unregulated (in comparison to WtE plant) combustion processes. This needs to be carefully watched..

What can you say about End of Waste Criteria and landfill taxes?

- It would be helpful and would give incentives for more recycling if the metals recycled from bottom ash from WtE plants would be counted towards the recycling targets in the Waste Framework Directive (50% municipal waste recycling). Currently, bottom ash from WtE is considered waste. However, some operators, e.g. in the NL ('Green deal') are undertaking huge efforts to treat the bottom ash in a comprehensive way before using it, e.g. as aggregate. If this will be considered as reaching 'end of waste' status, remains to be seen.
- On landfill tax, waste could move from high to low tax areas. Landfill taxes have worked in reducing landfill but effectively banning landfill is even more effective – they have done analysis to illustrate this.

- Taxing WtE (to incentivise recycling) has been tried and failed in Sweden – it had no impact on recycling rates. Have to realise that WtE rate is generally higher in high recycling countries and that there will always be part of the waste stream that cannot be recycled in good quality (e.g. material is too polluted or degraded after several times of use), or for economic reasons (some materials are too hard to extract). WtE takes the waste that is not suitable for sustainable recycling. Taxing WtE would not change the recyclability of the waste.

What do you think are possible solutions for waste market distortions?

- The EU should be clearer about definitions and improve statistics, e.g. not only municipal waste, but also C+I waste.
- The EU should harmonise the monitoring of recycling and focus on quality rather than just quantity.
- EU environment legislation must be implemented by all Member States.

Follow up

- She will send us some useful studies
- Yes for the stakeholder meeting
- Yes for name in the annex

9.1.3 Interview EBRA

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: EBRA (European Battery Recycling Association)

Contact person: Alain Vassart, Secretary General

Date: 17/03/2015

Place: Office ARCADIS, Brussels, Belgium

Interviewer: Linde Raport, ARCADIS Belgium

4. Identification of the stakeholder organisation

EBRA represents the battery recycling industry and its members are involved in the sorting, treatment and recycling of used or waste batteries, whatever the technology or category - portable, industrial or E-mobility,—but with focus on portable and industrial batteries.

The European Battery Directive has been transposed into national laws and is being implemented. This Directive includes challenging objectives in terms of separate collection rates and recycling efficiency. Collection rates are only related to the portable batteries, since a landfill ban is introduced for industrial batteries and so a 100% collection rate is assumed for industrial batteries.

5. Identification of the perceived key market distortion(s)

Following barriers and key market distortions were identified during the interview and immediately divided into the four main waste market distortion types.

Lack of harmonisation of waste management requirements through EU legislation

1.1 Calculation of the collection rate and definition 'recyclable/recycled'.

- Distortion1: For consumer/portable batteries, collection rates were set in the European Battery Directive. At this moment, this amounts 25% but will increase to 45% in September 2016. This is only the case for consumer batteries (origin: households). If there is a formula to calculate the collection rate (CR) based on a moving average of the placing on the market of new batteries, there is no clear definition of the concept of consumer/portable batteries. There are different interpretations among member states. For example, in the UK an exaggerated amount of Lead-acid batteries are included in the consumer collection.
- Distortion2: the collection rate does not make any distinction between primary (non-rechargeable) and secondary (rechargeable) batteries. In practice, the collection rate achieved for primary batteries is much higher than for the secondary batteries due to the life time and hoarding effect for secondary batteries (secondary batteries can have a lifetime of up to 10 y or more, while primary batteries have a lifetime of 1-2 years). Organisation involved with collection would prefer to have a collection rate calculated on what is available for collection. This will make it easier

to achieve the CR but will reduce the overall tonnage collected and sent for recycling.

- Distortion3: for consumer/portable batteries there is no ban on landfilling (or elimination). Therefore, batteries which are not identifiable anymore, are sometimes included in the collection rates, but are in reality not recycled (because of the lower cost of non-recycling of the batteries). There is a difference in "being collected for recycling" and "recycled". Battery recyclers do not see the whole tonnage, put on the market/collected, arriving at the recycling plants.

1.2 Calculation of the Recycling efficiency

- Distortion: Generally, minimal recycling efficiencies of the recycling processes of waste batteries and accumulators were set in the European Battery Directive. At this moment, this amounts to 65% for Pb-acid batteries, 75% for Nickel-cadmium batteries and 50% for other batteries (alkaline, lithium,...). On June 12th 2012, the European Commission published the detailed rules regarding the calculation of recycling efficiencies, but there are still some topics open for interpretation. EBRA published a guidance to limit this different interpretations. Anyway, the first reporting shall be done before end April 2015 for batteries recycled in 2014.

1.3 Reported figures in units or in tonnages

- Distortion: The amounts of batteries put on the markets by the producers are to be reported in units, while all other tonnages (collected, recycled,...) are reported in weight. To calculate the quantity placed on the market and the CR, it is necessary to use average weights per battery type and size. This is an approximation of the reality.

End-of-waste criteria

- Distortion: There are no end-of-waste (EoW) criteria set at the European level for recycled fractions of batteries (lead, iron, plastics,...). Getting the EoW status is a decision Member state by Member State but very difficult to obtain in practice. Depending on whether certain fractions are considered as waste or have achieved the EoW status, this has consequences for the calculation of the recycling efficiencies. If it is easier for a company in one member state to achieve the recycling efficiency than a company in another member state, we can call it a market distortion.
- Examples/case studies:
 - In some member states, slag is assumed to be waste in either case. In other member states, slag used for road construction can be considered as recycled. This has a huge impact on the calculation of the recycling efficiency. Slag used for stabilizing old salt mines or landfills cannot be considered when calculating the Recycling Efficiency. The latter was the case in Germany a few years ago, but this is no longer an option (Regulation (EU) 493-2012).
 - In other member states (for example Austria), batteries are considered hazardous waste in either case, so the slag is also considered as hazardous and cannot be recycled as foundation. This could be seen as a distortion when other countries do allow the use of the slags for recycling purposes.

1.4 Divergent national and regional strategies for introducing EPR-schemes for batteries

- Distortion: Since there is no general framework defining the concept of EPR or a set of rules for the implementation of EPR schemes, all 28 member states have a different system of organising EPR for batteries: for some member states (for example Belgium), there is only 1 organisation, in other member states (UK), there is competition between several organisations which is mandatory by law.
- Examples/case studies:
 - France (5 to 10 years ago): There was high competition between the two existing EPR systems (Screlec and Corepile): high pressure on costs (to attract producers) resulted in savings on publicity and awareness campaigns, lower to no investments in new sorting and recycling facilities.
 - UK: It is mandatory by law that several EPR systems exist next to each other. Each organisation needs to achieve the collection rate targets and high fines are related to not achieving them. This results in:
 - Setting up "reserves" of collected batteries one year to be sure of achieving the targets the next year.
 - Selling collected tonnages to other competitors at very high prices.
 - Poland has minimum 18 different collection systems, which makes it almost impossible to collect reliable statistics.
 - Belgium: the fees paid by the producers is based on *ecotaxes* which is equivalent to a legally fixed and high (non market conform) admission fee and which leads to accumulation of financial resources within the PRO.

Lack of uniform implementation or application of EU waste legislation

2.1 Not achieving the collection rate targets

- Distortion: Not all of the member states achieve the collection rate targets, while recycling companies invested in recycling capacity to cope with the expected higher collection rates. The current overcapacity has an influence on waste market prices and the profitability of recyclers.

Divergent policy and legal requirements at national, regional and local levels

3.1 Divergent collection rate targets between member states

- Distortion: For consumer/portable batteries, collection rates were set in the European Battery Directive. At this moment, this amounts 25% but will increase to 45% in September 2016. Several Member States (Netherlands, Belgium, Switzerland,...) already achieve those CR because they started collection several years ago, while other Member states are just following the new targets (UK, Italy,...) or are running behind (Poland,...).

Obstacles to waste management activities for companies from other Member States

Non-harmonised reporting of numbers

- Distortion: Recycling efficiencies (RE) are to be reported to the national authority of the Member State of the recycling company, but also to the

suppliers of the waste batteries (in most cases the EPR schemes), originating from other Member States. In the latter case, the calculation method of the Member State where the collection scheme is established must be followed. The lack of EU harmonization can result in different RE for the same type of batteries recycled in the same process.

9.1.4 Interview with EuRIC

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: European Recycling Industries' Confederation (EuRIC) AISBL

Contact person: Emmanuel Katrakis + Ross Bartley

Date: 27/03/2015

Phone conference

Interviewer: Katka and Sabina

Background

- European Recycling Industries' Confederation (EuRIC) AISBL
- Recycling of Ferrous and Non-Ferrous metals, paper, other materials
- Mainly national associations members – 18 EU countries
- EuRIC is new – created in 2014, Founding European Federations' Members already existing for many years

Questions

Do you think the waste market within the EU is distorted? Why? Examples of distortions?

- Yes, the waste market in the EU is distorted. Some examples are listed below.
- **1. Lack of sufficient enforcement of existing waste legislation** relevant to their activities across the EU, you can see it by visiting different sites or by country statistics, for example too many recyclables like metal and paper and glass going into landfill sites –there is no level playing field, not all installations complying with the rules, as there are not enough people on the ground checking compliance, no capacity or willpower to enforce existing laws
 - Enforcement is a large problem
 - Concrete examples – many countries do not take sufficient action to close illegal waste and scrap sites. In Greece a number of sites are illegal. This is a problem for fully permitted operators which suffer from a distorted market and do not compete on a level playing field. Problems posed by illegal sites are found in a number of other EU countries.
 - The quality of EU legislation is also a hampering factor, as it is too complex and creates room for different interpretations especially in Directives
- **2. Unfair competition** → Recycling carried out by private companies – unfair competition between public and private companies doing this, more rules at EU level. Different EPR schemes – not always easy to get access to materials
 - Sweden → also problem of access → e.g. long contracts, those that win the contracts with EPR schemes are dominant on the market, and those that don't win it have nothing to live on outside of EPR schemes

- These are kind of monopolies – exclusion for other companies → relatively common in Europe, fines of 98 million euros in Spain in paper recycling sector → this illustrates problems in the way how waste markets function.
- Also issues for companies operating in other than national countries. The thresholds for Registrations and Permits differ country to country, the requirements to be “under the jurisdiction of” (q.v. Waste Shipment Regulation) differ country to country. Countries have ‘understandings’ on how laws are complied with that deviate one from another so there are wide differences in practical application of laws,
- **3. Illegal transport of waste** → There are IMPEL reports that touch on this issue. Some countries are not managing enforcement of waste shipment rules at all well (lack of capacity).
 - The Port of Rotterdam is a good example with a range of sophisticated sensors to help enforcement. There is a great variation in Waste Shipment enforcement and checks across EU.
 - Of most concern are shipments of hazardous waste going where they should not be going to. The IMPEL statistics have to be dealt with carefully, some say 40% illegality others 7%, incorrectly filled in paperwork is a cause of some ¾ of infringements.
 - Waste shipment Documents that need to be filled – notification forms – and ‘information required by Article 18 of the Waste Shipment Regulation are not tailored to the business environment or current century. The future is Digital, Electronic Reporting should be widespread across Europe. Paperwork Systems are far too slow and not transparent for enforcement purposes. Digital / Electronic reporting would improve traceability of shipments and real-time enforcement, besides improving accuracy of completion of documents.
 - Notification forms have to be handled by competent authorities, Member States are hesitating to go to an digital / electronic system.
 - National governments handle the Annex 7 forms in very different ways. Some are very strict, some have more laissez-faire attitude.
 - Digital / electronic information system would make the situation better – as now sometimes the paper documents are not available as they are travelling, long time delays from sending documentation.
 - Dutch initiative - Afval zonder papier → IT commercial system, electronic system for gathering the data, the commission knows this, problem of having other competent authorities accept this electronic system.
- **4. Services directive** → the principles behind free movement of goods and services are to add competitive aspects to get an optimised system. Waste is excluded from a number of aspects of the Services Directive so competition is prevented. This goes back to the times when waste was being landfilled and incinerated, and as not all MS had an incineration plant the proximity principle was appropriate, now that waste is a resource the proximity principle is outdated, and so is the Services Directive approach to waste.
- **5. Long contracts** favoured by Municipalities, by Extended Producer Responsibility Schemes and others harm competition between waste businesses. Those who do not have contracts cannot access the waste market.
- **6. Late payments.** Late payments are a big problem for SMEs as it harms business cash flow liquidity.

- **7. Registrations, Licences, permits** – there are different criteria used by Member States for Registrations, licences and permits. Varying thresholds, varying costs.
- **8. Market distortion in the steel scrap market** – Due to the embodied energy in scrap and so the CO₂ savings in using scrap, scrap should be a preferred steel making raw material. However the cost of producing steel in the EU by using scrap is more expensive than by using primary ore due to the distortions caused by EU Legislation. Q.v. Cumulative Cost Assessment - also Study by Laplace Conseil.
- **9. EU legislations overlapping and contradicting and confusing** - their application results in distortions. There are specific requirements set in the WEEE Directive, there are specific requirements being set in the waste BREF by the Industrial Emissions Directive, and under a Commission Mandate the CENELEC standards are setting further overlapping and distorting requirements – which legislation has precedence? The problem is there is no sufficient consistency. There is a lack of harmonisation of the EU waste legislation and introducing CEN, CENELEC standards as legal requirements is compounding confusion, overlaps and contradictions.
- **10. Extended Producer Responsibility Schemes** - some work well, however there are a number that are terrible being monopolistic and overly costly.

Which waste market distortion is the most serious?

- Unfair competition and lack of competition is horizontal, affecting all badly, and hence competition issuers have a priority, then there are the sectoral distortions.

Case studies

- EPR schemes – current reports not of economic nature, enormous discrepancies. What are the key elements that should be in place so that it's economically sound? Economic analysis of EPR scheme a suggestion for a case study.
- Transfrontier shipment of resources is another example of a case study.

What do you think the solutions are?

- Registration and permitting → Believe Member States should use publicly accessible national databases of their waste management Registrations and Permits (i.e. list of all authorised Waste Management facilities).
- Lack of enforcement – Member States need to expend more on Enforcement (lately increased requirements have been put on Member States in planning and enforcement re Waste Shipment Regulation)
- Improve quality of EU legislation to minimise the burden for MS.
- Unfair competition - make sure the internal market rules are followed. No need to reinvent the wheel.
- Illegal shipments – improve statistics, traceability, within and outside Europe.
- Overlapping legislation – Ensure consistency between EU legislation particularly in its scope. Quasi-rules affecting facilities for example from Standards must be consistent with legislation.
- Some believe reducing Government Inspectors / Agency personnel and having Industry use third-party certification to show compliance may be an alternative means of enforcement which is also less expensive, but it is becoming apparent it may be a much more expensive approach and not certain to ensure compliance with laws and regulations. Authorities will find all those facilities that need a certificate will obtain a certificate, and so regulators will be faced with a mass of certificates and be regulating certificates rather than having the assurance of physical inspection by Government Inspectors / Agency personnel.

- The OECD Guidance for EPR schemes needs to be significantly improved to advise how to avoid bad scheme design and poor scheme performance. There needs to be a willingness to shut down EPR schemes when they provide no benefit, for example when quality recycling is self sustaining.

Follow up:

- Send a position paper - done

9.1.5 Interview Eurometaux

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: Eurometaux
Contact person: Annick Carpentier
Date: 16/03/2015
Skype conference
Interviewer: Katka, Rob and Sabina

Background

- Eurometaux is a Brussels-based association servicing and representing the European non-ferrous metals (NFM) industry. All recycled NFMs keep their properties and embedded energy so that there is no difference between primary and secondary materials. All metals can be recycled through a more or less complex refining process, but always keeping their properties, and can be used indefinitely.
- There is a large (and strategically important) demand for these metals in the EU and worldwide
- The EU is highly dependent on RM imports, while the potential to recycle more from the urban mine is high. Metals are exported at high rates either legally, dubiously or sometimes illegally: 1.4 m ton exported copper outside of EU, around 600m tonnes of Aluminium.
- Only 15% of end of life mobile phones are recycled. They are a valuable source of material (there is 5 times more gold in a tonne of waste phones than in a tonne of ore)
- Base metals such as copper, aluminium, nickel (in stainless steel, ...) are recycled at high rates, while low volume metals, including critical metals, have much lower recycling rates.
- Recycled metals contribute to meet the demand and can do so even more provided the conditions are in place to boost their recycling, but there is a true complementarity between primary and secondary materials. Because of increasing demand and high volumes still in stock (80% of the aluminium that has ever been produced is still in use, about 65% of copper produced is still in use) recycled metals cannot fully meet the demand. This also indicates the longevity of metal and its ease (and the value) of recycling.
- See EM position paper on the circular economy that identifies the challenges to increased metal recycling .

Questions

Identification of the perceived market distortion (s)

Do you think the waste market within the EU is distorted? In other words, do you think that there are any obstacles to the efficient functioning of waste markets within the EU?

In general there are 3 types of waste:

- by-products & residues from the manufacturing process (relevant to industrial symbiosis)
 - A key challenge is that there are differences across the MS in the way they transpose and complement the relevant directives. The EU sets minimum requirements but Member States can add to these requirements)
 - A good example is the criteria for by-products which mean that in some MS some "materials" are considered as by-products while in other MS they are considered as waste. This raises problem to transport the material from one MS to another (or crossing MS) for recycling or material use (eg in construction). This needs better harmonisation between MSs to improve (ease) trade in secondary materials, while at the same time ensuring some control to avoid/fight against illegal trade of valuable materials/waste.
 - Because of their value (and the energy embedded in metals bearing products), high volumes of metals scrap and end-of-life products embedding metals are exported legally, dubiously or illegally to 3rd countries for recovery, while there is no guarantee on the quality of the treatment in these countries. The Waste Shipment Regulation provides no strong tool to guarantee quality treatment (as requested by the Regulation) in these countries. It is often circumvented e.g. through exports of goods as second hand goods.
- End-of-life products
 - While end consumers pay for the treatment/recycling of different categories of end-of-life products, many are exported for treatment outside Europe. This offers no guarantee of quality treatment (against environmental sound management principles as requested by Waste Shipment Regulation) and in some cases it leads to harming the environment and people's health in these countries, while leading to a loss of valuable materials for Europe. There is a lack of transparency in the way these products are treated.
 - Illegal shipment of waste is a big issue in Europe. According to Impel in 2013, some 35% of shipments of waste were illegal and among these 25% involved metals, a large part of that being WEEE. WEEE contain valuable and critical metals and are in some cases poorly treated in non-OECD countries, with removal of copper and gold and harming of the environment. This can also be explained through the rather low cost of labour and transport and the lack of level playing field in terms of quality requirements. (relatively empty cargo ships (because Europe imports much more from China than it exports to China) going back (the case in the UK).
- Scrap> EU is poor in raw materials (only 3% of the primary ores are mined in Europe), so it's important to exploit our urban mine!. In addition, there is insufficient/inefficient control over scrap leaving Europe.
- As much for end-of-life product exported outside Europe than for waste moved within Europe for recycling, the AEO (authorised economic operator) status within the Waste Shipment Regulation should be explored. It could serve as a tool to certify "quality" recyclers and hence facilitate transport to these while allowing to focus control on non-certified facilities. This provision already exists but is so far used for customs purposes. Example of obstacles to transporting waste – case of German company wishing to export a waste (slag) rich in copper to a facility which could extract this copper in Belgium. Differing definitions of waste between the two

countries made this a complex (and time consuming) procedure which made it less profitable and attractive.

- There is a lack of cooperation between MS, not enough controls, incentives, the fines for infringements of waste regulations are often low (see report from Eurojust below).
- Finally, the chemicals legislation also creates barriers to recycling (as identified by the Commission and likely to be addressed in the coming Circular Economy package). Lengthy, complex and expensive authorisation procedures for waste containing some substances may hamper the viability of recycling.

What kind of solutions do you think can help resolve the market failures already discussed in this interview? Why?

- There is a need for more harmonisation in definitions of waste, recycling and by-products
- We need to switch from managing waste to managing resources in order to provide incentives to recover material in waste. To do that you need to recycle end-of-life products in a proper way/against quality criteria
- To improve control over waste leaving Europe, while ensuring that it does not hamper trade, have better controls, set up certification schemes for some waste streams (), as these are complex materials but very valuable. For example 38% of end of life products are illegally exported out of which 25% is metals (as WEEE). As a result, a lot of material is lost as exported or not treated properly.
- However, regulation on export should not hamper intra-EU trade
- Another way how to improve the quality of recycled products is to export to a facility that is certified against a standard. This could be linked to an AEO status.
 - A study has been done for DG ENTR by RPA (and Arcadis) on the Feasibility of Introducing a Certification scheme/ standard for recycling treatment facilities.
- We also need to improve waste collection (separate waste collection at source)
- Landfilling of recyclable materials should be banned (gradually). This would push waste treatment up the waste hierarchy, but there should not be a diversion to incineration Hence supporting measures to boost recycling should be adopted.
- Question of control is very important. For example, some end of life products are shipped as second hand products, but don't have manuals, chargers, etc. mainly relevant to WEEE.
- To improve enforcement, one idea is to provide customs with a matrix of risk to show where to focus (like a checklist) combined with the AEO standards.
- We need a common EU approach related to quality processing recovery (e.g. dismantling, recycling, etc.) for some waste streams (involving valuable materials and complex products/treatment processes). Recycling plants are not everywhere in the EU.
- We need to create a level playing field > free and fair trade.

Examples of further relevant documentation

- Look at IMPEL reports
 - IMPEL: European Union Network for the Implementation and Enforcement of Environmental Law is an international non-profit association of the environmental authorities of the European Union Member States, acceding and candidate countries of the EU, EEA and EFTA countries. The core of the IMPEL activities concerns awareness

raising, capacity building, peer review, exchange of information and experiences on implementation, international enforcement collaboration as well as promoting and supporting the practicability.

- One example found: enforcement of the European Waste shipment regulation, report [here](#). Or we can search here: <http://impel.eu/category/project-status/finalised/>
- EUROJUST study> low fines – Strategic project on environmental crime – and the low levels of fines in some MSs.
- Circular economy position paper –Flanders is a good example for metals recycling
- UK is a good example of excessive exporting of waste. They have a tradition of exporting problem wastes.
- We can talk to companies such as Umicore, Aurubis, Boliden for WEEE treatment or Hydro, Novelis, Aurubis for copper or aluminium for example– about the need for secure long term access to secondary materials.
- A potential risk in having 'end of waste' criteria that are very well developed (or perhaps too lenient) is that waste streams which qualify (or are claimed to qualify) would instantly become higher value and may be more likely to be exported as a result. It would also offer a window for "dubious or illegal" shipments(claiming end-of-waste status)

Follow up: send an email to get the position paper if she forgets.

9.1.6 Interview FEAD

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: FEAD

After consulting our members, FEAD is able to provide information regarding the market distortions in France, the Netherlands, Norway, Austria, Sweden, Slovakia, Finland and Belgium. Please find the answers to your questions below.

FRANCE

Do you think the waste market within the EU is distorted? In other words, do you think that there are any obstacles to the efficient functioning of waste markets within the EU, e.g. problems for companies to establish and carry out recycling and recovery operations?

The definition of a waste market is quite unclear.

The "waste market" is not a market in the economic sense. It does not depend on offer and demand but rather on legislation. External factors do not only apply to the price of the service of the good but also on the need for the services and the goods. The main driver for this market is the need of waste management services from municipalities and companies. This need is driven by European and national policies and legal obligations. Waste management policies (and therefore the waste market) is also influenced by other policies. Energy policies have a high impact on our market (needs for more renewables, fuels and heating). Industrial and agricultural policies can also impact the waste markets.

Waste management encompasses different activities: waste collection, hazardous and non-hazardous waste treatment, infrastructure construction and equipment manufacturing, consultancy and secondary raw material trading.

Waste collection and non-hazardous waste treatment are distorted because of obstacles to fair competition between public and private operators.

Market access

Contracting authorities can use in-house companies to collect and treat waste without tendering. Some public entities take advantage of the service of general economic interest situation and the associated no-VAT regime in order to propose a more competitive offer and also to compete with private companies in waste markets which do not constitute a service of general economic interest (Commercial and Industrial Waste) by cross-subsidising their activities in these markets with local taxes paid by citizens.

The new public procurement and concessions directives (currently in transposition phase) might amplify this situation by allowing extensive recourse to in-house and other public-public agreements excluded from the transparency and competition procedure set down by those directives. In order to help containing the occurrences of

unfair competition, strict control of the efficient public expenditure should be made; State aid rules should apply equally to private and public entities, especially in the framework of services of general economic interest.

Different VAT rates in the public and the private waste management sector is a problem in a number of Member States that can create distortions of competition between public and private bodies, in particular, for the collection of waste. (cf. Answer to the consultation on VAT in January 2013)

Classification between recovery and disposal operations

This difference of classification among Member States between recovery and disposal operations may lead to an un-level playing field. For instance, hazardous flue-gas treatment residues from energy recovery of municipal solid waste are exported in Germany to be "recovered" according to the German law in disuse salt mines. There is no legal possibility to oppose these transfers because the French treatment installations of hazardous waste are considered to perform a disposal operation. Furthermore, overcapacities for incineration in some Member States can also create an un-level playing field and distort the waste treatment market in Europe.

The market for infrastructure construction, equipment manufacturing and consultancy services is not distorted because they are local markets with transparent conditions.

The European secondary raw material market can be distorted because of low commodity and energy prices. For the manufacturing industry, material reincorporation is only interesting from an economic point of view when the raw material prices are sufficiently high to make the reincorporation of recycled materials competitive. Indeed, waste recycling induces higher costs than the extraction and preparation of raw materials because of the associated costs needed to supply "secondary raw materials" to the industry: collection, sorting, depollution, preparation and processing. Low energy prices and unconventional fuels have a special impact of plastic because they reduce the price of virgin resins in competition with recycled materials.

Some streams are also subject to theft at civic amenities or in the streets before collection (WEEE and metals). Payment in cash can also create a disadvantage for some companies operating in Europe (ELV and scrap metals). These payments can lead to a fiscal advantage for companies subtracting themselves from taxation compared to the others. Such payments are forbidden in France but remain a common practice in other countries. Finally, shipment of waste under a re-use label (WEEE and second-hand vehicles) can create a distortion of competition because some waste are leaving the EU to be "treated" outside the EU market.

- When considering the definition above, which aspect(s) of the national, regional or local waste and materials policy do you see as hindering a sound waste market, if any?

The lack of harmonisation is the main policy problem hindering a sound waste market. For instance, national end-of-waste regulations can lead to uncertainties for waste operators and reduce their ability to exchange on best practices between their different entities. The lack of common definitions, reporting methodologies and the many different ways to report toward the recycling objectives hinder a sound waste market.

- Is this aspect linked to a piece of legislation, administration or other policy? If so, is this EU policy or national/regional/local policy?

The article 6§4 of the Waste Framework Directive does not provide sufficient ground for the Commission to oppose a national EoW because it remains under the notification status (directive 98/34/EC) only. The regulation on waste statistics does not provide sufficient ground to have a harmonised statistical methodology in Europe in order to draw comparisons between the performance of the different Member States.

The problem of over-capacities and the so-called "recovery" of waste in disuse mines are linked to national policies. More planning and information sharing at EU level could help avoid over-capacities in the future. There is a need to have a soft policy instrument such as a roadmap in order to map the existing treatment infrastructures and to plan the new or renovated ones. This will help to define the level of investment needed.

The distortion on the secondary raw materials market is not caused by a policy but by the absence of it. There is no roadmap to increase reincorporation of recycled materials in manufacturing processes. Furthermore, there are no pull-measures or incentives in this domain (price guarantees, insurance systems, harmonised Green Public Procurement Criteria or guidelines related to circular economy, modulation of the fees paid by waste producers in EPR schemes according to eco-design criteria...).

The VAT regimes are national policies but waste management remains a service of general economic interest. Reduced VAT regimes should be granted to materials with a high percentage of recycled materials. However, because it is a national regime, it is often difficult for companies to foresee where to implement the necessary infrastructures for collection, sorting, depolluting and material preparation as well as being closed to an enabling industrial environment for these activities. The lack of transparency of certain EPR procurement processes can create distortions and a high level of competition between operators. Operational EPR systems can distort the concurrence between waste producers and waste operators.

- Does this distortion lead to less recycling or recovery, less waste prevention, more environmental impact, more transport, less resource efficiency, something else?

Yes, these distortions can be costly for citizens, companies and administrations. The can create a bad allocation of financial resources and less economic visibility for waste operators.

- Does this aspect lead to the distortion of a level playing field and a free market?

Yes but as it was explain in the introduction, the waste market is not a free market based on offer and demand.

- How are you aware of this market distortion/these obstacles? E.g. reported by members of your organisation, as complaints reported to the authority, from literature, from own market analysis, opinion ...

It is reported by the members of our organisation, literature, own market analysis and members' opinions.

- Have you taken actions to reduce the impact of this (or any other) market distortion? E.g. select or avoid certain markets or Member States.

FNADE (French FEAD member association) explains and presents the EU market distortions to fellow federations and colleagues. At national level, we present and explain to our authorities the national and regional problems. FNADE draws comparison between France and other EU members.

THE NETHERLANDS

1. Further reducing landfill by introducing landfill bans for recyclables & promoting landfill taxes (first and prerequisite step towards circular economy and can be linked to Junckers Growth Agenda);
2. Enforcement of existing waste legislation. To date, waste law is poorly enforced in Europe (imperfect climate for investment), creating momentum to still dump MSW in uncontrolled landfill sites across and outside the EU. The EC should draft a priority implementation plan to ensure full implementation of existing law and report biannually to the EP and Council;
3. Economic viable and output driven recycling (focus on quality, establishment of EOW criteria, calculation on output basis, promote sec. raw material markets more effectively/ pp);
4. Facilitate the development of cross-border EU waste markets (import/export) to allocate capital in the best possible way;
5. Lift unnecessary administrative burdens in the WSR if possible, e.g. take away objection 12.b to waste shipments for recovery as this is too broad and could be misused from a point of view of economic nationalism. Other objections cover more specific and realistic concerns;
 - hazardous waste from NL can and is exported to DE/BE because the NL government made the assessment time ago that in those countries equivalent treatment infra is available, thereby benefiting from adequate price settings and removing market inefficiencies.
 - at the same time the shipment of non-hazardous residual waste for energy recovery is still hampered in Europe (e.g. the Dutch borders are open but closed in BE thereby maintaining inefficiencies in the markets)
6. Establish the EU link between waste hierarchy targets with renewable energy targets and ensure productive flexibility for member states (relieve tension between the both)
7. Recognition of WtE as valuable element in the clean circular economy and allow treatment of non-recyclable (technical + economical) flows. Recognition of the full role it is playing and considering in a transparent manner the repercussion (environment and health) if this option would be stopped immediately without a back-up plan
8. Count clean WtE granulate from incinerator bottom ash as part of a recycling performance target (please see our Green deal on bottom ash, if this material is cleaned to that extent it should be counted towards recycling under new/existing legislation. Maybe legislation has to be adjusted).
9. Perception in public opinion on the role of WtE is sometimes biased and creates momentum for simplistic policies, like a cap on residual waste for WtE in Europe. Focus of the EU should be on steering waste towards recycling and recovery (in balance with energy and raw material targets keeping in mind national needs on raw materials and energy security) rather than fighting a technique without explaining what the techniques is about and does for society as a whole.

- Point 7 and 9 count to a large extent also for landfilling as landfilling as treatment techniques remains also important for the wastes which can only be landfilled and as option of last resort (e.g. in case of calamities etc.).
- Maybe some more on WSR in practise and market disruptions because of different interpretations on standards within EU countries.

NORWAY

Do you think the waste market within the EU is distorted? In other words, do you think that there are any obstacles to the efficient functioning of waste markets within the EU, e.g. problems for companies to establish and carry out recycling and recovery operations?

- Yes, there are obstacles. The most problematic issue is the several municipalities award exclusive rights to their own waste management companies. This means that private companies are excluded from the competition of contracts, even if they can offer better and more efficient solutions. In addition, several public waste management companies owned by the municipalities, operate in commercial markets, at the same time as they are enjoying exclusive rights as part of the municipal monopoly on household waste. The combination of exclusive rights and commercial activity provides municipal waste management companies with competitive advantages and cause a distorted market.

When considering the definition above, which aspect(s) of the national, regional or local waste and materials policy do you see as hindering a sound waste market, if any?

- Nationally, the Norwegian Pollution Control Act § 29, is problematic, as this § is used as justification for awarding exclusive rights on treatment of household waste. In Norway, municipalities are allowed to award exclusive rights on collection and treatment of waste. This differ from in-house collection/treatment of waste, as the Teckal criteria do not apply. This means that commercial activities can amount to more than 20 % of the total turnover in municipal companies, which also enjoy monopoly on household waste.
- Locally, on municipal level, it is problematic that collection/treatment of household waste is not put on public tender, but awarded directly to waste management companies owned by the municipalities. Direct award of contracts is hindering a sound waste market.

Is this aspect linked to a piece of legislation, administration or other policy? If so, is this EU policy or national/regional/local policy?

- Linked to the Norwegian Pollution Control Act (National) and public procurement regulations (EU). Also linked to policy and political decisions in different municipalities.

Does this distortion lead to less recycling or recovery, less waste prevention, more environmental impact, more transport, less resource efficiency, something else?

- Yes, we believe that this distortion leads to less recycling and more incineration. The reason is that many municipal incineration plants are built with significant overcapacity. Up to 70 % of the capacity in these municipal incineration plants needs to be filled with commercial waste. The incineration overcapacity leads to low

prices in the commercial incineration market, which makes sorting of waste/recycling a less competitive alternative.

Does this aspect lead to the distortion of a level playing field and a free market?

- Yes

How are you aware of this market distortion/these obstacles? E.g. reported by members of your organisation, as complaints reported to the authority, from literature, from own market analysis, opinion ...

- Through reports from members of our organisation, complaints reported to the authority, literature, etc.

Have you taken actions to reduce the impact of this (or any other) market distortion? E.g. select or avoid certain markets or Member States.

- The EFTA Surveillance Authority has handled two cases relevant to the Norwegian recycling industry over the past years. In case 68457, the Authority concluded that exclusive rights to collection/treatment of household waste awarded from municipalities to their own waste management companies was legal according to EU-law. In case 69911, the Authority concluded that the allocation of fixed costs in municipal waste management companies could constitute illegal state aid. Because of this, the national regulation on the calculation of the municipal waste collection fee was revised.
- In the past, we have lodged appeals against illegal awarding of waste management contracts to the Norwegian Complaints Board for Public Procurement (KOFA). This was more common in the past. As of July 1 2012, (KOFA) no longer has the authority to impose fines, except for contracts entered into prior to this date. In addition, the complaint fee at the Complaints Board is raised to approx. 1000 Euros. In cases regarding infringements of the law on public procurement or associated regulations the Complaint's Board gives advisory opinions, i.e. decisions not enforceable by law. Taking municipalities to court is often considered too resource demanding for private actors.

SWEDEN

Do you think the waste market within the EU is distorted? In other words, do you think that there are any obstacles to the efficient functioning of waste markets within the EU, e.g. problems for companies to establish and carry out recycling and recovery operations?

Yes, the waste market is highly distorted. The main obstacles are the following:

This response is focussing on Sweden.

- A huge over capacity on waste incineration, mainly built by the municipalities, is a hinder for material recycling and reaching high goals. Not only for household waste but also commercial waste, when it is cheaper to incinerate. Municipalities have two monopolies; household waste and district heating and there is no transparency in the price setting.
- Municipalities award contracts for the household waste to their own municipality companies, which are at the same time having a significant part of their business on the commercial market. They thereby don't fulfil the Teckal criteria in the Public

Procurement Directive. The private sector has made a complaint to EU, which is now in the infringement process.

- The direct awarding is especially common for waste treatment, where municipalities build their own treatment plants, very often waste incineration plants. These plants have a large overcapacity, which is used on the commercial market. Some municipalities also build biogas plants with over capacities based on their monopoly services for food waste.
- The municipality companies offer waste management services on the commercial market for all type of different industrial branches competing with the private sector, and using the overcapacity investments without transparent and separate accounting (and as described above having direct awarded contracts for the household waste)
- Municipalities have responsibility for the waste in the commercial sector that is similar to household waste. Each municipality can define what they regard as similar waste and it can be changed e.g. when a municipality wants to set up their own business for biogas production. Then they can claim that they own all food waste from the shops in the municipality. This despite that there has been a court case in another municipality where they have lost the case, it should not be regarded as similar waste. Uncertainty what is similar waste leads to a lot of distortion on the market.
- Municipality companies are the only one that can offer total waste management services to companies and industries, which the private sector cannot do. The private sector can only offer waste management services for the waste that is not similar waste.
- In practise the company customers should have two waste bins: one for similar waste and one for commercial waste. When the authority part of the municipality perform the regulatory supervision they only visit the private sector and don't demand the municipality two have separate bins.
- The "authority" part of the municipality favours often their own company. They make waste management plans that are sometimes the same as an action plan for the municipality company (in fact the plan is made by the company). This means that the plan does not contain anything about the private sectors' possibilities to fulfil the goals. The municipalities also "market" their own company during regulatory supervisions and on the website.

When considering the definition above, which aspect(s) of the national, regional or local waste and materials policy do you see as hindering a sound waste market, if any?

- **Lack of economic instruments** for material recycling to avoid waste incineration of material that be recyclable
- **All competitive advantages that the municipality companies have on the commercial waste market and lack of control of and separate accounting of their monopoly and commercial services.**
- **Similar waste causes a lot problems** (see above) and the risk that the definition will be broadened if the term Municipal waste is used for the goals. Can lead to increased municipality responsibility. **Avoid using the term Municipal waste, use a neutral term.**
- **The mixing of the two roles that municipalities have – as an authority and performer on the market.** They must be separated. Goal and purpose of the waste management plans must be adapted to a circular economy and include all actors on the market.

- **Lack of tendering** of waste management, especially treatment.
- **Public Procurement Directive need to be more strict** so the municipalities cannot circumvent the law as today, by establish one company for service for their owners (= the municipality) and one company for commercial services.

Is this aspect linked to a piece of legislation, administration or other policy? If so, is this EU policy or national/regional/local policy?

- **EU should introduce incentives for the commercial and industrial waste, to be recycled and not incinerated.** Examples could be a ban on incinerating unsorted waste. It must be sorted first. If not it should be set on national level.
- **The EU Waste package must be developed so it is more market oriented and promote innovative solutions.** For those countries that are still landfilling the majority of the waste other solutions like setting up a regulatory framework should be stimulated.
- **How the Teckal criteria in the Public Procurement Directive should be interpreted should handled on EU level.** See the Swedish complaint. There should be clear rules to have separate accounting and auditing in connection to the Teckal criteria.
- **There should be a EU requirement that all waste management should tendered**
- Some of the problems above can be solved on national level

Does this distortion lead to less recycling or recovery, less waste prevention, more environmental impact, more transport, less resource efficiency, something else?

- Over capacity of waste incineration – Leads to less recycling
- Municipalities sell waste management services on the commercial market – often the need waste fuel to their waste incineration plants – risks for less recycling
- Municipal monopoly of similar waste – Leads to less recycling. The customers can not choose solution, only the municipality can decide. Many companies with a sustainability profile in Sweden are ahead of the municipalities. They feel the municipalities are stopping them. Solutions from the private companies are stopped by the municipalities, even when the customers, e g shops wants to have them.
- Lack of public procurement of waste management, especially treatment – Leads to less recycling, since the private sector is not allowed to propose any solutions. SRI members recycled 50 % which is much more than the municipalities do.

Does this aspect lead to the distortion of a level playing field and a free market?

- The main distortion on the market is that there is not a level playing field and a free market. Far too much “energy” goes to argumentation and processes about responsibilities than to reach material recycling.
- See all examples above about level playing field.

How are you aware of this market distortion/these obstacles? E.g. reported by members of your organisation, as complaints reported to the authority, from literature, from own market analysis, opinion ...

- We work very close with our members so all examples of distortions come from them. We have even more to report.

Have you taken actions to reduce the impact of this (or any other) market distortion? E.g. select or avoid certain markets or Member States.

- Yes, an EU complaint mentioned above, number 2014/4183
- Several complaints and court cases in Sweden. The municipalities do not follow court decisions.
- Many proposals to the government, both former and the new to open up markets and introduce economic instruments to recycle more
- Fewer private companies are offering services in public tenders for collection of waste due to the way they are tendered; very often only a transport services of waste with more penalties than "carrots" and no innovation or development in the contracts. SRI are working on changing this with the Swedish Association of Local Authorities and Regions.

Other matters:

The local regulation for export of waste between the member states has an influence too.

The waste market is also very local and national still which has an influence on the possibilities to set up businesses in other member countries with similar solutions as in the home market.

AUSTRIA

Do you think the waste market within the EU is distorted? In other words, do you think that there are any obstacles to the efficient functioning of waste markets within the EU, e.g. problems for companies to establish and carry out recycling and recovery operations?

Yes, the waste market is distorted.

When considering the definition above, which aspect(s) of the national, regional or local waste and materials policy do you see as hindering a sound waste market, if any?

One of the main problems is the fact that there is no differentiation between incineration, RDF and material recycling. All of them count (at least in Austria) as recycling. Therefore Austria reaches on paper a very high recycling percentage which in reality is mainly driven by incineration. By reaching the recycling targets through this twist there is no additional ambition for higher value recycling such as RDF or material recycling.

Is this aspect linked to a piece of legislation, administration or other policy? If so, is this EU policy or national/regional/local policy?

It is on national level.

Does this distortion lead to less recycling or recovery, less waste prevention, more environmental impact, more transport, less resource efficiency, something else?

It leads to less recycling and recovery, especially in the bigger cities.

Does this aspect lead to the distortion of a level playing field and a free market?

How are you aware of this market distortion/these obstacles? E.g. reported by members of your organisation, as complaints reported to the authority, from literature, from own market analysis, opinion ...

Own market analysis.

Have you taken actions to reduce the impact of this (or any other) market distortion? E.g. select or avoid certain markets or Member States.

Yes, we avoid the bigger cities.

SLOVAKIA

Current Slovakian Act on Waste is valid from 2001 and has been many times amended. That's why Slovakian government started to prepare a new Act on Waste. During these days the National Council of Slovak republic approved the draft of the new Act on Waste. Now it is on our president to sign it.

The work on the draft took more than 2 years. Unfortunately, many economic operators are not satisfied with the wording of the draft and they are of the opinion that the draft can lead to the distortion of the waste market in Slovakia, especially by distortion of level playing field and possibility of creation a monopoly conditions in the field of EPR (what will lead to a creation of barriers to entry the market) and building a strong position of PROs (PRO can influence the relationship between municipality and collection company – PRO can manipulate the selection of collection company). In their opinion, the draft doesn't respect the current businesses in waste management, does not support and develop the possibilities of collection, recycling and recovery of waste and can lead to a collapse of waste management in Slovakia. It can also result in higher cost for consumers (because of no competitive environment).

We are aware that if the draft is adopted like this it will cause an infringement process against Slovakia from the EU side.

If you need any further information, please feel free to contact Michal Sebíň, NATUR-PACK, a.s. sebin@naturpack.sk .

FINLAND

Do you think the waste market within the EU is distorted? In other words, do you think that there are any obstacles to the efficient functioning of waste markets within the EU, e.g. problems for companies to establish and carry out recycling and recovery operations?

- Yes. Municipalities and communally owned waste management companies have privileges written in the Finnish Waste Act such as household waste, waste from the public service sector, waste of the social and welfare sector (both private and public) and waste from the education sector (private and public). Producer responsibility (EPR) of the packaging waste and paper also hinders the functioning of free markets.

In Finland, the national waste legislation grants wide monopoly right to household and similar waste for municipalities. Municipalities in turn, have organized their responsibilities through municipal waste management companies. These companies have binding contracts for the next 15-25 years for supplying waste to municipal energy companies. Therefore, for that time period all unsorted household waste and similar waste from other sectors is bound to waste incineration. Municipal waste management companies do not have an incentive to sort mixed waste, as they face

higher expenses, if they do not fulfil the quota of waste to be supplied on a yearly basis (this is set out in the binding contracts).

The monopoly rights, as well as the long term contracts, hinder the private sector to carry out recycling and recovery operations.

A curiosity in the Finnish waste legislation is a statute saying that municipalities have a secondary right to collect and manage waste from the private sector, i.e. waste that is not under their exclusive monopoly right. The justification for the statute was a doubt that the private waste management sector could and would be willing to collect and handle waste from all private companies, especially given the long distances the sparsely populated country. Services provided based on this statute are not counted as market operations, i.e. they do not eat up the in-house percentage (Teckal criteria). In practise, this statute is now being widely used by the municipal waste management companies. They actively market their services and claim that these services are statutory, i.e. not market operations.

When considering the definition above, which aspect(s) of the national, regional or local waste and materials policy do you see as hindering a sound waste market, if any?

- Exclusive and secondary rights.
- Mainly the distortions are national, written in the Finnish Waste Act and thus giving the privilege of the above mentioned waste to the communally owned waste companies.
- Regional distortions are present in the regions that have chosen to submit the waste collection to the municipality as so called "waste management organized by municipality".

Is this aspect linked to a piece of legislation, administration or other policy? If so, is this EU policy or national/regional/local policy?

- National waste law grants these exclusive and secondary rights.
- Mainly these are not EU policy originated but these distortions are written in the national Waste Act and waste legislation which enable regional and local procedures. Regional and local procedures are due to the alignments of the municipally owned waste management companies who operate under the authorization of the local waste management authorities and the Finnish Waste Act.

Does this distortion lead to less recycling or recovery, less waste prevention, more environmental impact, more transport, less resource efficiency, something else?

- Static recycling rate in Finland for the past ten years
- Lost customers from the private sector
- Less eagerness to invest an innovate
- Distortions lead to lower recycling rate which can be seen in the national waste statistics as a static recycling rate. Recycling rate is especially affected by the growth of the waste incineration capacity which already exceeds greatly the national and EU target for waste incineration rate. Resource efficiency is also greatly affected by this development. Incineration plants are owned by the municipalities and their waste management companies.

Does this aspect lead to the distortion of a level playing field and a free market?

- Given the monopoly rights, there is no level playing field.
- The monopoly rights also allow for cross subsidization & other competition neutrality issues.
- Level playing field and free market are heavily distorted. Municipalities have control of collection and treatment of household waste, waste from public entities and waste from social and healthcare premises. In addition municipalities have privileges in EPR of packaging waste. It's difficult for private sector to get access to waste handled by municipal monopolies which means less innovation and investments in recycling.

How are you aware of this market distortion/these obstacles? E.g. reported by members of your organisation, as complaints reported to the authority, from literature, from own market analysis, opinion ...

- Reported by members,
- National waste statistics,
- Complaints the competition authority; positions of the competition authority
- A study carried out by the Ministry of the Environment (a review on the effects of the waste legislation, in Finnish)
- We – our company – have seen and felt the development during some 50 years in business. Of course we handle distortions in our industry association YTP like we hear from them from our colleague companies.

Have you taken actions to reduce the impact of this (or any other) market distortion? E.g. select or avoid certain markets or Member States.

- We have tried to influence into national legislation and its implementation. Our services are offered selectively according to market situation meaning often that we avoid those markets where the role of municipalities in waste management is big.
- Finland with its relatively small waste amounts is somewhat secluded in the European waste market. Therefore our main problems are domestic at the moment. These are being tackled by trying to change the existing (yet new) waste law. This is however a cumbersome process, especially given that within the last update (2012) municipalities' monopoly rights were widened.

BELGIUM

Do you think the waste market within the EU is distorted? In other words, do you think that there are any obstacles to the efficient functioning of waste markets within the EU, e.g. problems for companies to establish and carry out recycling and recovery operations?

Yes, due to several take back systems covering producer's responsibility. Those systems are market players and market dividers at the same time!
We also see that some countries protect their own recycling business (giving them funding, less control ...).

When considering the definition above, which aspect(s) of the national, regional or local waste and materials policy do you see as hindering a sound waste market, if any?

Producer's responsibility.

Is this aspect linked to a piece of legislation, administration or other policy? If so, is this EU policy or national/regional/local policy?

Yes, EU and regional.

Does this distortion lead to less recycling or recovery, less waste prevention, more environmental impact, more transport, less resource efficiency, something else?

All of that due to malfunctioning market

Does this aspect lead to the distortion of a level playing field and a free market?

Yes.

How are you aware of this market distortion/these obstacles? E.g. reported by members of your organisation, as complaints reported to the authority, from literature, from own market analysis, opinion ...

Reported by members.

Have you taken actions to reduce the impact of this (or any other) market distortion? E.g. select or avoid certain markets or Member States.

We have talked about it with the regional authorities.

9.1.7 Interview Municipal Waste Europe

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: MWE (Municipal Waste Europe)

Contact person: Vanya Veras

Date: 16/03/2015

Place: Office MWE, Brussels, Belgium

Interviewer: Linde Raport, ARCADIS Belgium

6. Identification of the stakeholder organisation

Municipal Waste Europe is the European association representing municipalities responsible for waste management and their publicly owned waste management companies, promoting public responsibility for waste management as a service of general interest. The members are national public waste associations and similar national or regional associations. Members of Municipal Waste Europe serve over 60% of the national population.

7. Identification of the perceived key market distortion(s)

Some overall thoughts:

- Overall, waste will always flow to the cheapest solution. Proper legislation is necessary to primarily ensure safety and health en to protect the environment. Secondary, harmonisation is important to ensure the efficient functioning of the waste market.
- The more waste is mixed, the more complex the situation gets: it is more difficult to control, the waste treatment costs increase significantly and the risks for market distortions increase correspondingly.
- Prevention should not be included in the waste directive: once there is waste, prevention is already too late.

Following barriers and key market distortions were identified during the interview and immediately divided into the four main waste market distortion types.

Lack of harmonisation of waste management requirements through EU legislation

Lack of clear and complete definitions

- Distortion: There remains room for interpretation for several definitions, for example: municipal waste (is this with or without similar commercial waste?); recyclable (what is the definition of recyclable?); what is the definition of 'recycled'?
- Unclear definitions make it impossible to have comparable statistics on European level on the waste produced and recycled, on recycling rates, on landfill reduction, or to have effective enforcement, or to have a level playing field ...

- Suggestion: To get to the efficient functioning of a waste market, it is necessary to properly frame the waste market and waste movements, starting with proper definitions. It is suggested to clearly define the concepts and group all of the waste related definitions in the Waste Framework Directive, instead of being spread all over different directives and regulations.

Lack of harmonised calculation methods

- Distortion: For example, the calculation of the recycling rates included in the circular economy package: which figures do we need (right after the sorting plant, right before the recycling plant,...)? At the moment, Member States can still choose between several methods.
- Suggestion: harmonise the calculation method, as proposed in the former circular economy package.

Lack of attention for industrial waste in the Waste Directives

- Distortion: The WFD mainly focuses on municipal waste while industrial waste forms the biggest part (in Flanders only up to 90% of the total waste) and asks for more transparency of reported figures, more monitoring, so better waste management planning might occur. Distortions are that different rules exist between both waste fractions (existing collection and recycling targets,...).

Lack of proper implementation of waste legislation

- Distortion: Since the Waste Framework Directive is only a directive, there is a lot of room for interpretation and for differences on national and regional levels.

Divergent national and regional strategies for introducing EPR-schemes

- Distortion: Since there is no general framework or a set of rules for the implementation of EPR schemes, all 28 member states have a different system of organising EPR for different waste fractions, but very few work appropriately.
- Suggestion: it would be a good idea to introduce a set of 'minimal requirements' for a PRO. (for example: % of the fees going to communication/awareness campaigns, PRO is responsible for collection of ALL its waste, PRO is responsible for treatment of ALL its waste (incl. residual fraction),...).

Lack of uniform implementation or application of EU waste legislation

Permitting problems

- Distortion: There are no clear rules on the European level on where, how many and how treatment facilities need to be planned. Some regions are very sensitive for NIMBY issues and permitting processes run very difficult, resulting in under capacity in terms of treatment capacity, and thus a lack of proper implementation of the waste management requirements on a local level.
- Examples/case studies: Italy (Naples)

Divergent policy and legal requirements at national, regional and local levels

Differences in taxation

- Distortion: Differences in landfill taxes, incineration taxes, etc.
- Examples/case studies: The Netherlands (higher incineration taxes for Dutch waste than for imported waste).
- Suggestion: None, national and regional taxation is not possible to be harmonised at the European level.

Municipal waste management as a service of general interest or not

- Distortion: In terms of municipal waste, differences exist between Member States in the role that municipalities can play in the waste management systems. In most Member States, municipal waste management is considered as a service of general interest. Local or regional authorities are responsible for prevention, collection and treatment of municipal waste (in many cases with help of subcontractors). In some member states it is not the case and municipal waste management is considered as a free market commodity, resulting in cherry picking of the most valuable waste fractions, and in gaps in the collection coverage (e.g. Ireland, some Eastern European Member States...).
- Examples/case studies: Poland, Estonia
- Suggestion: request Member States to comply with minimum conditions, like full collection coverage, a degree of source separated collection, maximum costs

Differences resulting from the new Renewable Energy Directive

- Distortion: The Renewable Energy Directive also considers energy from waste (incineration, Anaerobic digestion,...) and taxation and subsidies related to it. Differences between member states might also occur at this stage in the near future.

Further problems identified associated with municipal solid waste:

- Rules on the shipment of some sort of wastes (for example hazardous waste) need to be tightened.
- A more stable and reliable WFD would result in a more stable investment climate for waste treatment infrastructure.
- A lack of transparency of reported figures might hinder the further development of waste treatment infrastructure, due to the impossibility of good planning how many waste will be produced, etc.

Municipal Waste Europe input to the Commission Study on the efficient functioning of waste markets in the EU - Legislative and Policy options –

The Association

Municipal Waste Europe is the European association representing municipalities responsible for waste management and their publicly owned waste management companies, promoting public responsibility for waste management as a service of general interest.

There are currently 18 members, which are national public waste associations and similar national or regional associations. They are committed to sustainable waste management that minimises the impact on the environment and promotes resource efficiency, taking into account local conditions. Municipal Waste Europe promotes the interests of its members at European level, through a joint position towards the EU institutions, and keeps its members informed on the latest EU policy developments. The association encourages the sharing of information among the members and the exchange of good practices in the local management of waste.

Waste management service is a crucial aspect of the social responsibility for the environment and public health in Europe. This service, including collection and treatment systems, is best developed at national, regional and local level. Municipal Waste Europe promotes waste management as a service of general interest and believes that public sector participation on the market is crucial to ensure competition and diversity of operators.

Members of Municipal Waste Europe serve over 60% of the national population.

Municipal Waste Europe objective is to guarantee that local authorities responsible for waste are free to choose their organizational and financial structure.

Background

Environmental protection

EU waste legislation is based on environmental protection (article 191 of the Treaty on the functioning of the European Union). This means that the aspect of environmental protection is the focus of this legislation and not commercial mechanisms such as the functioning of the internal market.

Requirement for legislation

Waste is a residue (a product) of the functioning of modern societies. It is not a commodity which is comparable to consumer products. If not addressed correctly, waste causes negative impacts on mankind (health and hygiene) and nature (environmental pollution). Thereby the application of a "market" concept for waste management is not appropriate.

There have been bad examples in several EU Member States, in which, on joining the EU, the decision was taken not to organise the management of municipal waste through public bodies, as a Service of General Interest, but to allow the private sector to manage it directly. This decision however, resulted in no waste management services being provided to citizens which were hard to reach or did not have much valuable material to recycle, which resulted in illegal dumping and environmental pollution. The companies focused their waste management services on production companies which could provide them with 'easy material' which did not need a great deal of pre-treatment before sale and cherry-picked the interesting materials from densely populated urban areas. Such examples of bad practice have not been restricted to new members such as Poland and Hungary but also happened in countries with an excellent waste management record such as Austria. There, there have been several cases over the last 20 years of private companies taking the valuable materials in the waste, leaving the residues on an industrial site and

disappearing. The Austrian public authorities, through their responsibility to public health and safety, had to sanitise these sites at public cost. Learnings from this are that: The public sector always carries responsibility for private sector failure in waste management. Waste management is a Service of General Interest and a public responsibility precisely for this reason, so that waste management planning and financing can be correctly coordinated. Once coordinated, the execution of the services can be outsourced to private entities. In this way, the public entity can ensure that the service is being correctly provided.

Without regulation and planning, waste will always flow to the cheapest solution. Proper legislation is necessary primarily to ensure the health and safety of citizens and to protect the environment.

The Market

In the current efforts to organise waste management in such a way as to optimise the recovery of materials and energy from the waste stream and so to create a circular economy, harmonisation in the way in which European legislation is implemented in Member States is important. Such harmonisation will ensure that systems and statistics can be compared at EU level, which in turn will stabilise the market for investments in new technologies and ensure the efficient functioning of the waste market.

In terms of legislative provisions which guide the market:

1. The more waste is mixed, the more complex the situation becomes:
 - a) The waste is harder to control
 - b) Waste treatment costs increase significantly
 - c) The risks for market distortions increase correspondingly
2. Clear, structured rules on Extended Producer Responsibility which set out the responsibilities of each party in the collection and treatment of waste streams which come under these obligations, will ensure that:
 - a) Separate collection is properly funded
 - b) Clean, regular quantities and qualities of recyclables are collected from the waste stream
 - c) A reliable source of recovered materials can be developed, stabilising the market for recycling and energy recovery
3. Prevention should clearly include design for recycling, eco-design and steps to disallow design for obsolescence. Prevention should therefore be both in product legislation and in waste legislation.
 - a) In terms of market impact, such provisions will ensure a cleaner, more easily re-usable and recyclable waste stream which provides a steady source of recovered materials for the market

Service of General Interest

For the reasons cited above, municipal waste management is a Service of General Interest (SGI).

Implementing the principle of subsidiarity, (article 16 of the Waste Framework Directive, WFD) waste management is the responsibility of local and regional authorities. Many European countries have assigned the responsibility for organising the collection and treatment of municipal waste by law to their local authorities. This confirms the nature of this service as a service of general interest. There is a clear logic behind this approach. Municipal waste management cannot be considered to be a regular commercial activity because there are multiple holders of municipal waste (multiple households/commercial units/industrial units) and therefore a dispersed waste stream which needs to be organised to be collected in such a way as to respond

to legal requirements. The municipality is the only recognisable body which can be responsible for its citizens' waste:

- The goal of municipal waste management is a mission of general interest: protection of human health and environment; if not handled with the necessary care, it causes serious impacts that result in the pollution of the environment and eventually the cost of the clean-up must be born by the public (the citizen)
- The continuity and quality of the service is a necessity as citizens are obliged to use it;
- All citizens should have equal access to a reasonable service for the management of their waste, so the service must cover the whole geographical area of a municipality, region or state;
- In case of the failure of a collection system, it is impossible for the local authorities not to address it;
- Municipal waste management is a collective service, under the control of public authorities;
- The nature and method of organisation of the service is often decided in the form of local regulations;
- Municipal waste management is mostly financed by local charges or taxes;
- Fees paid by the private sector for services provided by municipalities for municipal waste management do not cover costs in most cases, such as through current EPR schemes
- An essential part of sustainable municipal waste management is to engage the public through promotion and consultation towards prevention of waste generation
- Several aspects of municipal waste management are in themselves not economically viable but must be carried out for the reasons of health and environmental protection as cited above

Waste treatment is regulated

Based on the WFD and the other waste Directives, Regulations and other provisions, the EU establishes the common basis for waste treatment within the EU. Further to that, Member States establish national, regional and local requirements for waste treatment as well as deciding the division of responsibilities for different waste streams (e.g. household waste and waste similar to household waste from other sources, waste under producer responsibility and other waste which does not come under either of those categories).

This means that there is only a free market for certain waste streams (waste not falling under municipal responsibility or producer responsibility) but even this waste is regulated since there are requirements on how this waste should be treated and regulating its shipment which can only occur under conditions set in the EU Regulation 1013/2006/EC on Shipments of Waste.

Household waste falls under the responsibility of municipalities in the EU Member States. Each Member State

further defines the responsibilities of its municipalities when it comes to household waste. Furthermore each Member States defines producer responsibilities and/or municipalities when it comes to the extended producer responsibility (EPR).

As part of its responsibility to carry out this Service of General Interest, a municipality must decide whether it should implement its responsibility for household waste in-house (this can be directly by the municipality, by its public company or by an inter-municipal public company when two or more municipalities cooperate), or outsource the service to an external operator through a public procurement procedure.

1. Identification of the perceived key market distortion(s)

Consultant: In this study we define a market distortion as follows:

Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of prevention, reuse, recycling, recovery, but also resource efficiency and a move towards a circular economy.

General remarks

We find the description of waste treatment in this questionnaire within the EU to be one-sided, not taking account of how it actually functions.

The question of prevention of waste is not solely a waste issue as such, as prevention activities require action before something becomes waste. Prevention of waste is the responsibility for the public as well as for private business and includes each individual citizen. Achieving waste prevention therefore needs organisation, planning and communication.

On the basis of the waste hierarchy, waste treatments consist of the activities of preparation for re-use, material recycling, biological treatment, energy recovery and different forms of disposal activities. The steps preparation for re-use, material recycling, biological treatment and energy recovery are linked to different forms of market demand for different kinds of supply of raw materials (from materials for production to fuels for the generation of heat and electricity).

From the municipal point of view the municipality acts as a provider of the raw materials and energy mentioned, which are the result of its waste treatment activities. The only activity that is not linked to market demand is disposal. This means that the municipality handles the entire process for wastes which are not recovered, from the moment an object or substance is discarded (becomes a waste) until its final disposal. In the stage before the waste treatment there is the transportation of the waste from collection to treatment. The transportation of household waste could be performed by the municipality itself or by a contracted operator after a public procurement procedure.

1.2 Do you think that the waste market within the EU is distorted? In other words, do you think that there are any obstacles to the efficient functioning of waste markets within the EU, e.g. problems for companies to establish and carry out recycling and recovery operations?

The management of municipal waste is a Service of General Interest for the purpose of ensuring its full and correct treatment. It is not a market commodity and therefore this question is not valid. A valid question would be to ask whether the market for recovered materials is distorted, or adequately promoted. As regards the management of non-municipal waste, the biggest problem is that there is a greater and greater tendency for oligopolies to form among private companies. The tendency is that larger but fewer companies act within the waste treatment business, which limits and therefore worsens competition as these companies also bid for municipal waste management contracts.

1.2 When considering the definition above, which aspect(s) of the national, regional or local waste and materials policy do you see as hindering a sound waste market, if any?

Definition reminder:

Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of prevention, reuse, recycling, recovery, but also resource efficiency and a move towards a circular economy.

Waste management planning which does not take into account all collection methods and treatment requirements to respond to resource efficiency goals and legislative targets, leading to the signature of long-term contracts (20 to 30 years) for too great a proportion of the waste generated, are a problem which hinder new companies from offering their services and also hinder the diversification of treatment techniques. That being said, with correct capacity planning, there are some large investments which are necessary and which do need long-term contracts in order to have the possibility to recover their investment.

At national and EU-level, hindrances also include national interpretations of the Directive, prohibiting movements of waste within national and international borders, for example, for sorting for recycling or for energy recovery, where these treatment methods are either not available or there is insufficient capacity locally or nationally.

In the case of Denmark, which has recently adopted higher recycling goals, it is the Shipments of Waste Regulation which is a hindrance both to the market and to achieving a circular economy:

Several municipalities around Copenhagen have started curb-side collection of plastic waste as one mixed plastic fraction (other municipalities collect foil and hard plastics separate). As this is a new goal, Denmark has no sorting facility for this mixed plastic fraction yet. There is a national discussion currently on-going, to decide who will build, where, how many and what type of sorting facilities. To support investment in such facilities, continuity is required from European legislation.

In the meantime, to be made available as materials, the plastics have to be exported for sorting. The municipalities tried to export the mixed household plastics as green waste, but this was not accepted by customs as it is a 'mixed waste' which comes under the Orange shipment procedure.

The municipalities involved had to follow the notification procedure for Orange-list waste, which takes several months to be completed and for which there is an administration fee for each notification. The plastic waste is being exported to a sorting facility in Europe, however the weight of this procedure is a deterrent to other municipalities who would like to begin separate collection of mixed plastics.

The same situation exists with household hazardous waste. The amounts are so small and varied, that the fee for the notification (which has to be notified separately for each hazardous waste type) together with all the man-hours needed to complete a notification, will prevent the recycling of household hazardous waste. In the case of Denmark, it is currently incinerated in Denmark instead. The Danish proposal is to modify the regulation to make it will be possible to include different waste fractions on the same notification as the different hazardous waste fractions often go to the same recycling/treatment facility.

1.3 Is this aspect linked to a piece of legislation, administration or other policy? If so, is this EU policy or national/regional/local policy ?

The answer to this question, with reference to question 1.2 above, is that the market for recovered raw materials and recovered energy sources from the waste stream is hindered by a mix of EU, national and regional policy.

Distortion is also caused by different national interpretations of EU Directives, which can effect the movement of sorted wastes for recovery or the price of treatment or recovered materials amongst others.

1.4 Does this distortion lead to less recycling or recovery, less waste prevention, more environmental impact, more transport, less resource efficiency, something else?

The answer to question 1.3 above answers this question in part. Overall, it is fair to say that lack of harmonisation and coherence between existing pieces of legislation and policies at all levels of governance can and are leading to less resource efficiency. Coherence can lead to investment security. In this light, it is interesting to note that municipalities have invested in many new techniques. Mentioning Sweden as an example, there are several anaerobic digestion plants for the digestion of food waste with the production of biogas and digestate. The biogas is used to fuel the refuse collection vehicles.

One of the main reasons for distortion which leads to less recycling or recovery is the possibility of landfilling in most of the Member States. MWE therefore calls for a medium-term ban on the landfilling of any wastes that can be processed for high-quality material recycling or energy recovery or biological degradation. Such a prohibition on landfilling has to be rigorously enforced in all EU Member States. This approach is the most effective way of promoting prevention, re-use, recycling and recovery. Without landfill ban no recycling developments. A best practice example is Germany. The introduction of a landfill ban for untreated municipal waste in Germany in 2005 triggered a boom in environmentally friendly waste treatment facilities and led to a massive increase in German recycling and recovery rates for municipal waste. These changes brought with them great progress in reducing greenhouse gas emissions. Direct methane emissions prevented over the period from 1990 (the reference year for international greenhouse gas emissions reporting) to 2010 are equivalent to almost 30 million tonnes of carbon dioxide per year in terms of their harmful climate impact. That was a reduction of 70 to 80 per cent, contributing approximately 10 per cent of Germany's overall cut in greenhouse emissions. Moreover, the methane produced in old landfill sites is now extracted as a component of landfill gas and turned into electricity and heat. The ban on landfilling untreated waste was one of the most important milestones in Germany on the road to sustainable municipal waste management and climate change mitigation.

1.5 Does this aspect lead to the distortion of a level playing field and a free market?

Part of the answer to this question can be found above. Any distortion in the 'level playing field' or otherwise said: the same rules being applied to all in order to create an internal market which operates under the same rules, is at Member State level. This is a distortion in the 'free movement of goods and services' because of differences in policy at various levels of governance and is often caused by lack of clear leadership from the EU level. It is not a public/private distortion.

1.6 How are you aware of this market distortion/these obstacles? E.g. reported by members of your organisation as complaints reported to the authority, from literature, from own market analysis, opinion...

We are aware of the information through examples given to us by our members, some of which we include above and information on the functioning/lack of functioning of the market.

1.7 Have you taken actions to reduce the impact of this (or any other) market distortion? E.g. select or avoid certain markets or Member States...

This question does not apply to Municipal Waste Europe

2. Identification of other market distortions

1. Divergent policy and legal requirements at national, regional and local levels

The answer to this question is given above

2. Lack of uniform implementation of application of EU waste legislation

Indeed, lack of uniform implementation of EU waste legislation makes it more difficult to exchange streams of materials for sorting and recycling and for energy recovery from waste.

3. Lack of harmonisation of waste management requirements through EU legislation

Indeed, the existing differences in definitions, minimum requirements, calculation methods for recycling, the lack of clear rules and intentions of the EU legislation when introducing provisions such as EPR in particular, create confusion to Member States and all those with appointed responsibilities under this legislation. In turn, this confusion leads to different interpretations at national level which creates wide differences in implementation hence lack of harmonisation.

4. Obstacles to waste management activities for companies from other Member States Such obstacles would be particularly apparent for small private companies from other Member States active in the same service provision as larger private companies. There are several examples of large private waste management companies which are successfully active in multiple Member States.

3. Possible case studies

The case of Poland would provide an interesting case study on how a fully privatised system for the management of municipal waste failed and now must be replaced by a waste management system under public responsibility.

There are cases in some Member States, such as in Poland, Estonia, Hungary, where public authorities are returning to public investment to provide waste collection services, as the prices of the oligopoly (cartels or mergers formed) in some areas are 30-40% higher than the cost of organising the service through their own means. Public authorities are also taking the decision to manage public funds directly, as private companies are fighting legal battles to prevent the freedom of municipalities and their public waste management companies to decide how they provide waste management services. They want to reduce their flexibility to:

- Fulfil the public responsibility themselves (with own personnel and equipment)
- Organise public cooperation to fulfil the responsibilities (inter-municipal cooperation between public authorities)
- Organise outsourcing of the services through public procurement

4. Geographical distribution

4.1 Are you aware of whether certain Member States perform better or worse than others in terms of market distortions?

We are aware that there are differences between Member States. Other than that mentioned above, there is the issue of different levels of taxation or subsidies which causes shipment of waste to the cheapest treatment method and country. Further distortions occur when a Member State does not have a proper or transparent permitting system which does not allow the development of necessary waste treatment facilities. This affects private and public operators in the same way.

4.2 Do you think there are large differences across the Member States in the way the waste market functions? What are these differences and where do they occur?

The answer to this question is given in several of the above answers.

4.3 Why do you think there are large differences across the Member States in the way the waste market functions?

The answer to this question is given in several of the above answers.

5. Possible actions to reduce market distortions

Following our answers above, the actions will include adaptations to EU legislation to ensure one set of harmonised rules is applicable to all Member States, the recognition of the status of waste streams 'sorted' for recycling, and the setting of clear targets for each of the separate steps of the waste hierarchy. Most importantly, it must be recognised by EU legislation that the management of municipal waste is a public responsibility as it is a Service of General Interest. In addition to this, the polluter pays principle together with the Environmental Liability Directive must be fully and correctly implemented, to avoid free-riders who add to the distortion of the market.

It is self-evident that the management of household and similar waste is a service of general interest. This is because it is imperative that the delivery of waste management services is guaranteed at all times, irrespective of short-term pressures such as an economic downturn, to provide rigorous protection of the environment and human health and to recover the energy and secondary raw materials contained in the waste. These are services whose continuity can only be guaranteed by local authorities.

The Member States must therefore have the right to assign municipal waste management services to public bodies as a statutory obligation and, in this way, provide citizens with a permanent and reliable service that is unaffected by market fluctuations. European contract law grants Member States discretionary powers to determine which services are services of general economic interest.

A clear classification of municipal waste management as a service of general economic interest would help to reduce market distortions. Local authorities must have the right to assume full responsibility for municipal waste management and to make in-house contract awards. Municipal waste management responsibility must also extend to high-value recyclables, since only by including this revenue stream can waste disposal be performed under conditions of economic stability. This means that municipal bodies responsible for waste management have the right to internally offset their unprofitable against their profitable waste management activities so that waste management services can be provided to the public at a socially acceptable cost, which can be reduced when revenues are high. It is crucial to prevent 'cherry picking' by private companies who, depending on market prices, will only offer a service if their earnings from recyclables are high. This economic balance can be achieved through the use of a transparent and fair Extended Producer Responsibility mechanism.

Appendix : Some Issues and suggestions

Lack of harmonisation of waste management requirements in EU legislation creates market distortions as well as distortions in implementation between Member States. Below is a list of key causes of distortions and their explanation:

Lack of clear and complete definitions

- Distortion: There remains room for interpretation for several definitions, for example: municipal waste (is this with or without similar commercial waste?); recyclable (what is the definition of recyclable?); what is the definition of 'recycled'?
- Unclear definitions make it impossible to have comparable statistics on European level on the waste produced and recycled, on recycling rates, on landfill reduction, or to have effective enforcement, or to have a level playing field ...
- Suggestion: To get to the efficient functioning of a waste market, it is necessary to properly frame the waste market and waste movements, starting with proper definitions. It is suggested to clearly define the concepts and group all of the waste related definitions in the Waste Framework Directive, instead of being spread all over different directives and regulations.

Lack of harmonised calculation methods

- Distortion: For example, the calculation of the recycling rates included in the circular economy package: which figures do we need (right after the sorting plant, right before the recycling plant,..)? At the moment, Member States can still chose between several methods.
- Suggestion: harmonise the calculation method, as proposed in the former circular economy package.

Lack of attention for industrial waste in the Waste Directives

Distortion: The WFD mainly focuses on municipal waste while industrial waste forms the biggest part (in Flanders alone, up to 90% of the total waste) and asks for more transparency of reported figures, more monitoring, so better waste management planning might occur. Distortions are that different rules exist between these waste fractions (existing collection and recycling targets,..).

Lack of proper implementation of waste legislation

- Distortion: Since the Waste Framework Directive is open to interpretation and adaptation to existing national legislation, there are many differences in the way Member States implement its provisions.
 - Lack of uniform implementation or application of EU waste legislation
 - Permitting problems
- Divergent national and regional strategies for introducing EPR-schemes
 - Distortion: as there is no general framework or a set of rules for the implementation of EPR schemes, all 28 member states have a different system of organizing EPR for different waste fractions, but very few work appropriately.
 - Suggestion: it would be a good idea to introduce a set of 'minimum requirements' for PROs, beginning with those given in the Circular Economy Package of 2 July 2014, including for example: the %age of EPR fees going to communication/awareness campaigns, PRO is responsible for collection of ALL its waste, PRO is responsible for treatment of ALL its waste (incl. residual fraction),...

- Extended producer responsibility aimed at improved product design, use and disposal should be welcomed. It is important to emphasise the positive potential of eco design. Intelligent, reusable or recycling-friendly products can bring about reduced waste volumes and help to mitigate or prevent environmental impacts, save valuable raw materials, achieve benefits for business and the wider economy, and implement the waste hierarchy. The legislation should spell out more clearly the importance of the lifecycle perspective, i.e. an approach that also encompasses production and use phases. In practice, attention has often focused solely on the financing function. The challenge of creating appropriate financing systems varies greatly from one Member State to another. This is why the decision on which group of substances will be covered by extended producer responsibility should, as envisaged, be left to the individual Member State. However, a list of admissible types of system - such as tax and levy systems, monopoly systems, competitive systems or deposit systems - should be added to the Directive. The legislation should also provide for appropriate remuneration arrangements to combat littering.
- Distortion: There are no clear rules at European level on where, how many and how treatment facilities need to be planned. Some regions are very sensitive to NIMBY issues and permitting processes are very difficult, resulting in under-capacity for treatment and thus a lack of proper implementation of the waste management requirements at local level.
 - Examples/case studies: Italy (Naples)
- Divergent policy and legal requirements at national, regional and local levels
- Whether national legislation accords the management of municipal waste the status of service of general interest or not
 - Distortion: In terms of municipal waste, differences exist between Member States in the role that municipalities can play in the waste management systems. In most Member States, municipal waste management is considered as a service of general interest. Local or regional authorities are responsible for prevention, collection and treatment of municipal waste (in many cases with help of subcontractors). In some member states it is not the case and municipal waste management is considered as a free market commodity, resulting in cherry picking of the most valuable waste fractions, and in gaps in the collection coverage (e.g. Ireland, some Eastern European Member States...).
 - Examples/case studies: Poland, Estonia

Differences in taxation

- Distortion: Differences in landfill taxes, incineration taxes, etc.
 - Examples/case studies: The Netherlands (higher incineration taxes for Dutch waste than for imported waste).
 - Suggestion: None, national and regional taxation cannot be harmonised at European level.
- Distortion: In terms of municipal waste, differences exist between Member States in the role that municipalities can play in the waste management systems. In most Member States, municipal waste management is considered as a service of general interest. Local or regional authorities are responsible for prevention, collection and treatment of municipal waste (in many cases with help of subcontractors). In some member states it is not the case and municipal waste management is considered as a free market commodity, resulting in cherry picking of the most valuable waste fractions, and in gaps in the collection coverage (e.g. Ireland, some Eastern European Member States.).
 - Suggestion: request Member States to comply with minimum conditions, such as full collection coverage, a degree of source-separated collection, maximum costs

Differences resulting from the new Renewable Energy Directive

- Distortion: The Renewable Energy Directive also considers energy from waste (incineration, anaerobic digestion,.) and taxation and subsidies related to it. Differences between Member States might also occur at this stage in the near future.

Further problems identified associated with municipal solid waste:

- Rules on the shipment of some sort of wastes (for example hazardous waste) need to be tightened. Could MWE add some suggestions on how this could be achieved?
- A more stable and reliable WFD would result in a more stable investment climate for waste treatment infrastructure.
- A lack of transparency of reported figures might hinder the further development of waste treatment infrastructure, due to the impossibility of good planning based on how much waste will be produced, etc.

9.1.8 Interview PRO Europe/ Duales System Deutschland

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: PRO Europe DSD
Contact person: Ursula Denison
Date: 16/03/2015
Skype conference
Interviewer: Katka, Sabina and Rob

Background

- PRO-Europe – Packaging Recovery Organisation Europe / Duales System Deutschland - DSD
- Umbrella organisation of 31 national producer responsibility /packaging recovery organisations.
- Main focus: produce common guidelines, standards.
- Green dot: the basic idea is that consumers who see the logo know that the manufacturer of the product contributes to the cost of recovery and recycling. It was created by the DSD GmbH in Germany in 1990.

Questions

Do you think waste market in Europe is distorted?

- Yes, her focus is mainly on packaging waste, but yes, her feeling is that the markets are distorted because of the different waste management practices between MSs – lack of enforcement the main issue → countries with high degree of landfill → variation in how waste is dealt with and treated at national level → strong push in some countries to increase energy recovery and recycling, in other countries still plenty of landfilling going on with prices that are very attractive > obstacle in developing treatment capacity, energy recovery and recycling
- Is it because of how the landfill directive was > too prescriptive? >yes, not enough enforcement > main comment with regard to EU policy, CEP, but no willingness to inform the legislation that is already in effect and no sanctions available that are good > a lot more should be done on this
- Is it more down to the Comm or the MS? > it's a question who should actively engage as a first step but EU should give good guidance to MS but today it looks like no one (EU or MSs) feels responsible □ everyone has an opinion but no one is taking care of it.

What are the main impacts?

- Packaging waste □ broad range of implementation models, but not enough to move EU towards circular economy, Landfill ban in some MS > great push towards recycling, energy recovery □ plastics and composites landfilled in other countries
- The level of implementation (between MSs) is not just a question of the relative strength of the MS economies but also appears to be a question of political willingness.

Solutions?

- She would suggest a more strategic approach from the EC looking at Europe as a whole, for example, taking action to support an interregional cross border market for secondary raw materials, rather than the current approach which seems to focus on the national level
- E.g. Germany landfill ban led to intensive but uncoordinated building of incineration plants > now 30% overcapacity
- Countries should not be forced to move to complete recycling, it may be necessary to have an intermediate step of increased incineration. The long term (30 year) aspiration should be to maximise material recovery.
- EU should offer MS more guidance and platforms to discuss this – Europe common capacity market rather than 28 MS
- Look at European recycling market rather than sending outside of EU
- She's not advocating recycling everything but it is important to build policy and allocate funding based on sticking to the waste hierarchy.
- Examples: Germany – competition between recycling plastics and using those materials replacing fuels – the question is, are we doing the best for the waste hierarchy and circular economy? 30% overcapacity for incineration > nobody's looking at Europe as a whole > but at isolated markets □ this will always be inefficient
- Many large waste management companies run landfills, but also have incinerators and recycling facilities> they will shift the waste between these according to what is most profitable.
- How to make an EU market?
- Looking at cross border trade of materials > harmonising practice between MSs on the notification requirements for waste shipments (e.g. what volumes and what type of materials make a shipment notifiable) would be helpful.
- E.g. level of recycling can be different in different EU MS
- Standards for waste processors in the EU and outside of EU would help compliance (i.e. waste can only be shipped to a certified processor)
- Help laggards with cooperation, regional strategy

Recycling waste is done outside of EU? Why can this not be done in the EU (which should increase the likelihood that it's done to a good standard) A good question.

- No data on EU level on proportion of waste treated/ recycling in EU and that outside of EU
- Some MSs known to be high, e.g. the UK – plastics 90+% shipped outside
- DE – 90% plastics stays in Germany, 5 % EU markets and 5% to Asia
- It's a political question > where do we want to be in 20 years? Do we want to keep the secondary raw materials within EU in order to secure access to raw materials?

The differences in MS? Is it due to the history how waste is regulated? And never been effectively forced to do it in a similar way.

- Yes, how far we came in the last 20 years discussing this
- Some countries inherent motivation to do things, to align with waste hierarchy
- Eurostat waste data not reliable - this is often due to MS differences in interpreting legislation. For example with packaging recovery, the definition is based on '100%

of packaging put on market' and MSs have different ways of calculating what the 100% figure is – so data on the percentage recovery of this cannot be compared.

- There appear to be cultural differences across Europe, relating to willingness to sort waste and recycle. Referred to be by some as the 'recycling gene' which is much more common in northern Europe, than south of the alps. This does not mean, however, that expectations for all member states to move toward comparable performance should be stopped
- Best: BE, NL (plastics), AT, DE, Spain, PT
- Pro Europe a study on data issues > she will send us a paper [she did]
- A first step to have this consistent
- A performance measurement is important
- Main concern – how can we present clearly the development happening
- Now too much emphasis on waste incineration and energy recovery plants without regard for capacity and overcapacity that they may have □ EU should have a look at, and at least stop subsidizing those investments and put the money towards waste hierarchy (structural funds).

Case studies?

- Germany> study made regarding waste incineration compared to plastics recycling, done by Öko-Institut >in Germany infrastructure competition of secondary markets with incineration > lack of strategy, lack of planning > plastics > overcapacity. She will send us the article once she finds it.

Follow Up

- Let her know about the public consultation
- Invite her for the stakeholder meetings
- We can follow up with her for some members and countries – she sent us a list of member companies of PRO Europe

9.1.9 Interview Rreuse

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: Rreuse
Contact person: Michal Len
Date: 23/03/2015
Skype conference
Interviewer: Katka and Sabina

Background

- Rreuse is an EU network → a European umbrella organisation for social enterprises with activities in reuse, repair and recycling. Rreuse's members are national and regional social economy networks that combine both social and environmental objectives and give them equal emphasis. They work mainly in textiles, furniture, electronics and construction & demolition materials/ waste.
- They have members from 15 EU MS, US and Bosnia & Herzegovina.
- Their main aim is to create a policy environment that favours re-use and repair activities and that would make sure social enterprises are represented. For the most part, these social enterprises are those that are reinvesting their proceeds into providing job and training opportunities for disadvantaged groups. Further, their activities include exchange of best practices, make suggestions on waste policy and legislation, including the transposition of WEEE and WFD to include reuse.

Questions

Do you think the waste market within the EU is distorted? Why? Examples of distortions?

- It's a difficult question but some examples can be given.
- 1. An interesting example is that of textiles collection and sorting for reuse because the point at which something becomes waste is inconsistent, for instance, when clothes are given away for donation purposes. If the donation is not classified as waste then the authorities/ companies in those regions don't have to comply with national and regional waste legislation (1st source of waste distortion). This shows regional differences. The problem is:
 - There is no harmonised guidance as to when something becomes waste, it is decided at the regional/national level.
 - Lack of harmonisation in how waste becomes a product again if it is for re-use. This is where they focus now as it's related to reuse. Here we see mainly the 2nd source of waste distortions – differences in application and implementation of EU legislation. In particular, there is a lack of legal clarification on whether end-of-waste criteria apply to "preparing for reuse" or only "recycling". It seems from the art 6 of the EU WFD that it applies only to recycling, but the circular economy

package mentions reuse as well. These differences in implementation of end-of-waste rules (2nd source) can be seen e.g. in BE→ Flanders, Walloon, BX regions have their own rules.

- So what you can see is that there are in the EU MS same process but different legislation regarding when something becomes waste and when something becomes product again for re-use
- 2. In general, a distortion is the different interpretation of EU waste legislation regarding reuse, i.e. determining a point when something becomes waste. The focus is most on recycling and not on reuse→ different interpretation of EU waste legislation (2nd source)→ as such preparation for re-use activities differ per MS in requirements when waste becomes product. There is lack of guidance and clarity at EU level for reuse and repair and as such there are different strategies or no strategies at all at MS level. For instance, France has a strong strategy while Poland has no strategy at all.

What are the impacts of these distortions?

- • If there is no action, there are less opportunities to create jobs at the local level.
- • Reuse was never a waste issue until the introduction of EU waste law and the concept of extended producer responsibility
- • In some cases EPR schemes control the waste stream in such a way that it is impossible to re-use any re-usable goods that are discarded. WRAP, UK, estimate that around 25% of all electronics that are discarded still have re-use value and potential. In some cases re-use centres are closing down as there is no access to reuse materials since the waste legislation is too strict.
- • If EPR schemes were strictly applied there would be less incentives for reuse→ EU is already adding reuse into this. basically when waste legislation is very strict, there is little potential for reuse as a lot of "waste" is classified as waste and as not appropriate for reuse. There must be clear rules for the implementation of EPR, including mandatory support for waste prevention, re-use, and preparing for re-use activities.

Geographical distribution?

- There are in general differences between West, South vs Central & Eastern. For example, ES, AT, UK, BE, FR are a good example because they have quite substantial reuse networks and they have a good political support. Re-use networks are currently being established in Central and Eastern Europe but are still at a nascent level

What do you think the solutions are?

- Separate re-use targets away from recycling is needed, collect separate statistics. Reuse is labour intensive, hence large potential for job creation for workers of all skill levels.
- Labour costs depend on labour price and time needed. Fiscal instruments such as VAT differentiated rates could decrease the labour costs. E.g. there would be VAT for reuse, repair services. Sweden is looking into this.
- Regarding the time, there is also a way how to decrease the time needed for dismantling products. E.g. the design of electronic products should be done in order to make it easier to dismantle. There are different instruments to do that: e.g. eco-design, warranties law, batteries directive.
- Target setting for reuse is also very important to implement.
- There needs to be good cooperation between EPR and reuse centres.

- There needs to be policy support.
- Replication of good practices.
- You also need to separate levels of waste hierarchy and adopt a proper reuse vs. recycling methodology. Once the methodology is in place, you need to set quantitative targets (as has been done in Spain), implement the use of social clauses, tendering procedures, or even reserve reuse for social enterprises. The last would be seen as positive discrimination . Is done in FR, but discussion also in ES and AT.

Follow up:

- They've just finished a position paper on lack of harmonisation in how waste becomes a product again. They will send it.
- He will ask a colleague to share a study with us.
- He will send a contact for us.
- Another position paper on proposed solutions.
- He will send everything in a couple of days.

9.1.10 Interview WEEE forum

Study on the efficient functioning of waste markets in the EU: Legislative and Policy options

Interview Minutes

Organisation: WEEE forum
Contact person: Pascal Leroy
Date: 13/03/2015
Skype conference
Interviewer: Katka, Sabina and Rob

Background

- Secretary General of the WEEE forum
- The WEEE forum (waste electrical and electronic equipment) is a not-for-profit association of WEEE producer responsibility organisations (or 'producer compliance schemes') in Europe. It provides a platform to share best practices and it is the largest organisation of its kind in the world. The focus is more on projects and less on lobbying.
- 2009-2013: WEEE label of excellence (WEEELABEX64) project (LIFE program): 2 achievements - creation of a set of harmonised standards for European electronic waste and the development of a set of WEEE treatment facilities audit rules governed by a newly set up WEEELABEX Organisation.

Questions

Do you think the waste market within the EU is distorted? Why? Examples of distortions?

- Yes. There are 4 sources of distortions
- 1. Varying transposition of directives: Gold plating (going beyond what's required) vs. literal transposition.
- 2. There are a lack of standards in the e-waste markets that say how to recycle even though the directive is in place, and there are national laws.
- 3. Once the standards are in place different interpretations of the requirements occur. (standards are voluntary, you can have your own standard or comply with the minimum standard)
- 4. Level of enforcement differs in EU MSs. This is the largest problem in the EU according to him. The lack of reporting and lack of (and variation in) force in terms of criminal sanctions for waste crime are examples of this. This is a factor contributing to the high levels of illegal shipments of waste. Some MSs have insufficient systems for licencing waste management, with high levels of illegal operation. Judges in different states insufficiently communicate with each other and don't develop any common jurisprudence etc. (treaty adjustment has changed this).

⁶⁴ <http://www.weeelabex.org/>

Examples of case studies

Different transposition of directives (1st source)

- In France there is a ban on cash transactions (for WEEE), everything has to be recorded and paid electronically in order to have a better control of e-waste flow. This improves control for e-waste flows. All e-waste has to go through one of the officially recognised compliance scheme, intended to remove parallel flows and make all e-waste flows "official". Other countries don't have this approach.
- Germany has lower standards than other member states: they allow e-waste to be stored in salt mines, and this counts towards recycling targets. France do not agree with this procedure.

Differences in taxes and fees throughout the EU (2nd source)?

- That is the case in Belgium. Flanders has stricter controls than Wallonia. This is the case in every federal state.

Differences in interpretation of a clause in a directive (3rd source of distortion)?

- Example of the treatment of the CFCs in fridges – fridges containing VFC substances should not be emitted into air when recycling (requirement of the directive), but you need a standard for this → they are working on this with CENELEC
- Differences in interpretation: is it allowed to send fridges to an open shredder, where sorting between VFC and VHC occurs, or not? VFC fridges: in some markets they are mixed with other scrap appliances (to help reach recycling targets) while in others this is not allowed.
- Ask CECED about this example (they produced a position paper on it).

Different level of enforcement distortion (4th source)

- This is the most important source of market distortion for him
- In the UK they are particularly aware of illegal shipments of waste (EA).
- Check CWIT project for some more information and studies on illegal waste (FP7 project on country waste illegal trade⁶⁵), presentation at a Lyon conference on 25-26 June showing lack of registration on unaccounted flows
- In Bulgaria they are not tough enough – there are multiple parallel (i.e. unregulated) waste flows.

Main impacts

What do you think are the main impacts?

- Movement of waste to the lowest level (of tax and regulation) is a generic phenomenon (but you don't relocate a treatment plant).

⁶⁵ <http://www.cwitproject.eu/>

- Waste itself is moved across borders, e.g. trucks from AT to SK with e-waste are not controlled (inspected) by customs when the volume of waste is below a certain amount. A lot of waste therefore escapes regulation. The rule is related to the truck itself, not to the total volume of waste transported by a company. It is likely that uninspected trucks could contain hazardous waste (e.g. fridges).

Do you think it is desirable to create a Schengen market for waste?

- Yes, because open markets are better than closed ones. but this makes the law even more relevant as waste can then move freely (same as in goods), you need to level the playing field – but this is a never ending task.

Geographical distribution?

- In general less control in Eastern Europe
- Huge volumes are illegally shipped to Africa and South Asia
- SK is not allowed to export e-waste [need to check this] to secure enough volume is in SK plant
- HU nationalised compliance scheme → state, not producers controlling it → against EU principle of extended producer responsibility

Are you aware of datasets on distortions?

- In Netherlands (Wecycle's 'WEEE flows' study 2011/2012), Belgium, France.
- Also look at their website for WEEE quantification studies, e.g. for France - http://www.weee-forum.org/sites/default/files/documents/2014_study_on_the_quantification_of_weee_in_france.pdf
- Environmental crime report by EUROJUST on their website <http://www.weee-forum.org/literature>

Solutions for waste market distortions?

- Differences in interpretation of a standard can be addressed by technical specifications through CENELEC, or through audit forms (to have same audit forms and procedures which reduce the risk of misalignment). When a Directive is prepared there is a mandate to develop standards – this should be used as a general policy.
- for source 1: To make more often use of regulations and not directives (this is also what the DG of DG Environment says).
- To make standards mandatory (through an implementing act) – e.g. the WEEELABEX/EN standards referred to earlier are already mandatory in NL, IE, Flanders, FR
- To enable better cooperation between enforcement agencies (although this can be very difficult even within 1 MS (for example for customs departments to share data with the police and environmental regulators), EU forum judges on how to prosecute).
- To train enforcement entities on how to inspect lorries, (they offer this) on what is legal and not, what is e-waste what not.

His email 18/3/2015:

During the interview, I mentioned the CWIT project the WEEE Forum is involved in (countering WEEE illegal trade). In the coming months, we'll be producing examples of flaws in the system; you're welcome to join us in the final conference in Lyon on 25-26 June at INTERPOL.

One case study by EFFACE is confirming what I was telling you: The legal WEEE framework – I'm leaving crime legislation out of the picture – is sufficiently coherent, but the transposition, interpretation and implementation leave to be desired. The number of inspections, for example, ranges from a few dozen in one member state to thousands in another. Port-hopping is a phenomenon whereby criminals choose to export from the ports where the number of inspections or penalties are lowest. A good example of a distortion of the market.

9.2 Annex III.2 presentations and minutes workshop 21/05/2015

Workshop on waste market distortions 21/05/2015 ARCADIS/Triple E (now Trinomics)

Meeting Minutes

List of Participants

Annick Carpentier (Eurometaux)

Dana Stefan (Europen)

Delphine Clement (VEOLIA)

Ella Stengler (CEWEP)

Emmanuel Katrakis (EuRIC)

Enrique Fernandez (EuRIC)

Jakob Rindegren (ESAUK)

Jan Van Heukelom (Umicore)

John Wante (OVAM)

Lieze Cloots (OVAM)

Marc Guirard (Eucolight)

Matthias Pflüger (BDE)

Milda Basiulyte (FEAD)

Nathalie Buijs (FEAD)

Olivier Thomas (ERPA)

Rodolphe Paternostre (Environment Irisnet BIM/IBGE)

Sergio Tartaglia (MEPA)

Ursula Denison (PRO EUROPE)

Valérie Plainemaison (FNADE)

Vanya Veras (MWE)

Virginia Janssens (Europen)

Mike Van Acoleyen (ARCADIS)

Linde Raport (ARCADIS)

Rob Williams (Triple E)

Peter Wessman –DG ENV Legal Officer, Waste management & recycling unit;

Karolina D'Cunha – DG ENV Deputy Head of Unit, Eco-innovation & Circular economy unit;

George Kiayias – DG ENV Policy officer, Waste management & recycling unit

Victorio Gente – DG Research and Innovation, Unit Eco-innovation

1. General conclusions

Presented by the Consultant as wrap up conclusions at the end of the fruitful workshop:

- Electronic notification systems for waste shipments would be welcome to lift administrative burden.
- The application of the proximity and self-sufficiency principles causes problems. Guidance would be useful to ensure a consistent application of the principles.
- Guidance on the use of annex VII information forms for shipment of green listed waste for recycling would be very much appreciated.
- The three main policy goals (waste hierarchy, resource efficiency, circular economy) are supported by all.
- Simpler procedures are beneficial both for industry and for inspection.
- Pre Consented Facilities can be a clue to easier compliance with the provisions in the Waste Shipment Regulation. Existing possibilities in the regulation are not sufficiently used.
- Waste is a resource and may be treated as other resources.
- The implementation of the Waste Shipment Regulation does not always support or facilitate more recycling.
- Consistency in policy can enhance better waste markets. Helpdesk support for smaller competent authorities or for Member States with less administrative capacity is a good idea.
- Standards for waste treatment operations are needed.
- Transparency, good data, good statistics and traceability are needed.
- One should take care of balanced planning of waste treatment infrastructure, avoiding over- or under-capacity.
- We should protect opportunities for innovation.

Detailed minutes or the sometimes lively discussion are presented below:

2. Introduction by Peter Wessmann (EC)

Participation of EC:

- Peter Wessmann –DG ENV Legal Officer, Waste management & recycling unit;
- Karolina D'Cunha – DG ENV Deputy Head of Unit, Eco-innovation & Circular economy and Eco-innovation unit;
- George Kiayias – DG ENV Policy officer, Waste management & recycling unit waste shipments expert
- Victorio Gente – DG Research and Innovation, Unit Eco-innovation

1.1 Background and context (P.Wessman)

Why this discussion and study on waste market distortions?

- A discussion on several topics related to the obstacles and regulatory barriers to the functioning of the EU waste market was launched in the Parliament some years ago.
- The Commission receives information on problems of market access relating to shipping waste between Member States, regions, etc.
- In 2011, a study on Implementation of Waste Legislation indicated that there could be immense benefits (creation of jobs, higher turnover of waste markets,...) if EU legislation was properly implemented and applied throughout all the Member States.
- We need to obtain a better understanding of the existing obstacles to the efficient functioning of waste markets.
- According to existing rules, waste for recycling and other recovery should as a main principle move freely within the EU to be treated by the most appropriate facilities. The study will look at obstacles arising from the application and interpretation of EU policy and legislation, as well as from national, regional and local policy and legislation.

Background and the bigger picture and the circular economy package. (Karolina D'Cunha)

- The study has a number of major links with the broader context of the Circular Economy, for example the way that national and regional authorities implement EU Waste legislation has consequences for the level and effectiveness of recovery and recycling.
- The study is being carried out in parallel with work on the circular economy package, but interim results could be put into the circular economy package. The circular economy package was withdrawn in February 2015, with the promise of a more ambitious package being presented in Q4 of 2015. The new package will have 2 components:
 - Communication on economy package: an action plan (broad narrative) - list of actions with deadlines;
 - Waste management proposals, revised to reflect the variations in waste management practices between Member States.
- There will also a public consultation launched on the circular economy. This consultation won't focus on the waste part, since this has been already been extensively consulted upon. The new elements have not been decided yet. It is important to stress what the EC wants to achieve very concrete actions which can be executed within this Commission.

Practical issues

- The expected “Your voice” public consultation has some delay due to new guidelines on how to present this online, but it will be launched soon.
- 25th of June: workshop is already overbooked – put your name on the waiting list (accepting overbooking).

3. Presentation of the state of progress (Mike Van Acoleyen ARCADIS Belgium)

Progress

Progress:

- Identification: examples and categories of distortion
- Literature research: scientific sources, other studies, policy documents
- 10 stakeholder interviews (2 more to come)

DONE:
scene setting, fact finding

Progress

Progress:

- Identification: kind and categories of distortion
- Literature research: scientific sources, other studies, policy documents
- 10 stakeholder interviews (2 more to come)
- Launch survey ‘your voice in Europe’
- **THIS first stakeholder fact-find meeting**

DONE;
scene setting, fact finding

Progress:

- Composition of a long list of cases
- Identification of a preferred list of possible cases
- Selection of ten cases (representative, transferable, well spread)
- Additional research:
 - Literature
 - key witnesses: 1/case, different from above
- Analysis
- Inventory of policy and legislative options
- Impact assessment and rating
 - Multi criteria analysis
 - **Second ‘evaluation’ workshop**
- Final result / final report

Things TO DO

1. Case studies
2. Policy options

Progress:

Timing

- Started: 22/12/2014
- Interim report : 30/04/2015
- Start Your Voice survey : mid may 2015
- End Your Voice survey : mid august 2015 (12 weeks)
- Second workshop : 12/11/2015
- Final report: before 22/12/2015

Goal of the workshop:

- Focus on fact-finding: What is a distortion? What kind of distortions are we worried about? Identify concrete problems/obstacles/distortions.
- Not to look at solutions (yet) but identify the problems.
- A second workshop on solutions will be set up in November.

Information gathering:

- literature study;
- Stakeholder interviews;
- Your voice consultation: its launch will be announced through the mailing list and the participants list;
- Case studies (criteria: representative, transferable, well spread);

Timing:

- The your voice consultation will last 12 weeks. The end date will depend on the date of launch – foreseen by the end of august.

4. Presentation of the your voice questionnaire (Rob Williams Triple E)

<p>Survey:</p> <p>Purpose and structure</p>	<p>Identify evidence on obstacles and distortions in EU waste markets</p> <p>Propose solutions to improve the situation</p> <p>A background document, 'what are distortions'</p> <p>Sections.</p> <p>1. To gather information about the respondent and his or her background.</p> <p>2. Questions, split into parts:</p> <ul style="list-style-type: none"> • general, • each type of market distortion, • the geographical distribution of market distortions • possible actions to address the distortions <p>N.B.: THE SURVEY IS NOT THE SAME AS THE INTERVIEW TOPIC GUIDE THAT WAS SHARED WITH SOME OF THE STAKEHOLDERS ALREADY INTERVIEWED – so please do not circulate this topic guide.</p>	<p>Survey:</p> <p>Example questions</p>	<p>General</p> <p>1. Do you think there are any market distortions or obstacles to the waste market in the EU that fall under this definition?</p> <p>a. Yes, a large amount</p> <p>b. Yes, but limited</p> <p>c. No</p> <p>d. Don't know.</p> <p>Specific</p> <p>10. What are the drivers/ causes of these market distortions or obstacles to the efficient functioning of waste markets? (Rate in a scale of 0 – 5, with 0 not important – 5 very important)</p> <p>a. Application of the system of notification- and consent requirements under the Waste Shipment Regulation</p> <p>b. Application by national authorities of the provisions concerning waste shipments through transit countries (Waste Shipment Regulation)</p> <p>c. Other controls imposed on waste or waste shipments by application of EU waste legislation</p> <p>d. Different interpretations of the definition of 'waste' according to the Waste Framework Directive</p> <p>e. Diverging classifications of waste as 'hazardous' or 'non-hazardous' (Waste Framework Directive)</p> <p>f. The distinction between 'recovery' and 'disposal' (Waste Framework Directive)</p> <p>g. Strict application of the 'proximity principle' resulting in an outcome which is inconsistent with the waste hierarchy (Waste Framework Directive and Waste Shipment Regulation)</p> <p>h. Divergent applications of the so-called 'R-codes', i.e. the recovery operations listed in Annex II to the Waste Framework Directive</p> <p>i. Distribution of roles and responsibilities for municipal authorities and private companies in waste management</p> <p>j. Other _____</p> <p>k. [If relevant, provide additional information in relation to your above reply]</p>
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- General: goal and structure
- Purpose: Find evidence on obstacles and distortions
- Kind of obstacles? Where do they take place? Why? What is their impact?
- What is the most important barrier?
- Measures to improve the efficiency of these waste markets?

5. Discussion item 1 : What is a distortion?

Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of waste prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy.

Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of waste prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy.

- National regional local :
 - Excluded: EU level, Basel Convention...
 - Included: implementation measures for higher levels
- Policy or legislative act :
 - hard legislation
 - grey legislation and guidance
 - administrative practice

- Distorts EU ambitions:
 - Broader than “single market”
 - Focus on EU policy goals
- EU policy goals:
 - waste prevention, reuse, recycling, recovery = waste hierarchy
 - Resource efficiency
 - Circular economy



2. MAKING EUROPE RESOURCE EFFICIENT

Designing the Roadmap

The Vision: By 2050 the EU's economy has grown in a way that respects **resource constraints and planetary boundaries**, thus contributing to global economic transformation. Our economy is **competitive, inclusive** and provides a high **standard of living with much lower environmental impacts**.

All resources are sustainably managed, from raw materials to energy, water, air, land and soil. Climate change milestones have been reached, while biodiversity and the ecosystem services it underpins have been protected, valued and substantially restored.



The Commission is aiming to present a new, more ambitious circular economy strategy late in 2015, to transform Europe into a more **competitive resource-efficient** economy, addressing a range of economic sectors, including waste

Discussion point

Do you know of market distortions which are hindering the free market but do not have any impact on environmental performance / resource efficiency or circular economy ?

Should we take such distortions into account?

Discussion point

Do you know of market measures that promote the free market but have a negative impact on environmental performance / resource efficiency or circular economy ?

Can/should environmental performance / resource efficiency / circular economy be traded off against free market functioning?

Could we intervene in the market?

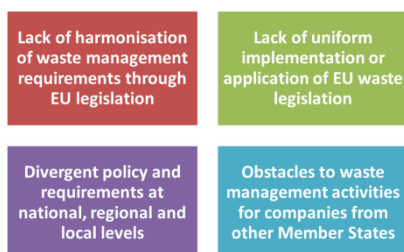
Discussion point

What are the major distortions at local/regional/national level? Please illustrate...

- Environment rules use for protectionism?
- Red tape with low environmental relevance?
- Differences in implementation?
- Levels of inspection?
- Fiscal and tax related distortions?
- Differences in infrastructure and treatment capacity?
- Differences in administrative solutions, EPR, PAYT, ...?
- Differences in market access?
- Other?

Discussion point

- Which of four categories of distortion do you consider important?



"Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of waste prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy".

Discussion on scoping

Discussion on scoping with following questions:

- Do you know of market distortions which are hindering the free market but do not have any impact on environmental performance / resource efficiency or circular economy ?
- Should we take such distortions into account?
- Do you know of market measures that promote the free market but have a negative impact on environmental performance / resource efficiency or circular economy ?
 - Can/should environmental performance / resource efficiency / circular economy be traded off against free market functioning?
 - Could we intervene in the market?

Eurometaux (Annick Carpentier)

- Can the EU act to create a level playing field? They do this for products (e.g. Ecodesign and its minimum requirements)
- , so it should be for waste too? It could be argued that waste is a product - from the circular economy perspective. There has to be free trade within the European Union, but within the EU strategic objectives.
- The main goal of Waste legislation is environmental protection, the Ecodesign legislation goes further.
- Waste has become a material, a resource: one can wonder if it is not a waste anymore, but a product. We need to find a balanced approach between meeting the requirements of the waste hierarchy and facilitating free trade in waste (conditions, requirements,...) – serving the EU strategic objectives (the waste hierarchy) -but at the same time facilitating trade. This will not self-evidently disturb these objectives. We will need to set standards to establish a level playing field for waste, so that players play against/with the same tools. Only then, you can create a free trading market.
- The WTO have recognised that trade measures can be set to achieve environmental objectives, so the principle is established in trade policy that there should be free trade, but not at the expense of environmental damage.
- More specifically, to create a level playing field, we need to define at the European level:
 - What is waste?

- What is recycling? (collection, pretreatment, collection and shipment,...)
 - What are the objectives at the EU level? Promote the access to resources? Do we need a facilitated moving of waste? We should make sure that we recover waste. *For example, this waste market distortion: Metallo Chimique - they recover metals from waste from other metal recovery facilities. They receive very mixed batches, which are very difficult to ship across borders (administratively).*
 - There is a lot of trade of metals (high value) outside of the EU. Sometimes, there is a risk of poor recovery actions in terms of efficiency, environmental impact, etc. The electronic registering (of shipments to pre consented treatment facilities) is a rather light measure – there is a provision in the WSF which includes the possibilities to facilitate the control and trade.
- Things get easier if it is End-of-Waste certified.
 - Upgrade - going from a transaction based approach to a system based approach: assess the company who is 'recycling' (getting a status – agreed by the local authorities in compliance with the local regulations) and then combining with reporting/notifying electronically, and allow shipping directly from any source (without a one week or three months administrative delay). All the authorities are notified, you have the necessary documents on board. This takes away a barriers and helps guarantee quality (of recovery).

What can we do to open the markets within Europe?

Peter Wessman (EC): "The study is focussing on intra-EU issues. What can we do to open the markets within Europe?"

European (Virginia Janssens)

- Since waste is an important resource for recyclers, the establishment of a level playing field and the proper implementation of EU legislation is crucial.
- The philosophy of waste shipments across the EU has not been changed the last 20 years: a lot of administrative burden (List of waste, CLP,...) does not facilitate the shipment of waste intra EU. It creates on the contrary a lot of uncertainty. Evolving to electronic procedures seems the only one and single way to better fight against illegal shipments and not to have 27 practices.

Municipal Waste Europe (Vanya Veras)

- What we need for a waste market is a proper and full implementation of waste legislation and a level playing field.
- The proposal on the circular economy package of 14th of July 2014 was going in the right way for harmonisation: **for example, the calculation method**.

It needs to be clarified by the European Commission: What is intended by the waste legislation? And the proximity principle? How does it need to be interpreted? e.g. if shipment is enabling a move up the waste hierarchy does the proximity principle still apply?

- A helpdesk to guide Member States on how the European Waste Legislation should be implemented and how the legislation should be interpreted is proposed as one of the solutions.
- Waste shipments to achieve higher levels in the waste treatment hierarchy should be facilitated and the self-sufficiency principles should not be used for protectionism. Self-sufficiency can disturb the markets by using, for example,

different landfill taxes which result in undesired waste shipments towards more landfilling.

Is it possible to integrate transparency into the legislation about what is an 'available resource' in a waste stream – this is a difficult task. It would help create a link between potential buyers and sellers of this resource.

- For example, Denmark has integrated separate collection of packaging within their national legislation, by collecting one stream of packaging. At the moment, they need to send it to other sorting plant outside Denmark for enhanced recycling options. It concerns a mixed waste fraction, an amber category, resulting in a notification cost of 1.200 euro per shipment. In this way, they are hindered to go up the waste hierarchy.

Major waste markets distortions?

What are the major distortions at local/regional/ national level? Please illustrate...

- Environment rules used for protectionism?
- Red tape with low environmental relevance?
- Differences in implementation?
- Levels of inspection?
- Fiscal and tax related distortions?
- Differences in infrastructure and treatment capacity?
- Differences in administrative solutions, EPR, PAYT, ...?
- Differences in market access?
- Other?

Municipal Waste Europe (Vanya Veras)

- The EU legislation should clarify the intention of the self-sufficiency principle. Municipalities do not always have the expertise to make the difference between recovery and disposal. **For example, in Greece, there is a law which implements the self-sufficiency principle by making the shipment of any type of waste illegal . So waste being generated on an island has to stay there, which minimises options for reuse and recycling.** Guidance on what is intended by the proximity principle and how it should be implemented is needed.
- There are no sufficiently reliable statistics on industrial and commercial (non-hazardous) waste. Municipal waste is only 10%, but we are focussing on it. In addition, we also need provisions on the other 90%, starting with clear statistics: what is generated? Which supply of materials? The current Waste Statistics Regulation is not clear enough, there needs to be a link with the Waste Framework Directive (WFD) in particular on the recycling calculation method.
- We have to be aware that the southern and eastern parts of Europe are not yet at the table – they have just started implementing the Waste legislation.
- We have to be aware that public companies have higher costs (including long time employment costs), but that we should ask ourselves the question if municipal waste management is a "market" or a "public service".

BDE Bundesverband der Deutschen Entsorgungs-, Wasser- und Rohstoffwirtschaft e.V. (Matthias Pflüger)

- In Germany, the self-sufficiency principle is implemented at the regional level (Bundesland) – in which environmental rules are sometimes used for protectionism and hinder the movements of waste. Action 17 (Überlassungspflichten) from the

German Kreislaufwirtschaftsgesetz stipulates a duty of collected households waste to municipalities. This results in two kinds of distortion:

- National authorities are not always aware that separately collected waste streams have to be treated separately, despite clear case law at the EU level. They force waste collectors to hand over specific waste streams to specific treatment plants.
- Public waste management companies are not subjected to the same rules as private companies which results in a competitive disadvantage for the latter. There is an impact on the waste treatment hierarchy, since public companies tend to hold on to their incineration capacities, while private companies would rather use the material for recovery.
- Separately collected waste should not be included in the self-sufficiency principle, but Greece and Germany do so, also for recovery and recycling, which is not the intention of the EU legislation: on the EU level it is clear. The proximity principle is only supposed to relate to shipment of waste for disposal (excluding recovery) and to the shipment of mixed municipal waste. It is however implemented by the Member States with differing interpretations. E.g. In Germany and Greece there is no distinction between separated and non-separated waste – both are classified as municipal waste falling under the proximity principle.
- It is very difficult to transport mixed waste – self-sufficiency and proximity principles are not in line with each other.
- **Obstacles to waste management activities for companies from other Member States:** When there is a public tender for waste collection, collectors from all over Europe could bid. But usually, companies need to be established in the country/region itself since the Ministry burdens them to participate. For example, some national documents are not accepted in another Member States.

ESAUK (Jakob Rindegren)

- Regional application of the self-sufficiency principle: Scotland wants to keep most of the waste within their barriers.
- Concerning the VAT-issues/fiscal distortions: we are not suggesting harmonisation of taxation within EU countries.
- Green dot organisations: rules to be harmonized, but organised at a local level.

CEWEP (Ella Stengler):

- On the European level, Incineration capacity is balanced between private/public companies.
- Identified distortions:
 - Non-harmonised definitions: What is recycled (collection? Start of recycling plant, end?)
 - Not very much data on commercial (as opposed to municipal) waste: Eurostat statistics on commercial waste (volumes and incineration) may not be reliable, resulting in the fact that it is impossible to really determine if there is overcapacity .
 - The self-sufficiency principle is applied in a very strict way at a regional level: Member States like Sweden and Denmark are ready to import mixed waste, while waste in Poland is landfilled instead of incinerated. Sometimes the differences occur within the Member State, for example in Italy: there is no incineration capacity in the south and there is overcapacity in the north, but because of waste shipment difficulties, it is very difficult to transport waste from the south to the north. The

application of the proximity principle also limits waste movements in Germany between regions.

- Does Eurostat have sufficient possibilities to control the data from Member States? Every 2 years metadata are reported to allow an active way of controlling the data collecting and calculation methods. CEWEP argues that there is not sufficient EU level requirement to provide data on commercial and industrial waste volumes (unlike for municipal waste – which is only around 10% of the total arisings. There is a need for better statistics to enable better waste treatment capacity planning.

EURIC (Emmanuel Katrakis)

- In terms of paper, there are 11 different ways in 11 countries in terms of application of the proximity and self-sufficiency principles. There are big differences across Europe in terms of administration and control systems. It is almost too difficult to be compliant because it is too complex. For example France, Belgium and Netherlands all use different waste transfer forms.

Eurometaux (Annick Carpentier)

- In terms of the definition of waste:
 - Statistics are very bad, too aggregated – there is room for improving.
 - Priority is to clarify: what is waste? What is material recovery?
- Need to be clear that the overall objective is to move up the waste hierarchy, not just move from landfill to incineration.
- **Definition of recycling materials:** secondary raw materials which can be sold and which are a resource for next products.
- Another problem: **waste shipment for material recovery** – for example 50.000 batches of mixed scraps (waste from other smelters) – They would need to apply for a REACH authorization for every batch (for workers protection). Would it not be better to regulate the working place and its quality than by REACH authorization of the resources/products?
- For several recycling streams there are problems in terms of **differences between REACH and recycling legislation**. An important motivation for REACH is to protect workers (as well as consumers). For example, an end-of-life car: after depollution, sorting, extracting the different materials, one will then have secondary materials, eventually being end-of-waste, entering the product legislation like REACH. REACH was not created for end-of-wastes, but for products. The framework for recycling and reuse should take into account the risks, but should not create legislation functioning as a barrier.
- Legislation is often used for **protectionism**, while the waste legislation is intended to protect the human and natural environment.
- Regulations are very diversely implemented – procedures are not adapted to the actual way of markets, shipments,... could they be organised electronically?
- Incentives are equally important for the development of the market for secondary resources: green public procurement, eco-design. A wide variety exist from diverse sources (at MS and EU level)
- If we take into consideration eco efficiency - taxation could be a good incentive tool, but at a national competence level.
- Studies indicate that taxes are sometimes higher for secondary materials than for primary materials.
- Since no recycling/treatment facilities are available in every region, WEEE, metals,... NEED to move to other regions – thus meaning that the proximity principle cannot

always be complied with: It could be a suggestion to install more specific waste regulation – not a one-fits-all solution but more tailor made.

Environment irisnet BIM/IBGE (Rodolphe Paternostre)

- We need to take into account the differences in capacity (staff, budget,...) between Member States of the national/regional administration for implementation of the legislation. The legislation is too complex and there is not always enough technical staff available. This should be a parameter to take into account when designing EU legislation.

ERPA (Olivier Thomas)

- Higher hierarchy treatment options must be cheaper than landfill/incineration.

7. Second discussion topic: 'Definitions, principles and requirements of EU legislation and distribution of roles on waste management'

Lack of harmonisation of benchmarks, definitions and schemes - views collected

- Measuring performance against different benchmarks
 - Waste Framework Directive has 4 calculation methods for recycling targets
 - Recyclable waste collected vs. Waste recycled
 - Batteries example – no clear definition of 'consumer/portable' batteries
- Municipal vs. Domestic waste
 - Inclusion (or not) of some commercial waste
 - Single operator vs. mandatory competition

Lack of harmonisation of criteria and practices - views collected :

- End of Waste criteria
 - EU standards only for metal scrap, glass, aluminium, copper
 - National recycling efficiencies influenced by MS EoW criteria
 - Crossborder complications with varying EoW criteria
- 'Seperate' collection – comingled or stream by stream?
- Periodic inspections (hazardous waste) variations in compliance

Lack of harmonisation of waste management practices - views collected:

- Municipal waste as 'general interest' or not?
 - Yes in most, but a 'free market' in others
 - Free market can lead to 'cherry picking' of waste types and fractions and gaps in service
 - Municipal monopoly – exclusive rights but also operate in commercial markets

Lack of harmonisation of benchmarks, definitions and schemes - views collected

- Extended Producer Responsibility (EPR) schemes vary
 - Some MS schemes cover the full costs of collection and treatment, others do not
 - Equal cost per tonne of product recovered, leads to lack of incentive for individual manufacturers to improve recyclability
 - Single operator vs. mandatory competition

Lack of harmonisation of criteria and practices - views collected:

- Recycling targets vary by stream
 - Some MSs have higher targets (for particular streams) – could 'pull' waste across borders – defeating the proximity principle for recycling.
 - Higher targets could lead to over investment in recycling infrastructure

Discussion points

- View on the presented examples?
- Other examples?



Measuring performance against different benchmarks

- Waste Framework Directive has 4 calculation methods for recycling targets
- Waste collected vs. Waste recycled
- Batteries example – no clear definition of ‘consumer/portable’ batteries

Eurometaux (Annick Carpentier)

- Recycling target? Where do you measure: at collection? After collection? After sorting?
- What is sorting? (% of usable content is decreasing every time after each step in the recycling chain).
- In line with the strategic objective you should go as far as possible in the line, but then you would never achieve the targets. This needs to be clarified.
- Requirements for quality treatment are necessary.

Municipal Waste Europe (Vanya Veras)

- Material recycling in the new proposal was not defined.
- 2% impurity levels: What is impurity? Is it 2% plastic in aluminium cans? Or is it on composition basis?
- Point of measuring of recycling: MWE suggests to measure after the first sorting/treatment. Collection cannot guarantee that all the collected material is effectively recycled.

Extended Producer Responsibility (EPR) schemes vary

- Some Member States schemes cover the full costs of collection and treatment, others do not
- Equal cost per tonne of product recovered, leads to lack of incentive for individual manufacturers to improve recyclability
- Single operator vs. mandatory competition

Eurometaux (Annick Carpentier)

- There is a risk of cherry picking, referring to the EPR study of ARCADIS, when EPR systems are too much oriented towards quantitative targets, without taking into account a real focus on these material the economy badly needs.

Municipal Waste Europe (Vanya Veras)

- Cherry picking – For example, the French system foresees the a bonus malus systems by relating the shares for entering an EPR scheme with the recyclability of the packaging the producers puts on the market. For example, entering the scheme will cost more for ceramic bottles because they are not ‘recyclable’, at least not in France since there is no recycling plant.
- In 2015 the obligation to separately collect MSW enters into force. There is a scale difference between source separated collection, organised at local/municipal level, and the further steps in the recycling chain. This will entail more transfrontier movement within Europe: the next steps in the recycling chain are usually not set by municipalities but by private actors operating at an EU-wide scale, due to reasons of cost efficiency. A European area for free recovery is very important, as otherwise local overcapacity can be generated. There is an urgent need for better planning.

EURIC (Emmanuel Katrakis)

- Investments were made to achieve the recycling targets.
- Materials which come free after recycling as secondary materials or EoW will circulate in a free market; we should look at trade issues when considering EPR.

End of Waste criteria

- EU standards only exist for metal scrap, glass, aluminium, copper.
- One of the intentions of setting EoW criteria is to increase recycling quantity and especially quality and so increase resource efficiency.
- Member States may set their own End-of-Waste Criteria and are then obliged to notify the European Commission when they have done so. The European Commission needs to take action to ensure those End Of Waste Criteria are recognised at EU level in order to protect and enable the internal market

Eurometaux (Annick Carpentier)

- For metals, the EU is very concerned about the inter EU market level playing field, but it should also be very concerned with the market outside the EU. You cannot judge visually if scrap is waste or an EoW. End of Waste status is not known in India. In this way, Europe loses material, loses the ability to apply quality treatment. There is already a metal market, you don't need to create it.
- Metals can be kept in a recycling loop for ever. This requires different management, different measures, compared to other materials like paper waste: Paper can only be recycled for a maximum of three times.
- EoW criteria for copper scrap metal exist at the European level. The waste then becomes a product and there are no requirements for movements, treatment anymore. BUT, you should still seek guarantees on the quality of treatment. If you want to survive in EU economically, you will need a level playing field for EoW.

EURIC (Emmanuel Katrakis)

- If there is no enforcement, there is no level playing field.
- Objective of free and fair competition are embedded in the EU treaty. If waste can be considered as a resource, it should follow the same rules e.g. on logistics as other resources.
- There is still a lot of work to be done on the consistency of waste legislation. End of Waste criteria and targets should be specific for waste streams. The European End of Waste Regulations operate within the European Union and so primarily benefit the internal market and so benefit recycling in Europe. EU end of waste criteria contribute to facilitate waste shipment within Europe and their uptake must be supported. The lack of EoW criteria for a number of streams distort the well-functioning of waste markets.
- There is already a market for metals, for paper. There should be a clear interplay with the product legislation: what is to be applied and what are the requirements going to be?

Municipal Waste Europe (Vanya Veras)

- Look at the effectiveness on the EoW criteria: trade off the creation of a recycling market with the control on illegal shipments. EoW criteria open the door to transfrontier shipments. We want to encourage the shipment of recovered waste within the EU countries. Standards exist or are being developed for paper and other wastes, but are not developed for the use of critical raw materials or CRMs . An

option would be to introduce in EU legislation legally binding standards on the use of CRMs. This could replace additional EoW criteria.

Recycling targets vary by stream

- Some Member States have higher targets (for particular streams) – could ‘pull’ waste across borders – defeating the proximity principle for recycling.
- Higher targets could lead to over investment in recycling infrastructure

Municipal waste as ‘general interest’ or not?

- Yes in most Member States, but a ‘free market’ topic in others
- Free market can lead to ‘cherry picking’ of waste types and fractions and create gaps.
- Municipal monopolies generate exclusive rights but these actors sometimes also operate in commercial markets.
- Cross-border complications with varying EoW criteria.

ERPA (Olivier Thomas):

- Free market can lead to ‘cherry picking’ of waste types and fractions and gaps? In Germany, it is the other way around. Privatised years ago: re-municipalised, mainly in urban areas, a lot of waste at short distance (more than 60-70%) of large German cities is serviced by municipalities and the more rural areas are left over to private companies: profits are lower.

Municipal Waste Europe (Vanya Veras)

- We are not questioning the public procurement legislation.
- There is a reason why municipal waste is a service of general interest. MWE follows the former definition, not the new one written in the proposal – Municipalities should always ultimately be accountable and responsible for municipal waste, so that all the citizens are served and that all legislation is being implemented.
- For example, Poland: waste management was made completely private. The companies are now giving back the responsibilities to the municipalities. Responsibility needs to lie with the municipalities (same for Estonia, Hungary,...) . Ireland maintained an entirely privatised service: there are problems with coverage of the door to door service. They totally recreated the legislation and now prices are correct, everyone is served and a minimum service is guaranteed.

BDE Bundesverband der Deutschen Entsorgungs-, Wasser- und Rohstoffwirtschaft e.V. (Matthias Pflüger)

- Separately collected fractions are different than mixed waste. The first do not need to be a service of general interest. Re-monopolisation or re-municipalisation does not have to be equal to collection and treatment of waste by the municipalities, the operation itself still can be done by private companies.

8. Keynote speaker on waste market obstacles – John Wante (OVAM)

- The full presentation is attached in annex.

Facts:

- Large differences in recycling performances: clear differences in national waste policies
- Increase in trans-boundary movements of waste
- European economy is heavily depending on material imports
- From waste to materials policy: how do we redesign the material cycle for an indefinite time?

Policy Challenges:

- How to make sure that waste is properly handled in a world that is not flat, due to different:
 - social and environmental standards
 - levels of taxation
 - restriction policies on international trade of waste
 - available infrastructure
 - lack of transparency
- How to fuse world of waste with world of primary materials and products? Legislation for waste and products are coming in conflict with each other.
- Cases:
 - Balanced incineration capacity in Flanders vs overcapacity/unbalanced in Netherlands : two different tax regimes: tax for Dutch waste and no tax for English waste. Open borders: contra productive or not?
 - Different environmental standards
 - Metal leaks in our material leaks:
 - High export share of cars, where there is a lack of infrastructure
 - Treatment infrastructure from Europe in those countries?
 - Own treatment capacity in our own countries?
 - Pay for the return of that/a car into a national recycling plant
 - Electronic equipment
 - Aluminium cans: loss of material in every recycling cycle
 - Lack of infrastructure
 - Waste/non waste
 - Taxes on waste/materials:
 - Harmonized taxes on landfill/incineration/...
 - Coping with unstable markets:
 - Leave it to the market? Doubtful, because sometimes it will be profitable, sometimes it won't.
 - Intervene with criteria on recycled content? With taxes on primary materials? Subsidize recycled materials? How organise this on a global scale?
 - Lack of transparency

- Not any harmonisation will be beneficial/ Different rules in different areas.
- Level playing field
- Move to circular economy is only possible in a world of innovation, in a world of differences: if everything is harmonised, everybody takes the same steps and is not stimulated to go further than

Feedback stakeholders

Eurometaux (Annick Carpentier)

- Agree with the aim of establishing a circular economy.
- Status of the materials is of no use: only the quality is of importance.
- EU can regulate all wastes that are generated within its territory and that are brought onto its territory, it should make better use of these possibilities: there is a legal requirement in the Waste Shipment Regulation to treat waste in a way “broadly equivalent to the EU acquis”. Equivalent conditions are requested but there has not yet been any control or enforcement of this.
- Aluminium (and copper): we lose a lot: 1.4 million pounds, 600.000 t aluminium scrap
- Cars: stiftung autorecycling in Switzerland can be taken as an example as it guards and supports countries with know-how, technology, to guarantee good conditions to recycle efficiency without the loss of material for the world’s economy.
- Full traceability for metal scrap is very difficult due to the melting processes,: total quality requirements for the recycling facilities can help here.
- Achieving a circular economy will take a lot of time, but we do have to address the problems.

Municipal Waste Europe (Vanya Veras)

- Transparency (or a lack of...):
 - in EPR (packaging, batteries,...): what goes onto the market? What is recovered from the market? There is a need for minimum rules on how these compliance schemes are organised.
 - It should be the task of the EU (or someone else) to tell the market what is available in terms of recovered materials, so that market can react and know what is on the market – i.e. some ‘market making’ is needed.

EURIC (Emmanuel Katrakis)

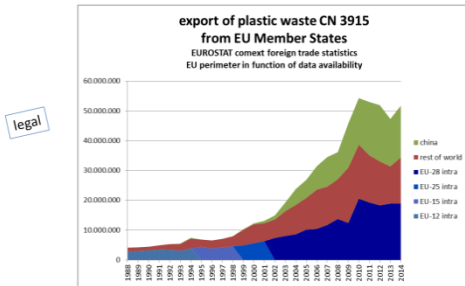
- Differences in taxation cause problems.

European Commission (Peter Wessman)

- Export of waste (outside EU): the new provisions which shall be implemented from 2016-2017 will strengthen inspections and controls, aiming to prevent illegal waste exports.
- Member States will have very detailed inspection plans and actions, focussing on high risk- hazardous waste streams.
- Reversing the burden of proof from the authorities to exporters: authorities (inspectors from police, customs, environmental authorities etc) may under the above Regulation conclude that a particular substance or object being carried is waste, if the exporter has not brought evidence of the contrary within a specified time-period, or if such evidence is insufficient. In such cases, the consequence would be that the shipment is considered illegal. The authorities may also require evidence from exporters that waste shipments which do not require notification (e.g. green, non-hazardous waste) are destined for recovery operations and will be managed in an environmentally sound manner in the destination country.

9. Third discussion topic: 'Waste shipments between Member States'

The issue of transfrontier shipment



Export, within EU borders but especially to non-EU partners, is rapidly growing and changing the recycling market of e.g. plastic waste

The issue of transfrontier shipment



Export as second hand to non-EU partners impacts the recycling market of e.g. ELV

The issue of transfrontier shipment



Impact of illegal waste shipment (in casu WEEE) in third world countries

The general principle

Waste for recycling and recovery, including energy recovery, shall move freely within the EU without any **unjustified** restrictions imposed by national, regional or local policy and legislation.

- Do we agree with this principle?
- Do we agree with this principle within the boundaries of the European Community?
- What kind of restrictions do occur?
- What is an 'unjustified' restriction?
- What is a 'justified' restriction?
- Are there examples of both?

The application of article 12

Article 12 Objections to shipments of waste destined for recovery
(b) planned shipment or recovery would not be in **accordance with national legislation** relating to environmental protection, public order, public safety or health protection concerning actions taking place in the objecting country
(k) the waste concerned will not be treated in **accordance with waste management plans** drawn up pursuant to Article 7 of Directive 2006/12/EC with the purpose of ensuring the implementation of legally binding recovery or recycling obligations established in Community legislation.

- Could article 12 be used for protectionist purposes?
- Is article 12 used for protectionist reasons?
- Are there differences in the level of environmental protection which motivate application of the article 12 b or k?
- Would an open market lead to waste treatment more in line with the hierarchy / resource efficiency / circular economy?

Scope...

- Transfrontier shipment outside EU, especially to non OECD countries, impacts the internal waste recycling markets and can have distorting effects on waste treatment hierarchy, resource efficiency and circular economy.
- Transfrontier shipment within EU may or may not be over regulated?
- Scope of this discussion : Within the EU

The principles of proximity and self sufficiency

In the case of shipments of waste for **disposal**, Member States should take into account the principles of **proximity**, priority for **recovery** and **self-sufficiency** at Community and national levels

- Is this principle a distortion hindering the waste markets in achieving the waste treatment hierarchy, resource efficiency and circular economy?
- Should this principle be abolished as all Member States (have to) comply with the same EU acquis?
- Should this principle be expanded to forms of recovery or recycling?
E.g. to avoid incineration in other MS to compete with ones own recycling market.

The administrative procedures

Light for transfrontier shipment of green listed waste for recycling
Heavy for waste shipment for disposal, or for amber listed waste shipment
Heavy for mixed municipal waste as code Y46 (Basel annex VIII) is part of annex IV

Is the implementation of administrative procedures a source for waste market distortions?

- Completeness of files
- Full use of maximum procedural periods in articles 7-9
- Different bank guarantees, different approach on lifting it
- Different use of pre-consented facilities
- Different administrative handling of movement documents, pre- and post-notifications and notifications of final treatment
- Different flexibility in changes in the shipment after consent

Enforcement

Any waste shipped is managed without endangering human health and in an environmentally sound manner throughout the period of shipment and during its recovery and disposal.
Environmentally sound management may, inter alia, be assumed if broadly equivalent to standards established in Community legislation

- Is enforcement still possible and effective under a lighter administrative regime?
- Is enforcement a source for waste market distortions?
- Are there Member States not yet complying with the acquis?
- Are there member states which do not apply environmentally sound management of waste?
- Is it up to the competent authority of the exporting member State to judge whether the treatment is sufficiently ESM, according to its own criteria?

The scope of this discussion is shipment within the EU.

Free movement of waste for recycling and (energy and material) recovery

Waste for recycling and recovery, including energy recovery, shall move freely within the EU without any unjustified restrictions imposed by national, regional or local policy and legislation.

Eurometaux (Annick Carpentier)

- Does not agree with the principle:
 - If you require standards, this will result in port hopping: the port with less control will be chosen.
 - Quality treatment is needed until the end
 - It needs to be complimented: where ever it is treated in the world.
- At the same time there is a need for facilitation, on the other hand the quality of material treatment needs to be guaranteed. The auditing principle should be introduced in the WSR: the cost of auditing is not very high and it gives opportunities for control, traceability and quality.
- **For example, LED material: it is hazardous, but can be recycled: keep within the borders and then landfill it? Or let it move freely?**
- Certification processes should focus on complex processes with valuable wastes (value and high illegal exports, like WEEE ...). Minimum technical requirements are to be imposed.

BDE Bundesverband der Deutschen Entsorgungs-, Wasser- und Rohstoffwirtschaft e.V. (Matthias Pflüger)

- The principle should differentiate between non-hazardous and hazardous waste : other rules for hazardous waste are necessary.

Municipal Waste Europe (Vanya Veras)

- For non-hazardous wastes: borders should be open when moving up in the hierarchy.
- For hazardous wastes: notification and requirements are needed.
- The EU should create a stable supply, a stable demand; at this moment we still need the control to be able to create the markets.

ERPA (Olivier Thomas)

- The existing situation: different administration in different countries creates unfair competition.
- Simplification, traceability and transparency: it is almost impossible to be totally compliant when working in different countries (waste legislation, tax legislation,...). Administration papers, are to be filled in differently for Flanders, France,... one can be compliant at one side of the boarder, but non-compliant at the other side.
- Annex 7: for example, when you take plastics in small quantities (trucks resins) in bales of different plastics with 7 different final consumers: how do you make the traceability? In annex , nothing is foreseen for these regrouping things. A regulation should be implemented in the same way over all Member States's and this would make things less complicated.
- Confidentiality is very difficult to get

European Commission (George Kiayias)

- The waste shipment correspondents meeting is writing a guideline to fill in annex 7
- Annex 7 shipment fall under restriction of the country of dispatch.

Eurometaux

- Enforcement is needed.
- Certification scheme: when quality standards are applied an end-of-waste status is not necessary anymore.

EURIC (Emmanuel Katrakis)

- For green waste, there should not be restrictions in terms of waste shipments within the EU.
- When the classification of waste as hazardous in one Member State differs from another Member State, there is no more legal certainty.

OVAM (John Wante):

- Waste to recovery/material/... restrictions on transfrontier shipments are justified when they lead to better environmental performance. That is now missing in the legal framework. We start with the binary classification (disposal/recovery) and that is a problem. Hazardous waste should be used in the most optimal way and Member States should have the means to go a step further.

Shipments of waste for recovery or disposal

In the case of shipments of waste for disposal, Member States should take into account the principles of proximity, priority for recovery and self-sufficiency at Community and national levels

Municipal Waste Europe (Vanya Veras)

- First, there is the discussion on "disposal": there is a distortion in the classification of incineration plants.
- There is improper implementation of the proximity principle by the Member States, because of a lack of knowledge. A helpdesk for Member States and implementing authorities would be beneficial.

CEWEP (Ella Stengler):

- If you allow or facilitate waste shipments, it should be based on a higher treatment in the hierarchy – waste shipments should be allowed if they lead to treatment like incineration with energy recovery in the Member State of destination while in the Member State of dispatch only landfilling is possible.

EURIC (Emmanuel Katrakis)

- Often, there is an excess of recovered paper collected and sorted into commodity grades than the EU paper mills buy. Exports to paper mill customers outside Europe is vital to prevent an oversupply and collapse of paper recycling within Europe.

The application of article 12

EURIC (Emmanuel Katrakis)

- EURIC would like to present a case study on the application of article 12 via the your voice consultation

Municipal Waste Europe (Vanya Veras)

- Shipments or shipment bans are often motivated by different levels of taxations or costs in Member States.
- Live example: both Sweden and Norway have waste treatment capacity. In Sweden, the subsidies for renewable content of the energy are higher and this attracts waste from Norway. Norway would essentially have a right to say that they invested in their own capacity and stop the export of their waste, but they don't.

The administrative procedures

Eurometaux/Umicore (Jan van Heukelom):

- Simplification of the notification procedure would be great: No need to get a consent for something that is already pre-consented. Waste shipment procedures could be simplified by skipping the delay of 7 days or several months (not waiting for a formal consent). One would still notify, have a document on board or documents ready and consultable electronically – with reference to the registration as a pre-consented facility.
- For the shipment of dangerous goods by road one applies the ADR provisions, even for products a lot more hazardous than some hazardous wastes. Why do we have parallel systems, just because it is called waste?
- Annex 7 – make it simpler, more commercial, electronic.
- When shipping mixed paper one takes a risk: consider it green and see at which frontier you are stopped because one considers it amber. Legally, the strongest procedure is applicable.

European Commission (George Kiayias)

- Annex 7 also functions as a contract: the organiser is obligated to take the materials back in case of an illegal shipment.

ERPA (Olivier Thomas)

- Annex 7 is not adapted to the actual logistic/transport modes (you don't see all the intermediary transporters)

Eurometaux

- There is already a study been published on the annex 7 – he would like to share.

FEAD (Nathalie Buijs)

- Increasing waste flows are being shipped under Annex 7 – that’s why this is important for the industry. But other administrative procedures are very important and hindering too.

Enforcement (today's situation)

Eurometaux (Annick Carpentier)

- Enforcement is not the main problem for industries.
- Communication and cooperation between Member States controlling systems could be improved, but not really without EU legislation or EU implementation rules for the legislation.

EURIC (Emmanuel Katrakis)

- Designing and imposing clear administrative procedures makes it easier for industries, easier for enforcement.

10. Discussion topic 4: 'Treatment networks, capacity and controls'

- Use of EU funds to support incineration – at the expense of recycling?
- Subsidies for electricity from waste – also promoting incineration?
- Targets to promote reuse above recycling
- Pay as you throw

Only the items marked in red have not yet been discussed previously under other topics

Non uniform waste planning- views collected : Non uniform waste planning - views collected :

- Waste Treatment choices vary widely
 - Landfill vs. Incineration. landfilling high, 90% (Bulgaria, Romania, Lithuania), to below 5% (Belgium, the Netherlands, Germany (landfill ban))
 - Excess incineration capacity in some, shortfall in others, attracting waste between MSs. Also occurring for wood waste / biomass
- MS Waste Management Plans (WMPs) are not consistent
 - WMPs Ability to cope with current and predicted waste volumes (of 13) , 5 insufficient, 6 clear weaknesses, 2 good.

- Licencing and enforcement varies
 - Ease of permitting varies
 - Lack of consistency (and rigour) in licencing – size of parallel markets.
 - Bans on cash transactions – e.g. WEEE in France
 - Enforcement inconsistent – lack of MS sharing of jurisprudence in waste crime

Non uniform waste planning and subsidies- views collected :

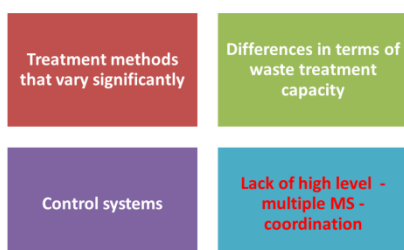
- Environmentally harmful subsidies?
 - Landfill and/or incineration taxes
 - Use of EU funds to support incineration – at the expense of recycling?
 - Subsidies for electricity from waste – also promoting incineration?
- Complex and varied fees
 - Multiple systems between local authorities - lack of consistency

Non uniform waste planning and subsidies - views collected:

- No high level planning on secondary raw materials
 - No roadmap - yet
 - Lacking incentives / targets to promote reuse above recycling
 - Contrast with landfill and recycling
- Varied uptake of pay as you throw
 - 17 MSs have some in place
 - Very wide variation in take up and type of scheme
 - National deposit refund schemes can be an obstacle to non national producers

Discussion points

- View on the presented examples?
- Other examples?

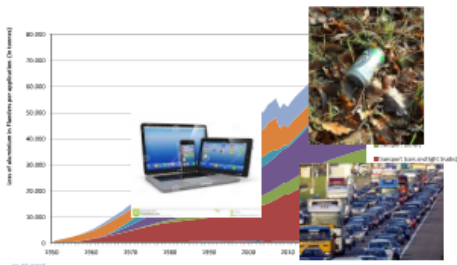





Overall remarks:

- If Member States get any funds to support the construction of waste incinerators: the EU should first check if the Member States achieve their recycling targets.
- No problem if it concerns an integrated approach.
- Refund schemes (e.g. deposit returns on containers) are cherry picking.
- There should be more corporation between Member States.
- The only way to overcome the complexity (certify both sides: the sender, the receiver and an electronic system which is reachable while on route). This system would mean that less knowledge is necessary for every shipment.
- Historically municipalities had the authorisation to treat their collected waste and they invested in landfill and incineration. But there is now a transition to material recycling which is likely to leave some landfill and incineration capacity un (or under) used.
- Northern countries need more energy for heating purposes and as a result have traditionally invested more in energy recovery systems from waste incineration.

Annex : keynote presentation John Wante

<p style="text-align: center;">Waste market obstacles keynote speech John Wante</p> 	
<p style="text-align: center;">International trade and the shift to a circular economy policy challenges</p> <p style="text-align: center;">John Wante Head of service policy innovation, waste and materials department, Flemish Public Waste Agency 21.05.2015</p>	<p style="text-align: center;">Large difference in recycling performance</p>  <p style="text-align: left; font-size: small;">21.08.2015</p>
<p style="text-align: center;">Increase in transboundary movements of waste</p>  <p style="text-align: left; font-size: small;">21.09.2015</p>	<p style="text-align: center;">Heavily dependant on material imports</p>  <p style="text-align: left; font-size: small;">21.09.2015</p>

<h3 style="text-align: center;">From waste to materials policy</h3> <ul style="list-style-type: none"> • From linear to circular economy • From treatment of waste to redesigning material cycles and value chains • Find the appropriate scale (local, regional, European, international...) • More attention for system change <p style="font-size: small;">21.01.2015</p>	<h3 style="text-align: center;">Policy challenges</h3> <ul style="list-style-type: none"> • How to make sure that waste is properly handled in a world that is not flat, due to different <ul style="list-style-type: none"> – social and environmental standards – levels of taxation – restriction policies on international trade of waste – available infrastructure – lack of transparency • How to fuse world of waste with world of primary materials and products? <p style="font-size: small;">21.01.2015</p>
<h3 style="text-align: center;">Waste incineration</h3> <ul style="list-style-type: none"> • Balanced capacity: case of Flanders <ul style="list-style-type: none"> – closed borders policy – self-sufficiency principle and proximity principle – maintain high price difference between recycling and incineration – preserve capital • Unbalanced capacity: case of the Netherlands <ul style="list-style-type: none"> – open borders policy - import – differentiated waste taxes for domestic versus imported waste – preserve capital • Transition towards open borders? <ul style="list-style-type: none"> – impact of lower prices for incineration on recycling market and on local infrastructure? <p style="font-size: small;">21.01.2015</p>	<h3 style="text-align: center;">Different environmental standards</h3> <ul style="list-style-type: none"> • Export of metal waste outside Europe • Parts of European industry in favour of certification of treatment installations outside Europe, so as to limit export • Who is setting the standard? Unilateral? Bilateral? Multilateral? • What if agreed standard is lower than our standard? <p style="font-size: small;">21.01.2015</p>
<h3 style="text-align: center;">Metal leaks in our material cycles</h3>  <p style="font-size: small;">21.01.2015</p>	<h3 style="text-align: center;">Lack of infrastructure</h3> <ul style="list-style-type: none"> • high recycling rates for cars in Belgium (> 90 %) • cars responsible for highest leak in the aluminium cycle, due to export of second hand cars to countries with lack of recycling infrastructure • Invest in infrastructure abroad? Stop export? Make cars return? <p style="font-size: small;">21.01.2015</p>

<h3 style="text-align: center;">Waste / non waste</h3> <ul style="list-style-type: none"> • Different approaches throughout Europe in waste / non waste issues • Harmonization in end of waste criteria is ongoing process, but difficult • Will there ever be a harmonized approach for all waste streams (in EU/globally)? <p style="text-align: left; font-size: small;">21.08.2014</p>	<h3 style="text-align: center;">Taxes on waste / materials</h3> <ul style="list-style-type: none"> • Large differences between Member States in tax regimes and levels of taxation • Will there ever be a harmonized European tax on incineration and landfilling? What if a European tax is too low to be effective? Could it be supplemented with additional domestic taxes? <p style="text-align: left; font-size: small;">21.08.2015</p>
<h3 style="text-align: center;">Coping with unstable markets</h3> <ul style="list-style-type: none"> • Recycled plastics confronted with unstable international markets • Leave it to the market? • Intervene with criteria on recycled content? With taxes on primary materials? Subsidize recycled materials? How organise this on a global scale? <p style="text-align: left; font-size: small;">21.08.2015</p>	<h3 style="text-align: center;">Lack of transparency</h3> <ul style="list-style-type: none"> • Need for more information on reuse, dismantling, recyclability, recycled content, composition, social issues... • Can transparency be a prerequisite for free trade? <p style="text-align: left; font-size: small;">21.08.2015</p>
<h3 style="text-align: center;">Conclusion</h3> <p>How to make the best out of the existing situation? Is the level playing field our final aim or is it only an instrument?</p> <div style="display: flex; align-items: center; justify-content: center;">  ↔  </div> <p style="text-align: left; font-size: small;">21.08.2014</p>	 <p style="text-align: center; font-size: small;"> www.ovam.be info@ovam.be T: 015 284 284 F: 015 203 275 Openbare Vlaamse Afvalstoffenmaatschappij Stationsstraat 110 B-2800 Mechelen </p>

9.3 Annex III.3 presentations and minutes workshop 18/11/2015

Stakeholder meeting on the functioning of waste markets within the EU

meeting minutes

16th November 2015, 09am-5pm*
Rue Philippe Le Bon, 3, 1000 – Brussels (conference room 4/56)

List of participants

Pille Aarma	ministry of environment Estonia
Ali Akdag	CIRFS, European Man-Made Fibres Association
Werner Annaert	FEBEM/FEGE, Federation of Environmental Companies, belgium
Piotr Barczak	EEB, European Environmental Bureau
Richard Barnish	DHL courier service
Valentina Bolognesi	Digitaleurope, digital technology industry in Europe
Julien Bouyeron	FCD Fédération des entreprises du Commerce et de la Distribution France
Martin Brocklehurst	ISWA, international solid waste association
Annick Carpentier	Eurometaux, european association of metals
Isabelle Conche	Eucopro, European Association for Co-processing
Christel Davidson	Eurocommerce, association for retail, wholesale and international trade interests
Nadine De Greef	FEAD, European Federation of Waste Management and Environmental Services
Nicolas de la Vega	EBA european biogas association
Luigi Della Sala	Eurogypsum, Gypsum Industry Europe.
Mark Dempsey	HP, HewlettPackard
Sandrine Devos	UEPG, Union Européenne des Producteurs de Granulats
Bianca Drogosch	VKU, Verband Kommunalen Unternehmen
Manuela Ernst	VKU, Verband Kommunalen Unternehmen
Ferran Rosa Gaspar	Zero Waste Europe, NGO empowering communities to rethink their relationship with resources
Lorenzo Ferrucci	Food Drink Europe, industry federation
Maxime Furkel	LexMark, creates enterprise software, hardware and services
Magdalena	EAA European Aluminium Association, represents the value chain of the aluminium industry in Europe
Garczynska	European Commission DG GROW
Magnus Gislev	Norsk Industri, Confederation representing corporate Norway
Gunnar Grini	VDMA, Verband Deutscher Maschinen- und Anlagenbau, German Engineering Federation
Soeren Grumptmann	EUCO Light, The European association of collection and recycling organisations for WEEE lamps and lighting.
Marc Guiraud	Stena Metall, recycles and processes metals, paper, electronics, hazardous waste and chemicals.
Carl Hagberg	Central Lobby, an independent parliamentary and public affairs consultancy.
Michael Hale	Cambre Associates, Brussels-based integrated public relations and public affairs consultancy.
Christian Hartmann	Hazardous Waste Europe (HWE), represents hazardous waste treatment installations in Europe
Alain Heidelberger	Next Generation Group (NGR), Design and manufacture of extruders, shredders, etc for the plastics recycling industry.
Michael Heinzlreiter	Eurometaux, european association of metals
Chris Heron	

Nicolas Humez	Hazardous Waste Europe (HWE), represents hazardous waste treatment installations in Europe
Luca Ibelli	Cefic, European Chemical Industry Council
Alagonda Elisabeth Jager	Janus Vaten, conditioning and sale of new and second use drums and IBC
Hendrikus Janus	Janus Vaten, conditioning and sale of new and second use drums and IBC
Svend Erik Jepsen	Confederation of Danish Industry (DI) representing corporate Denmark.
Mikołaj Józefowicz	Independent consultant providing private sector clients with advice on Extended Producer Responsibility
Lorena Jurado	Conseil General de Cambres de Catalunya, Catalonian chamber of commerce
Emmanuel Katrakis	EuRIC, Confederation representing the interests of the European recycling industries.
Raziyeh Khodayari	Svenskfjarrvarme, Swedish District Heating Association
Franz Kirchmeyr	Kompost & Biogas Österreich, umbrella organization for five Austrian compost & biogas organisations.
Michal Kubicki	European Commission, DG Grow
Torsten Laksafoss Holbek	Head Of Office MEP Morten Løkkegaard
Stijn Lambert	Arcadis Belgium
Kristy-Barbara Lange	European Bioplastics
Krzysztof Laskowski	Euroheat & Power, international association representing District Heating and Cooling and Combined Heat and Power sector in Europe
Hélène Lavray	Eurelectric, The association of the electricity industry in Europe
Ulrich Leberle	Cepi, industry federation for the European pulp, paper and board industries.
Ji un Lee Shin	Umicore, non ferrous metals producer
Marc Leemans	OVAM, public Flemish Waste Agency
Michal Len	RREUSE, represents social enterprises active in re-use, repair and recycling.
Andreas Loukatos	ETVA, environmental services consultant
Vagner Maringolo	CEMBUREAU, European cement association
Natalia Matting	European Commission, DG GROW
Marcello Missaglia	Missaglia e associati, independent consulting
Christian Monreal	REMONDIS, recycling, service and water company
Sarah Mukherjee	Veolia, waste management operator
Isabelle PACE	Veolia, waste management operator
Guillaume Perron-Piché	Eswet, European Suppliers of Waste to Energy Technology
Matthias Pflüger	BDE Federation of the German Waste, Water and Raw Materials Management Industry
Adrian Platt	Befesa, technology solutions for industrial waste management
Joachim Quoden	Expra, umbrella organisation for packaging and packaging waste PROs
Mitra Qurban	DP DHL, Deutsche Post DHL courier service
Umberto Raiteri	ERP, European Recycling Platform, implementing regulations on the recycling of electrical and electronic waste
Rauno Reinberg	Republic of Estonia, Ministry of Public Affairs
Britt Sahleström	AI Swedish Recycling Industries' Association
Oliver Santiago	Unesid, union of Spanish steel industry
Helmut Schmitz	Der Grüne Punkt, German PRO
Christophe Scius	Suez Environnement S.A.French-based utility company for

	water treatment and waste management
Elisa Setien	EFCC, European Federation for Construction Chemicals
Arjen Sevenster	Plastics Europe, Represents the interest of the plastics manufacturing industry in Western Europe
Baudouin Ska	FEBEM/FEGE, Federation of Environmental Companies, belgium
Ella Stengler	CEWEP, represents Waste-to-Energy Plants across Europe.
Jane Stratford	Defra, UK Department for Environment, Food & Rural Affairs
Jane Stratford	Defra, UK Department for Environment, Food & Rural Affairs
Emilie Stumpf	CECED, European committee of domestic equipment manufacturers
Katarine Svatikova	Trinomics
Andreas Tack	WV Stahl, Wirtschaftsvereinigung Stahl , German steel industry federation
Mike Van Acoleyen	Arcadis Belgium
Patrick Van den Bossche	Agoria, Belgian technology industry federation
Vincent Van Dijck	ETIRA, European Toner & Inkjet Remanufacturers Association
Konstantinos Velis	University of Leeds
Vanya Veras	MWE Municipal Waste Europe, European association representing municipalities responsible for waste management
Ronalds Vitins	KP Konkurrences Padome, Lithuanian competent authority on competition
Rebecca Walker	SEPA, Scottish Environment Protection Agency
Peter Wessman	European Commission, DG ENV
Rob Williams	Trinomics

Agenda

08h30	Coffee and registration
09h00	Welcome by DG Environment (<i>Peter Wessman DG ENV</i>) <ul style="list-style-type: none"> - Welcome word - Situating the study
09h15	Introduction (<i>Mike Van Acoleyen ARCADIS</i>) <ul style="list-style-type: none"> - Presentation of the agenda - Presentation of the state of progress
09h45	Your voice in Europe questionnaire (<i>Rob Williams TRINOMICS</i>) <ul style="list-style-type: none"> - Presentation of the outcome - questions and answers
10h15	Coffee break
	Introductory presentations by stakeholders
10h30	<i>Martin Brocklehurst, Costas Velis, ISWA</i> <ul style="list-style-type: none"> - ISWA's view on the major waste market distortions - questions and answers
11h00	<i>Annick Carpentier, EUROMETAUX</i> <ul style="list-style-type: none"> - Eurometaux' views on obstacles to movements of waste within the EU - questions and answers
11h30	<i>Piotr Barczak, EEB, Ferran Rosa Gaspar, ZWE</i> <ul style="list-style-type: none"> - EEB and Zero Waste Europe's views on obstacles to movements of waste within the EU - questions and answers
12h00	Presentation of the outcome of 3 case studies <ul style="list-style-type: none"> - Application of the proximity principle (<i>Mike Van Acoleyen, ARCADIS</i>) - Mixed waste collection in Denmark (<i>Rob Williams, TRINOMICS</i>) - Polluter pays principle in extended producer responsibility schemes in France (<i>Stijn Lambert, ARCADIS</i>)
12h45	Break for lunch
14h00	Presentation of the outcome of 4 case studies <ul style="list-style-type: none"> - Incineration taxes in The Netherlands (<i>Katarina Svatikova, TRINOMICS</i>) - Landfill failures in Romania (<i>Mike Van Acoleyen, ARCADIS</i>) - Comingled collection in Poland (<i>Stijn Lambert, ARCADIS</i>) - Divergent application of Article 18 of the Waste Shipment Regulation (<i>Peter Wessman, DG ENV</i>)
15h00	Coffee break
15h15	Open forum discussion on solutions for distortions in the functioning of the waste markets within the EU

		<ul style="list-style-type: none"> - Could a "Waste Schengen area" be a solution for distortions caused by transfrontier shipment provision on intra-EU shipments? What should be the properties of such a solution? Which waste streams are to be included or excluded? - Where could legislation be amended and improved to ensure the effective functioning of waste markets within the EU? - How could implementation of existing legislation be improved, e.g. within Member States; or through Commission guidance where needed? - What else could be done to ensure the effective functioning of waste markets within the EU?
	16h45	Conclusions and wrap up (Peter Wessman, Mike Van Acoleyen)
	17h00	End

Presentations

Welcome by DG Environment (Peter Wessman)

Situating the study.




**Stakeholder Meeting:
The Functioning of Waste
Markets in the EU**
Introduction
 Peter Wessman
 European Commission, DG Environment
 Unit Waste Management & Recycling




Main objectives of the study

- Obstacles to intra-EU waste movements
- Case studies
- Options to ensure efficient waste markets in the EU




Situating the study

- EU waste shipment regulation – Free movement of waste sent to recovery operations
- Stakeholders' views
- Review by 2020 of the WSR




Current situation (Waste Shipment Regulation)

Waste for recovery and recycling shall freely move within the EU

- > the most appropriate installations

Introduction (Mike Van Acoleyen ARCADIS)

State of progress.





THE FUNCTIONING OF WASTE MARKETS IN THE EU

second workshop
16 November 2015

STATE OF PROGRESS

Mike Van Acoleyen, ARCADIS

Today's workshop


PART 1 : State of affairs, opinions, cases...

- o State of progress study on waste markets functioning
 - o Outcome of the yourvoice survey
- Coffee
- o Stakeholder presentations : ISWA, EUROMETAUX, EEB/ZWE
- EEB/ZWE adapted title: Waste as a commodity? Waste markets in the era of a circular economy – NGOs suggestions.
- o Cases : proximity principle, mixed waste collection, polluter pays principle in EPR

Break for lunch (12h45)

information

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Today's workshop

PART 1 continued: State of affairs, opinions, cases...

- o Cases : incineration taxes, landfill failures, comingled collection, general information requirements for transfrontier shipment

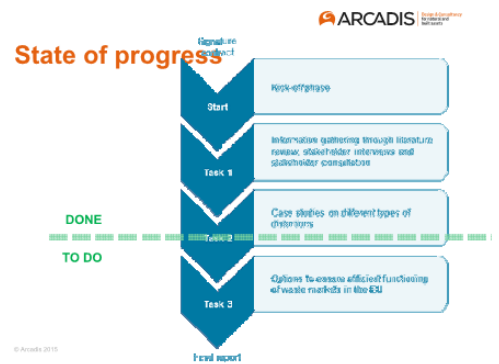
Coffee

PART 2 : open forum discussion (15h15 -> 16h45)

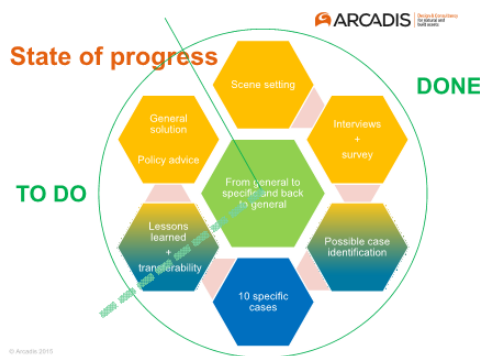
Interaction

exchange

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Scene setting

What is a distortion in the functioning of the waste market?

Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of waste prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy.

- National regional local :
- Excluded: EU level, Basel Convention...
 - Included: implementation measures for higher levels
- Policy or legislative act :
- hard legislation
 - grey legislation and guidance
 - administrative practice

Scene setting

Literature research : interim report

Stakeholder interviews :



Your voice in Europe survey :

12.06.2015 – 04.09.2015
246 respondents

© Arcadis 2015

Scene setting ; first workshop

wrap up conclusions:

Electronic notification systems for waste shipments would be welcome to lift administrative burden.

The application of the proximity and self-sufficiency principles causes problems. **Guidance** would be useful to ensure a consistent application of the principles.

Guidance on the use of annex VII information forms for shipment of green listed waste for recycling would be very much appreciated.

The three main **policy goals** (waste hierarchy, resource efficiency, circular economy) are supported by all.

Simpler procedures are beneficial both for industry and for inspection.

© Arcadis 2015

Scene setting ; first workshop

wrap up conclusions (continued):

Pre Consented Facilities can be a clue to easier compliance with the provisions in the Waste Shipment Regulation. Existing possibilities in the regulation are not sufficiently used.

Waste is a **resource** and may be treated as other resources.

The implementation of the Waste Shipment Regulation does not always support or **facilitate more recycling**.

Consistency in policy can enhance better waste markets. **Helpdesk** support for smaller competent authorities or for Member States with less administrative capacity is a good idea.

Standards for waste treatment operations are needed.

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Scene setting ; first workshop

wrap up conclusions (continued):

Transparency, **good data**, good statistics and traceability are needed.

One should take care of balanced planning of waste treatment **infrastructure**, avoiding over- or under-capacity.

We should protect opportunities for **innovation**.

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Case studies

From survey results, interviews, literature over a longlist to a selection of 10...

Case 1 (EU) : the application of the proximity principle in shipments within and between Member States

Case 2 (DK) : notifications for packaging waste, separate collected as one single waste stream

Case 3 (FR) : failure to implement the polluter pays principle in extended producer responsibility schemes

Case 4 (NL) : incineration tax differences for homeland and imported wastes

Case 5 (RO) : the impact of failing landfill compliance on the waste market

Case 6 (PL) : comingled waste collection and recycling effectivity

Case 7 (EU) : the non-harmonised use of art 18 and annex VII in transfrontier waste shipments

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Case studies

From survey results, interviews, literature over a longlist to a selection of 10...

Case 8 (EU) : distortions generated by the WSR's procedure with prior written notification and consent for intra-EU shipments

Case 9 (IT) : Restrictions of waste shipments between Italian regions.

Case 10 (EU) : Administrative issues on waste shipments through transit countries.

To be completed

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Next steps

Finalisation of the three remaining cases

Writing up minutes with conclusions, advice and ideas from this workshop

Finalising policy advice

Final report end of December 2015

This workshop is the last phase in an extensive process of stakeholder consultation and engagement

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Wrap up conclusions of the first workshop, to be built upon today:

- Electronic notification systems for waste shipments would be welcome to lift administrative burden.
- The application of the proximity and self-sufficiency principles causes problems. Guidance would be useful to ensure a consistent application of the principles.
- Guidance on the use of annex VII information forms for shipment of green listed waste for recycling would be very much appreciated.
- The three main policy goals (waste hierarchy, resource efficiency, circular economy) are supported by all.
- Simpler procedures are beneficial both for industry and for inspection.
- Pre Consented Facilities can be a clue to easier compliance with the provisions in the Waste Shipment Regulation. Existing possibilities in the regulation are not sufficiently used.
- Waste is a resource and may be treated as other resources.
- The implementation of the Waste Shipment Regulation does not always support or facilitate more recycling.
- Consistency in policy can enhance better waste markets. Helpdesk support for smaller competent authorities or for Member States with less administrative capacity is a good idea.
- Standards for waste treatment operations are needed.
- Transparency, good data, good statistics and traceability are needed.
- One should take care of balanced planning of waste treatment infrastructure, avoiding over- or under-capacity.
- We should protect opportunities for innovation.


Your voice in Europe questionnaire (Rob Williams TRINOMICS)

The efficient functioning of waste markets in the European Union
Results of the stakeholder consultation
(12 June - 4 September 2015)
Second workshop
16 November 2015



Outline

1. Purpose of the survey
2. Respondent profile
3. Results from analysis



1. Purpose of the survey



Survey on 'waste market distortions'

Waste market distortions

National, regional or local policies, legislative acts or administrative decisions which distort the EU's ambition to reach high levels of waste prevention, reuse, recycling, recovery, improved resource efficiency or/and a move towards a circular economy.

Market distortions may also result from the sub-optimal application of EU waste legislation by public authorities.

Main questions


1. What are the main **perceived regulatory failures** in the EU waste markets?
2. What are the main obstacles **linked to the application of EU waste legislation** (or other EU legislation)?
3. What are the main obstacles **linked to the national, regional and local legislation/requirements**?

➔

Focus on

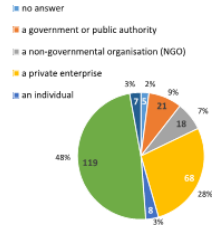
- Examples
- Drivers
- Link to legislation/policy
- Impacts
- Solutions

2. Respondent profile



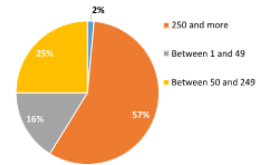
Respondent profile

- Total responses = 246
- organisation / association (other than NGO) = 119 (48%)
- private companies = 68 (28%)
- government / public authorities = 21 (9%)
- NGOs = 18 (7%)
- Small no. individuals / other
- No responses from European institutions / academia



Size of companies who responded

- 68 private company respondents
- 39 (57%) large companies
- 17 respondents (25%) medium-size companies
- 11 (16%) small companies



Trinomics

Location of respondents



Type of respondent per country

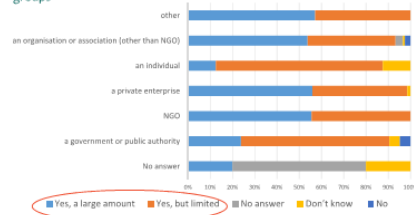
- 79% of BE respondents organisations or associations (other than NGOs)
- 83% of responses in the NL from organisations or associations
- Majority of respondents in the CZ and DK also organisations or associations
- Only in the UK and DE responses from all five categories (albeit majority were organisations and associations, or enterprises)
- Majority of company respondents located in DE and the UK
- Respondents from individuals in DE, UK and SK
- NGOs belong to the EU15, and seldom to Eastern European EU12

2. Survey results

Trinomics

Do you think there are regulatory failures in the EU waste markets?

Similar response by the different stakeholder groups



What causes the concerns?

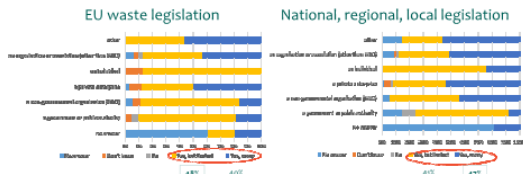
- Lack of harmonisation among national legislation (cited by 42% of respondents)
- Lack of clarity of definitions of waste and by-product (25% of respondents)
- Lack of clarity of end of waste criteria (19% of respondents)
- Lack of enforcement or clarity of the European waste hierarchy (18% of respondents)
- Problems with competition issues, such as subsidies and public monopolies (18% of respondents)

What causes the distortions?

- Waste market distortions are not only an issue of national legislation but also of EU legislation

Category	Answers	Ratio
EU legislation or policy	216	86.75 %
National policy, legislation or administrative decisions	201	80.72 %
Regional policy, legislation or administrative decisions	109	43.78 %
Local policy, legislation or administrative decisions	84	33.73 %
No Answer	19	7.63 %

Perceptions on waste markets obstacles related to...



→ Perception that decisions taken at national, regional and local levels cause more distortions than the application of EU legislation

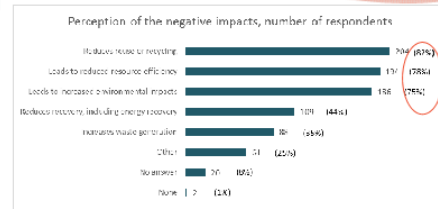
What are the causes of these distortions?

EU waste legislation	National, regional, local legislation
<ul style="list-style-type: none"> Differences in interpretation, definitions, classification Different applications with regard to the WFD and WSR 	<ul style="list-style-type: none"> Inadequate waste treatment networks leading to local over- or under-capacities and sub-optimal waste treatment Differing taxes and fees

What are the main impacts?

- | EU waste legislation | National, regional, local legislation |
|---|--|
| <ol style="list-style-type: none"> The cost of compliance with waste (particularly waste shipment) regulations / directives Negative economic impact of landfilling of reusable / recyclable / recoverable waste Negative economic impact of public administrations preventing access to private firms for collection and treatment of waste | <ol style="list-style-type: none"> Lack of fair competition (due to subsidies/ public monopolies) High administrative burden due to the overlapping, unclear and sometimes inconsistent pieces of legislation Non-compliance with waste legislation (e.g. illegal shipping) |

What are the environmental impacts?



Are there large differences between the Member States?

- 80% of respondents → YES
 - 90% of associations, 78% of NGOs, 76% of private enterprises, 60% of government/ public authorities
- 8% of respondents → yes but small
 - 19% of government/ public authorities, 15% private enterprises, 5% of associations
- 2% don't know

The main differences are...

- Heterogeneity in landfilling and incineration policies
- Differences in infrastructure and facilities for recycling
- Differing fiscal policies and funding possibilities
- EPRs
- End of waste criteria

What could the solutions be?

Solution	Number	Ratio
Not aware of any actions	2	0.2%
Legislative changes	194	75.3%
Changes in the policy or decision-making by authorities	166	62.25%
EU guidance on waste legislation or policy	100	37.04%
Co-operation between authorities in different Member States	124	46.9%
Co-operation between authorities in the same Member State	67	25.36%
Other	33	12.38%
No answer	33	12.38%

→ Legislative changes and EU guidance: main answer for public authorities
 → A combination of actions: other stakeholder groups

Specific actions suggested (1)

- Legislative and policy changes (74%)
 - In particular for WFD, WSR, End of waste criteria → EU legislation
 - Clear definitions, obligations, roles
 - Promote opening up of the waste markets
 - Legally binding standards for waste facilities
 - Ban on landfilling
 - Better implementation and enforcement of legislation
 - To secure a level playing field and avoid illegal shipments and landfilling
 - Improvement of administrative procedures
 - Setting up pre-consented facilities to speed up the process
 - Digitalisation/ setting up an electronic system/ platform to register/ track shipments

Specific actions suggested (2)

2. EU guidance on waste legislation or policy (61%)
 - How to interpret EU waste legislation and policy
 - Demand for harmonisation → EU standards, minimum requirements, targets
 3. Cooperation between authorities across MSs (50%)
 - In particular for shipments
 4. Cooperation between authorities in a country (39%)
 - Platforms for debate
 - Best practice sharing
 - Collaboration between policymakers and industry
- Legally binding solutions are needed to make waste markets function more efficiently

Thank you very much for your attention!

Main results of the survey:

What causes the concerns?

- Both EU and national/ regional/ local level legislation
- Lack of consistency between Member States regarding the Waste Shipment Regulation, Waste Framework Directive, End of Waste criteria;
- Implementation issues of the Landfill directive,
- overcapacities in incineration,
- different taxes across Member States,

The main drivers, impacts, regional differences as well as solutions were discussed. For further information, see the PowerPoint slides.

Introductory presentations by stakeholders ISWA's view on the major waste market distortions



The Functioning of Waste Markets within the EU – Stakeholder Meeting

COSTAS VELIS ISWA'S VICE CHAIR OF THE EUROPEAN GROUP

MARTIN BROCKLEHURST ISWA'S TF ON RESOURCE MANAGEMENT, CWM

1

1. About ISWA



Important publications



The global waste & resource management industry



Description	
Total waste generated	4 billion tonnes
Municipal waste	1.6-2.0 billion tonnes
Percentage landfill	70%
Percentage thermal & waste to energy	11%
Recycling & MBT	16%
Global Population with no waste services	52% (3.5 billion)
Global Value of industry	\$433 billion
Growth in Food waste 2005-2025	44%
Impact of foodwaste on climate change gases	Grow from 8-10%

Source ISWA Global Waste Industry

Contents



1. About ISWA
2. Market Failure in Global Waste and Resource Management
3. ISWA's TF on Resource management
4. Drivers towards Circular Economy
5. The contribution of recycling and waste management sector
6. Opportunities
7. Challenges
8. Key-issues for the near future

ISWA'S technical resources



THE ISWA WORKING GROUPS

- Working Group on Biological Treatment of Waste
- Working Group on Climate Change and Waste Management
- Working Group on Collection and Transportation Technology
- Working Group on Communication
- Working Group on Energy Recovery
- Working Group on Hazardous Waste
- Working Group on Healthcare Waste
- Working Group on Landfill
- Working Group on Legal Issues
- Working Group on Recycling and Waste Minimisation



Recent publications with global impact

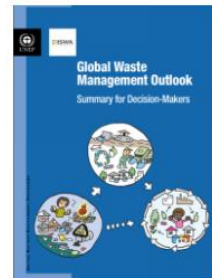


Fig. 1 | Linear economy





Risks of illegal activity



Circular Economy – 3rd industrial revolution



- 3rd industrial revolution
 - Resource Productivity
 - Energy efficiency
 - Interconnectivity
- Circular Economy & 3rd industrial revolution
- Disruptive change and market volatility will be the rule not the exception
- The term "Waste" will be redefined in many supply chains and consumption patterns
- Circular economy and local context

Key outputs from the Task Force



Pacific Gyre six times more plastic than plankton

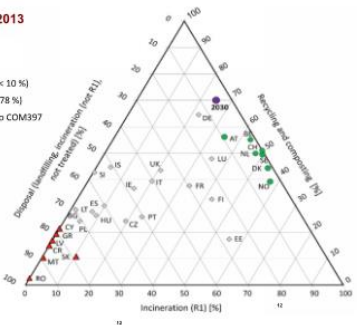


Opportunities



Waste treatment 2013

- ◆ EU countries + CH + NO
- "Frontrunners" (disposal < 10 %)
- ▲ "Latecomers" (disposal > 78 %)
- Task for 2030 according to COM397



Source: Eurostat 2015

ISWA Task Force on resource management



TF Members

- Bjorn Appleqvist, Coordinator, COPENHAGEN MUNICIPALITY
- Andreas Bartl, TÜV
- Martin Brocklehurst, CIWM
- Gary Crawford, VEOLIA
- Bettina Kamuk, RAMBOLL
- Costas Velis, Un. Of LEEDS
- Jane Gilbert, CARBON CLARITY
- Ana Loureiro, VALORSUL
- Rachael Williams



Circular economy drivers



REGULATORY & LEGAL FRAMEWORKS NEED TO BE REVISED TO SUPPORT THE CIRCULAR ECONOMY



- We require a switch in legal drivers from waste management to materials management
- We cannot continue to pursue policies that result in secondary raw materials looking for market places through Environmental Legislation
- Policy Incentives are required for the reuse of secondary raw materials to create sound markets
- We need to remove legal barriers and lower costs for the recovery and reuse of secondary raw materials and to encourage refurbishment of equipment as good as or better than new.

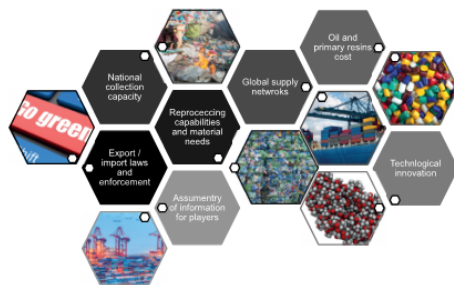
COMMODITY PRICES AND RAW MATERIAL SUPPLY



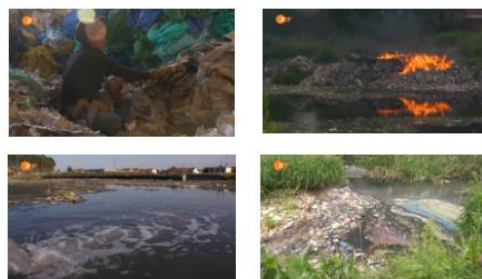
- Well functioning commodity markets for secondary raw materials are crucial and are not yet in place. We need:
- open secondary commodity trading systems in place to reduce price volatility and to match risk management systems available for primary raw materials;
 - well defined and agreed quality standards;
 - testing methodologies agreed and in place; and
 - trading dispute resolution mechanisms in place and functioning.

Current markets undervalue secondary raw materials and undermine effective recovery and reuse - this needs to change

Challenges of globalized recyclable markets

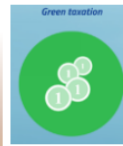


Documentary on reprocessing plastic scrap imports "Deadly waste in China"



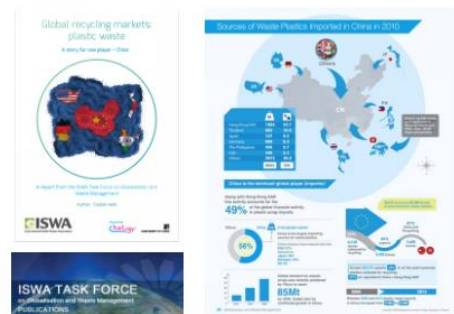
See at ZDF: <http://www.zdf.de/ZDFmediathek#/beitrag/video/1993090/Die-Doku--Tödlicher-Müll-in-China>

FISCAL FRAMEWORKS FAVOUR PRIMARY RAW MATERIALS



- A level fiscal playing field is required between primary and secondary raw materials and new and refurbished products including:
 - Effective pricing of environmental externalities associated with primary raw materials production;
 - Re-assessment of subsidies for primary raw materials and fossil fuels; and
 - Effective pricing for carbon emissions.
- Recognition that a global race has begun to secure the GDP and jobs growth that follows from effective use of secondary raw materials circa:
 - Variations in VAT rates on secondary raw materials;
 - Fiscal policies to relax taxation on capital investment for secondary raw materials plant and equipment; and
- That we need to change the balance between labour and raw materials taxation policies to secure growth in Europe from secondary raw materials.

Global plastics markets



Plastics recycling markets via global exports



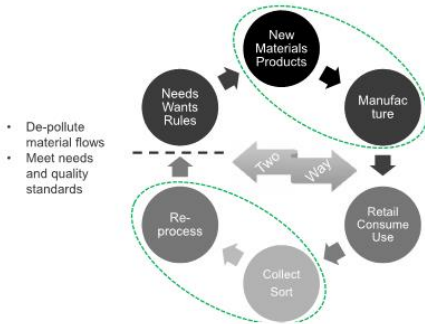
- A complex and potentially vulnerable market
- China oligospony – huge EU dependence
- Poor environmental control and H&S, and sub-optimal manufacturing practices in China
- General pathway of least environmental performance – risk transfer
- Dispersion of PoPs vs. destruction in EW?
- Environmental aspired benefits may not materialise
- Lost of opportunities for high value closed-loop recycling value recovery and local green growth and energy generation under optimal conditions

Technical challenges for closing the PP loops



- Variability: materials – products – sectors
- Ineffective collection for recycling
- Material and Mechanical recycling limitations
- Sorting out pure PP + grades + miscibility
- Processing output / rPP standards
- Global supply chains – Outlets / prices?
- Environmental performance – Inputs & losses

**Innovation adventures...
Functionality vs. regeneration?**



CATERPILLAR REMANUFACTURING

MUD JEANS

DESSO CARPET TILES

BRITISH AIRWAYS
Doc Brown tossed a banana peel, some egg shells, and a partially-consumed beer into "Mr. Fusion" to make the DeLorean time machine fly?

ISWA ECO PLASTICS
DRIVING SUSTAINABLE PACKAGING

COCA COLA PET BOTTLES

MARKS & SPENCERS PLAN A

Passion

Technical challenges – standards for quality?



<p>household plastic packaging</p>	<p>Contamination limit: 0% to 5%</p> <p><i>Sold 'as seen'?</i></p>	<p>Plastic Pails, Tubs & Trays: This is a very young market, so specifications are only just being developed. Markets are growing by polymer type at present, so (for example) the polypropylene and polyethylene markets have a good demand, while others are still developing.</p> <p>At the moment the majority of re-processors want zero contamination of their material. The overall maximum level of contamination of the material is 1% residual food waste on packaging by weight, 0.5% for small WEEE & Plastic Bags, < 2% Steel Cans; < 3% News & Magazines Aluminium Cans; and < 5% Plastic Bottles. Food Waste must not exceed 1% by Weight. Suppliers must speak to their re-processors directly to obtain their very latest specification.</p>
<p>plastic bags and film</p>	<p>Contamination limit: 0% to 5%</p> <p><i>Majority handpicked at MFRs?</i></p>	<p>Plastic Film/Bags: UK Re-Processors are currently accepting 0% contamination. The majority of material currently recycled is made from polypropylene bottles and plastic foil (e.g. crisp packets). Suppliers must speak to their re-processors with maximum care. Suppliers must speak to their re-processors with maximum care. Suppliers must speak to their re-processors with maximum care. Suppliers must speak to their re-processors with maximum care. Suppliers must speak to their re-processors with maximum care.</p>

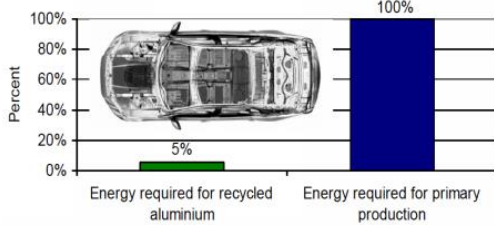
Source: <http://www.resourcassociation.com/recycling-quality-specifications/#plasticbottles>

Some wider key findings...



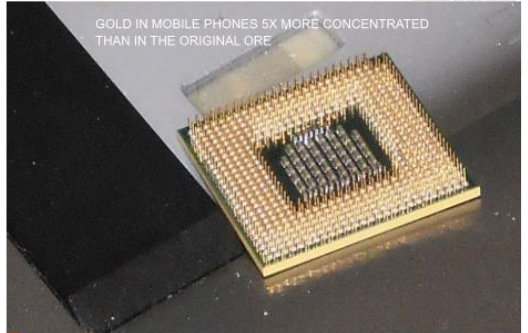
<p>Globally accepted quality standards for recycled materials</p>	<p>Are needed to improve the trade in recycled materials</p>
<p>Developing new markets (reflect societal needs)</p>	<p>Will be critical to generate demand for recycled materials. This is particularly important for PP, where there are limited markets for recycled PP.</p>
<p>Loops will not close without continued technological innovation</p>	<p>Technology has a key role to play in increasing the efficiency of collection, reprocessing and removal of contaminants and unwanted materials from waste streams.</p>
<p>Better data (transparency) needed on recycling markets</p>	<p>To support the effective flow of information, clear pricing and a reduction in transaction costs. The waste management sector has a role to play.</p>
<p>Environmental and overall assessment of recycling (and recovery) is not sufficiently conducted</p>	<p>We need new more sophisticated tool and candiness, reflecting realities on the ground rather than wishful and hence misleading thinking.</p>

Recycled Aluminium Production



Source: International Aluminium Institute

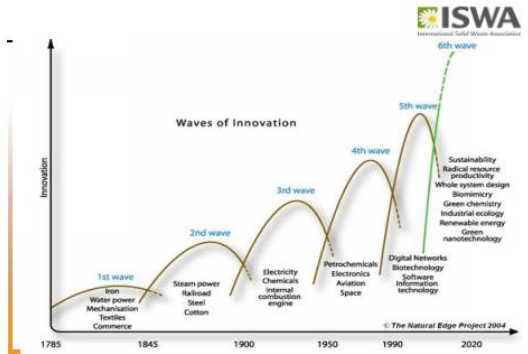
BY 2020 UK WILL HAVE 12 MILLION TONNES OF ELECTRONIC WASTE
VALUE €8 billion



Innovation



- FOOD WASTE TO JET FUEL AND HYDROGEN
- RING CAN PULLS TO LIGHT WEIGHT PROSTHETIC LIMBS
- UP TO 60% DENIM RESPUN AND USED IN NEW JEANS
- ECOPLASTICS – COCA COLA PET BOTTLE. PLASTIC WASTE BACK INTO FOOD GRADE PLASTIC
- BUY SERVICES NOT COMMODITIES
 - MUD JEANS – LEASE YOUR CLOTHES
 - HEWLETT PACKARD – BY PRINTING NOT INKS
 - ZIPCAR – BY TRANSPORT NOT CARS
 - BY COMPUTING POWER NOT COMPUTERS



End of waste - definition



- CRITICAL TO INNOVATION
 - FUNDING FROM HORIZON 2020
 - WITHOUT RESOLUTION BENEFITS WILL BE LOST
- AGREED METHODS NEED TO BE IN PLACE
- LEAD REGULATOR PRINCIPLES NEED TO BE FOLLOWED
 - APPROVE ONCE
 - APPROVED IN PRINCIPLE UNLESS LOCAL CONDITIONS OVERRIDE
- ENTREPRENEURS NEED CERTAINTY TO EXPLOIT EU MARKETS

33

Market development for secondary raw materials



MARKET DEVELOPMENT REQUIRED TO OVERCOME ENTRENCHED INTERESTS AND RESISTANCE TO CHANGE

- REQUIRES EU SUPPORT
- EXAMPLE ORGANIC MATERIALS
 - CURRENTLY UNDERVALUED BY 50%
 - COMMON EU WIDE STANDARDS REQUIRED
 - SEAL OF EU APPROVAL NEEDED
 - MARKET DEVELOPMENT CRITICAL
 - TRAINING AND SKILLS URGENTLY NEED DEVELOPMENT
 - RIGOROUS ENFORCEMENT OF MARKET STANDARDS CRUCIAL

34

Secondary organics can replace 25% of chemical fertilisers



CURRENT CONTRIBUTION IN OECD COUNTRIES			
ORGANIC FRACTION OF MSW TREATED	COMPOST/DIGESTATE PRODUCED*	NUTRIENT VALUE	
	million tonnes/year		M €
66	22		110

POTENTIAL CONTRIBUTION IN OECD COUNTRIES			
ORGANIC FRACTION OF MSW TREATED	COMPOST/DIGESTATE PRODUCED*	NUTRIENT VALUE	NUTRIENT VALUE BY 2†
	million tonnes/year		M €
124	41	6-7 Nitrogen 4 - 41 Carbon	207

*based on 64% mass loss.
these figures only include MSW, however as much waste as this can also be assumed from commercial and agriculture sectors

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Opportunities to double value of heat and energy from waste



CURRENT CONTRIBUTION IN OECD COUNTRIES

GOOD DELIVERED	MSW PROCESSED MILLION TONNES/YEAR	AMOUNT OF ENERGY TWh/YEAR	VALUE BE/YEAR
Electricity from WtE		75	
Heating from WtE	145		70
Bio/methane from AD	8†		5
Landfill gas (LFG)	192 (estimated)		30

POTENTIAL CONTRIBUTION IN OECD COUNTRIES

GOOD DELIVERED	MSW PROCESSED MILLION TONNES/YEAR	AMOUNT OF ENERGY TWh/YEAR	VALUE BE/YEAR
Electricity from WtE		300	15
Heating from WtE	330		8
Bio/methane from AD	30	40	3.2-6
Landfill gas (LFG)	300	20**††	0.6-0.9

* This is an estimated number provided by ISWA experts using published data from OECD, industrial sources and detailed knowledge of the developing industry.
** TWh is the energy content of around 99 million m³ of natural gas, or around 200,000 households' annual electricity consumption for lighting and appliances.

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The Optimist – key issues



- The waste and resource management industry needs:-
- a change of mind set to recognise we are expert manufacturers and suppliers of secondary raw materials and energy capable of displacing primary raw materials from key market places.
 - to work with key commodity users to de-risk market places in secondary raw materials to a level that matches those for primary raw materials. We cannot expect investment in high risk technology in an immature market – the Eco plastics story.
 - to argue for and develop a new template of regulations fit for the circular economy – we need ‘Materials Management’ legislation that puts primary and secondary raw material onto a level playing field and removes current regulatory barriers to resource recovery.
 - to argue for fiscal changes that reflect the carbon benefits from 2nd raw material recovery.
 - to develop modern data and information systems that match the information flow for primary raw materials
 - a clear vision for our industry in 2050 and to create a platform for the rapid exchange of best practice that will drive us towards that vision linked to a major push to re-skill the waste work force.
 - to develop international co-operation with the major conglomerates that dominate world trade in order to build mature markets with common material standards and data systems along with dispute resolution processes that will allow mature markets to emerge for secondary raw materials
 - to work at the cutting edge of science to fully exploit the 6th wave of industrial innovation.

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The Pessimist – key issues



- Resource Management and recovery of secondary raw materials is just good business and needs no stimulus by Government.
- Secondary raw materials will be recovered when the price is right. Using legislation to drive recycling with little or no market demand makes little sense and will lead to perverse consequences
- Work to decarbonize the economy will lead to a collapse in oil prices that will flood the market with cheap feed stocks for the plastic and chemical industry leaving disposal as the only option for dirty plastics
- The internet and 3D printing – the internet age, will lead to major falls in demand for paper fibre destroying paper recycling markets
- The Circular Economy is just another fashion no different to Factor 4 Factor 10, Cradle to Cradle and so on and will fade from the consciousness just as quickly.
- We should get on and extract the energy from waste, recover metals from the slags and re-use the remaining ash in road construction, leaving recovery of raw materials to changing global market demands and avoid unnecessary investments in recycling technology.

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RECYCLING TARGETS: LET’S RETHINK ABOUT THEM



- Current market failures
- The example of plastics and WEEE
- Energy consumption for recycling
- The challenge of complex materials
- Priority materials and clean loops
- Beyond % weight targets –substitution targets?
- Better and more effective EPR systems
- Annual improvements rather than fixed long-term targets



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ISWA’s VIEW FOR EU



40

Highlights of the presentation:

Current problems

- A lot of resources in Europe and worldwide are lost
- Lack of markets for secondary raw materials. This needs to be supported by policy. The Least cost option is often export (> 50% plastics are exported (mainly to China))
- Legal barriers for reuse
- There is a need for a level fiscal playing field. Fiscal frameworks on secondary raw materials: carbon gains are not reflected in market price.

Possible solutions:

Main goal: enhancing competition raw materials & secondary materials, in order to use secondary raw materials in EU instead of exporting. Need of an EU market.

- Framework for investment
- Taxation: shift from labor to commodities
- Standards for secondary raw materials (e.g. Organics: no standards in comparison with chemical fertilisers)
- Innovation in order to close the loop (legislation alone is not enough)
- End of waste criteria definition is a major challenge! It is critical to innovation. Recovered material cannot be sold as waste → this way it will not get the real value.
- Commodity prices: a level playing field is necessary.
- Open secondary commodity trading systems need to be in place. Recyclables operate in a global environment, you cannot address the problems only at the EU level.
- Change of fiscality (e.g. in China there is 0% vat on second raw materials)

Reference was made to 6 detailed reports on the ISWA website.

Eurometaux' views on obstacles to movements of waste within the EU

Stakeholders meeting on the functioning of waste markets within the EU

Boosting the circular management of metals in Europe

16 November 2015
Brussels

Be Al Cu Ni Pb Sn Zn Au Ag Pt Sb W Be Si Cr Co Mo Ge V Mn Ir Ru Rh Ti

Non-ferrous metals: Building blocks for a sustainable society

Fundamental components in:

- Renewable Energy Sources
- Low-carbon transport
- Sustainable buildings
- Efficient communications
- Resource-efficient packaging
- Cutting-edge healthcare

The context

Companies recovering metals from waste, by-products and end-of-life products face the challenge of accessing secondary materials for recycling, partly due to complex procedures, landfilling, incineration, illegal or dubious shipments of valuable materials embedded in waste and end-of-life products with no guarantee of quality treatment and no value creation in Europe



EA

Challenges and proposed solutions to accessing secondary raw materials for metals recovery

1. Non-harmonised status of waste and by-products across MS
2. Diverging classification of waste
3. Use of national codes and lack of appropriate code
4. Burdensome waste shipment procedures
5. Interaction with other legislation
6. Proximity principle
7. Insufficient control and monitoring of illegal shipments of valuable materials embedded in waste/by-products/end-of-life products



EA

Europe's non-ferrous metals industry
Driving EU economic growth and innovation

- €120 bn annual turnover
- 500 000 direct employees
- 3 000 000 indirect jobs (by the final user)

47 million tonnes of annual production

Representing over a fifth of global production

Non-ferrous metals: Endlessly recyclable

- 52% of base metals and alloys come from recycled sources
- 13% of the Earth's crust is made up of non-ferrous metals

The context

- Metals can be recycled again and again without losing their properties, making them a perfect material for circular business models
- Thanks to their intrinsic value and recyclability, innovative solutions have been developed to recover as much metals from end-of-life products, waste and by-products as economically and technically feasible and metals are often the leverage to recycling complex products



- Europe is the world leader in recycling metals
- Europe is not rich in primary raw materials. Recycled materials and primary materials remain complementary in meeting the growing demand, but Europe's urban mine can be better and more cleverly exploited

EA

The context

- To close the circle EU policy needs to move from "waste management" to "resources management" - a systemic approach is needed to set the framework, including
 - separate sorting and optimised EPRs
 - Progressive landfill ban of recyclable products and diversion from incineration to quality recycling
 - Ambitious but pragmatic waste targets
 - Increased control against illegal shipments of waste and certification of recycling facilities applicable to some waste streams



EA

Non-harmonised status of waste and by-products across MS

Challenges

- Some waste or by-products considered as waste in one MS and non-waste in another MS
- Additional national criteria possible for by-product status
- Confusion on whether a waste can be considered as end-of-waste

Examples

- Anode slimes containing precious metals considered as by-products in B, At and as hazardous waste in NL
- Mn rich slags to process to produce FeMn in lieu of Mn ore are considered as waste in France and hence have to be landfilled

- Unpredictable
- Discourage suppliers
- Hamper the free movement of goods

Proposed solution

- Harmonised definitions of waste and by-products throughout the EU
- Alignment of interpretation between MS
- Clarity on end-of-waste and control of implementation
- Simplification of transit procedures

EA

Diverging classification of waste

Challenges

- Waste or by-products considered as hazardous in 1 MS and non-hazardous in another MS



- Strictest procedure will be applied --- notification
- Tendency towards an overall hazardous waste classification
- Tendency towards more complexity

Examples

- Electronic scrap : non-hazardous in H, B, AT and hazardous waste in D
- End-of-life Li-ion batteries: hazardous waste in AT and non-hazardous in many other MS
- Printed circuit boards: hazardous waste in CH and non-hazardous in many MS

- ### Proposed solution
- Avoid differences between MS on methods, use of data, views on classification
 - Train inspectors
 - Sharing of good practices between MS
 - Alignment between CLP and waste classification

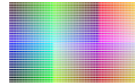


6A

Use of national codes or lack of codes

Challenges

- Some Member States apply their own national waste codes
- In some cases, there is no appropriate waste code {EU/OECD/Basel} available --- a notification with prior written consent is needed (very burdensome for non-hazardous waste)



- Strictest procedure will be applied --- notification
- Tendency towards an overall hazardous waste classification
- Tendency towards more complexity

Proposed solution

- Uniform use of the EURL waste codes in Europe (no national codes)

6A

Burdensome waste shipment procedures

Challenges

- Notification procedure burdensome, costly and lengthy
- Paper and administrative work not efficient
- Pre-consented recovery facility status not effectively facilitating shipment



- Requirements for notification file vary from MS to MS
- Systematic request for additional information
- Time frames rarely complies with (even for pre-consented recovery facilities)

Proposed solution

- Electronic data interchange
- Improvement of the pre-consented recovery facility status – facilitation of shipment with adequate control!

6A

« Pre-consented recovery facilities » procedure



- Sending of notification file to competent authority (CA) (dispatch/destination)
- CA sends acknowledgement and requests for additional information (3 days)
- CA sends final decision (7 days instead of 30 days) – BUT not met!
- Suppliers sends pre-notice (3 days in advance)
- Transboundary transport takes place
- Recycler confirms receipt of waste (within 3 days)
- Recycler confirms recycling of waste (within 1 year)

Exceeding of time frame
Why an explicit consent --- double consent ?

6A

Fast track procedure for « pre-consented recovery facilities »



- Sending of notification file to competent authority (CA) (dispatch/destination)
- CA sends acknowledgement and requests for additional information (3 days)
- CA sends final decision (7 days instead of 30 days) –
- Suppliers sends pre-notice (3 days in advance)
- Transboundary transport takes place
- Recycler confirms receipt of waste (within 3 days)
- Recycler confirms recycling of waste (within 1 year)

Pre-advance and acceptance of goods sent to all CA including licence number of the facility
Control by CA at any time!
+ 3 years validity

6A

Interaction with other legislation

Challenges

- Regulation on the transport of dangerous goods: dangerous for transport does not automatically mean hazardous material and vice versa
- Customs: Waste for customs does not correlate to hazardous (or non) classification
- REACH: registration of by-products (eg slags) not accepted by some MS

- Confusion
- Unnecessary delays and costs!
- REACH data and knowledge ignored!

Proposed solution

- Correlation and harmonisation
- Acceptance of REACH data

Example

- Non-hazardous waste blocked in D because of dangerous goods marking
- Shipping companies refusing shipment of hazardous waste because of potential risk, risk of blocking in transit and "hazardous", ...



6A

Proximity principle

Challenges

- In the name of proximity principle, some MS force waste to be incinerated or landfilled locally
- Not all MS can build quality treatment facilities for all types of waste



proximity

- Metals scrap and complex waste or end-of-life products cannot be treated properly in all regions!
- Move from waste to resource management
- Smart specialisation and economies of scale!

Proposed solution

- Waste hierarchy!
- Smart implementation of the proximity principle

6A

Insufficient control and monitoring of illegal shipments

Challenges

- The heavy procedure but also the value of materials embedded in waste, by-products and end-of-life products lead to significant exports – legally, illegally or dubiously
- The quality of the treatment/recycling process is not always guaranteed especially for complex waste streams

Proposed solution

- Establish a mandatory EU certification scheme applicable to some waste streams (e.g. WEEE, portable batteries)
- Improve control at borders, through
 - harmonised control of shipments at harbours
 - Identification of second hand goods in customs declarations
 - Risk matrix for controls at borders

Quality Recycling

6A

Highlights of the presentation:

Challenges and proposed solutions to accessing secondary raw materials for metals recovery:

- Non-harmonised status of waste and by-products across Member States
- Diverging classification of waste
- Use of national codes and lack of appropriate code
- Burdensome waste shipment procedures
- Interaction with other legislation
- Proximity principle
- Insufficient control and monitoring of illegal shipments of valuable materials embedded in waste/by-products/end-of-life products

EEB's and ZWE's views on obstacles to movements of waste within the EU

If you are not for Zero Waste... how much waste are you for?



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Stakeholders meeting on the functioning of Waste Markets – November 16th, 2015



EMPOWERING COMMUNITIES

Our mission is to **empower communities** to rethink our relationship with resources.

Zero Waste Europe engages at three levels:

- Supporting local groups with independent knowledge and tools
- Structuring the movement internationally to better represent the interests of our communities at the EU level
- Bringing together and representing municipalities committed to Zero Waste

Stakeholders meeting on the functioning of Waste Markets – November 16th, 2015



WASTE AS A FAILURE

According to the European Commission,

*“A circular economy preserves the value added in products for as long as possible and virtually **eliminates waste**. It retains the resources within the economy when a product has reached the end of its life, so that they remain in productive use and create further value”*

In a circular economy, waste is, therefore, a failure, something to be avoided.

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WASTE MARKETS?

Waste markets means waste as a commodity and not as a failure?

Two types of markets in competition:

- Waste for recycling.
- Waste for incineration and other disposal operations.

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WASTE FOR RECYCLING/REUSE

Obstacles

- Lack of product design requirements for recycling/repair.
- Wrong structure of incentives:
 - Lack of promotion of operations at top of waste hierarchy
 - Incentives to waste incineration [definitions, subsidies, etc.]
- Effective separate collection schemes [“clean” materials?].
- Insufficient economies of scale to make recycling viable.
- Lack of stable and constant supply.
- Embedded toxics.
- Quality standards for secondary raw materials (2RM).
- Fluctuation of the cost of primary raw materials.
- Lack of incentives for use of secondary raw materials.

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WASTE FOR INCINERATION

On the other hand,

- Promotion of incineration through climate-related subsidies
 - Promotion of energy generation
 - Preservation of energy of products/materials isn't accounted
- Existing incineration overcapacities affecting:
 - MS with such overcapacities
 - Other MS that export waste instead of minimise residual waste
- Bottom and flying ashes that end being MSW → “no landfill”

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POLICY PROPOSALS

- Product design requirements on recyclability and reparability through Eco-design directive and EPR schemes.
- Level playing field between conservation of energy embedded in products/materials and energy generation
 - Phasing out subsidies to energy recovery [Ren. Energies Directive]
 - Accounting for energy conservation
- Effective separate collection
 - **Compulsory** separate collection of bio-waste
 - Use of economic instruments
- Standards for 2RM, chiefly for compost and plastics
- Level playing field between 2RM and 1RM

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www.makeresourcescount.eu

www.eeb.org



How to “repatriate” the industry back to Europe ?



Is it possible to bring it back???

Or is it better to incentivise the post consumption industry?

Avoiding „shopping behaviour

- Detrimental effect of differing taxes and fees
- Progressive increase of landfill and WtE gate fees
- Setting EU wide standards at BAT level (for permitting) and regular uptake of BREFs
- Same treatment standard in receiving country as in the sending country
- Limited derogations regime, avoiding lenient permitting
- Clarification and unification in R,D codes interpretation, and backfilling

EU waste markets

Waste as a resource??



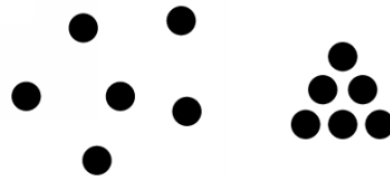
We export pollution and import unemployment.

- Key conditions:
 - waste shipment of only pre-treated waste,
 - no mixed waste shipment (same as no landfill nor incineration for mixed waste)
 - avoiding overcapacity as it plays a bottom price race
 - EPR and EoW EU-wide guidelines,



Proximity principle

- Circles in circular economy shall be local.
- Deviate from it?
- Waste treatment hierarchy, LCA
- Lets keep it local whenever appropriate in contextual conditions
- Local sorting is a must



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Highlights of the presentation:

Current problems

- There are currently two markets in competition: waste for recycling and waste for incineration/ landfilling
- Should waste be treated as a resource or a failure?
- Lack of collection schemes
- different qualities of secondary raw materials: lack of quality standards
- strong competition on raw material plastics due to low priced oil.
- Overcapacities in incineration

Possible solutions

Main goal: to reach a level playing field primary raw materials and secondary raw materials

- The obligation to sort waste in the MS
- Compulsary collection of biowaste
- The use of economic instruments
- EC could urge Member States to progressively augment landfill gate fees:
- Regular update of BREFS, setting standards at BAT level
- Avoid overcapacity of incineration
- Ensure the same treatment standard between the receiving and sending country

General conclusions

Based on the questions and answers of the different presentations and on the open forum discussion on solutions for distortions in the functioning of the waste markets within the EU.

1. The Member State's implementation of the Waste Shipment Regulation and the Waste Framework Directive is too divergent. This results in obstacles to legitimate and environmentally desirable waste movements and prevents a level playing field for waste management industry. Many participants pointed out that the main problem is not the provisions in existing EU waste legislation themselves, but failures by Member States to properly implement them. Focus should be on implementing existing waste legislation in a uniform way and not on changing this legislation.
2. The most frequently mentioned implementation issues were the waste definition, classification of waste as hazardous or green-listed, the classification as recovery or disposal, the waste hierarchy and specific provisions in the Waste Shipment Regulation (the role of transit countries, pre-consented facilities, too long time-delays for dealing with notifications, often supplementary requests for information from authorities, the issue of who is responsible for attaching the Annex VII-document is not uniformly applied) the provision on more stringent classification when Member States disagree. Proposed solutions included more guidance and clarification from the Commission; closer cooperation between Member States and Commission; a clearing house or help-desk to support common interpretation of the Waste Shipment Regulation and Waste Framework Directive, as well as electronic data exchange on waste shipments.
3. The enforcement of the Waste Shipment Regulation and the Waste Framework Directive is very uneven between Member States; several participants asked for a stronger role for IMPEL, e.g. with some mandatory requirements for Member States to participate in IMPEL; a few participants advocated the establishment of an EU waste agency.
4. Additional harmonisation of waste legislation is needed on certain, specific issues. Mentioned was in particular Extended Producer Responsibility. Several participants stated that landfilling should be banned or further measures should be taken to reduce landfilling, and that separate collection needs to be improved on which issue several participants urged the Commission to put more pressure on Member States. A fast-track procedure for dealing with Waste Shipment Regulation

notifications should be developed.

5. End-of-waste criteria, Art 6(2) of the Waste Framework Directive, should be adopted for certain waste streams. Mentioned were waste tyres. A single decision on end-of-waste cases, with applicability over the whole of the Union would be appreciated.
6. Criteria should be adopted for certain waste to be considered as by-products, Art 5(2) Waste Framework Directive.
7. Certification of waste facilities within the EU should be implemented to ensure high quality waste treatment.
8. Transparency on waste related data and how waste management is funded by the EU should be improved.
9. Knowledge gaps should be filled; the gathering of data and the quality of the statistics should be improved at EU level. An electronic data exchange on waste shipments would help.
10. Information and research should be compiled and presented regularly on waste flows, facilities and prices.
11. Links with other policy areas need to be examined, especially energy and climate related aspects as well as product design.
12. Issues relating to over- and under capacity for waste incineration could be solved by EU-wide management of capacities. Over-capacity can attract waste from other Member States to the detriment of their local recycling market and under-capacity combined with the proximity principle can lead to more landfill.
13. The assessments prior to adopting legislative proposals should be improved, policy measures must be carefully assessed (mentioned was the adoption of the WEEE Directive, where statistical data and collection rates was not correctly assessed before adopting latest amendments).
14. Competition issues relating to local monopolies and exclusive rights should be addressed.

9.4 Annex III.4 outcome of the workshops

9.4.1 Key conclusions of the first workshop

- Electronic notification systems for waste shipments would be welcome to lift administrative burden.
- The application of the proximity and self-sufficiency principles causes problems. Guidance would be useful to ensure a consistent application of the principles.
- Guidance on the use of annex VII information forms for shipment of green listed waste for recycling would be very much appreciated.
- The three main policy goals (waste hierarchy, resource efficiency, circular economy) are supported by all.
- Simpler procedures are beneficial both for industry and for inspection.
- Pre Consented Facilities can be a clue to easier compliance with the provisions in the Waste Shipment Regulation. Existing possibilities in the regulation are not sufficiently used.
- Waste is a resource and may be treated as other resources.
- The implementation of the Waste Shipment Regulation does not always support or facilitate more recycling.
- Consistency in policy can enhance better waste markets. Helpdesk support for smaller competent authorities or for Member States with less administrative capacity is a good idea.
- Standards for waste treatment operations are needed.
- Transparency, good data, good statistics and traceability are needed.
- One should take care of balanced planning of waste treatment infrastructure, avoiding over- or under-capacity.
- We should protect opportunities for innovation.

9.4.2 Key conclusions of the second workshop

- The Member State's implementation of the Waste Shipment Regulation and the Waste Framework Directive is too divergent. This results in obstacles to legitimate and environmentally desirable waste movements and prevents a level playing field for waste management industry. Many participants pointed out that the main problem is not the provisions in existing EU waste legislation themselves, but failures by Member States to properly implement them. Focus should be on implementing existing waste legislation in a uniform way and not on changing this legislation.
- The most frequently mentioned implementation issues were the waste definition, classification of waste as hazardous or green-listed, the classification as recovery or disposal, the waste hierarchy and specific provisions in the Waste Shipment Regulation: the role of transit countries, pre-consented facilities, too long time-delays for dealing with notifications, often supplementary requests for information from authorities, the issue of who is responsible for attaching the Annex VII-document is not uniformly applied, and the provision on more stringent classification when Member States disagree. Proposed solutions included more guidance and clarification from the Commission; closer cooperation between Member States and Commission; a clearing house or help-desk to support common interpretation of the Waste Shipment Regulation and Waste Framework Directive, as well as electronic data exchange on transfrontier shipment.
- The enforcement of the Waste Shipment Regulation and the Waste Framework Directive is very uneven between Member States; several participants asked for a

stronger role for IMPEL, e.g. with some mandatory requirements for Member States to participate in IMPEL; one participant asked for the establishment of an EU waste agency.

- Additional harmonisation of waste legislation is needed on certain, specific issues. Mentioned was in particular Extended Producer Responsibility. Several participants stated that landfilling should be banned or further measures should be taken to reduce landfilling, and that separate collection needs to be improved on which issue several participants urged the Commission to put more pressure on Member States. A fast-track procedure for dealing with Waste Shipment Regulation notifications should be developed.
- End-of-waste criteria, Art 6(2) of the Waste Framework Directive, should be adopted for certain waste streams. Mentioned were waste tyres. A single decision on end-of-waste cases, with applicability over the whole of the Union would be appreciated.
- Criteria should be adopted for certain waste to be considered as by-products, Art 5(2) Waste Framework Directive.
- Certification of waste facilities within the EU should be implemented to ensure high quality waste treatment.
- Transparency on waste related data and how waste management is funded by the EU should be improved.
- Knowledge gaps should be filled; the gathering of data and the quality of the statistics should be improved at EU level. An electronic data exchange on waste shipments would help.
- Information and research should be compiled and presented regularly on waste flows, facilities and prices.
- Links with other policy areas need to be further developed, especially energy and climate related aspects as well as product design.
- Some participants pointed out that issues relating to over- and under capacity for waste incineration could be solved by EU-wide management of capacities. They referred to that over-capacity can attract waste from other Member States to the detriment of their local recycling market and under-capacity combined with the proximity principle can lead to more landfill.
- The assessments prior to adopting legislative proposals should be improved, policy measures must be carefully assessed (mentioned was the adoption of the WEEE Directive, where according to one participant statistical data and collection rates was not correctly assessed before adopting latest amendments).

Some participants pointed out that there are competition issues relating to local monopolies and exclusive rights which should be addressed.

10 Annex IV Outcome of the survey

Also available as a separate report

10.1 Annex IV.1 Consultation report

The efficient functioning of waste markets in the European Union – Consultation Report

1 Introduction

A public consultation on the Functioning of Waste Markets was organised to obtain a better understanding of the nature and the extent of regulatory failures causing undue distortions to EU waste markets for recycling and recovery. This online consultation was part of the European Commission's wider efforts to listen to relevant stakeholders and the general public on this topic, to better understand their views and possible concerns, and to obtain evidence on issues relevant to the efficient functioning of European waste markets. The information gathered can be taken into consideration in the implementation of the new initiative on the 'Circular Economy'.

The Consultation took place from 12 June 2015 until 4 September 2015 (12 weeks) via the European Commission's 'Your voice in Europe' web page. The consultation used one questionnaire for all types of stakeholders, but the introductory part was used to obtain a profile of the respondents. The questionnaire was available in English only, as was the Commission's background document for the consultation, also provided on the 'Your voice in Europe' web page.

A total of 246 respondents participated in the consultation. Responses came from 8 individual respondents and 226 institutional respondents. There were 5 no answers and 7 identified as 'other.' The institutional respondents covered 119 representatives of an organisation or association other than NGO, 68 representatives of the private sector, 18 NGOs, and 21 responded as representatives of a public authority or government. Questionnaire was received from most of the 28 Member States (apart from Malta and Cyprus), in addition to some non-Member States.

1.1 Type of respondents

Distribution of respondents across types

Of the respondents, 119 (48%) identified themselves as an organisation or association (other than NGO), 68 (28%) as private companies, 21 (9%) as a government or public authority and 18 (7%) as NGOs. A minority of responses came from individuals and other non-specified categories. No responses were obtained from European institutions nor from the research and academic world.

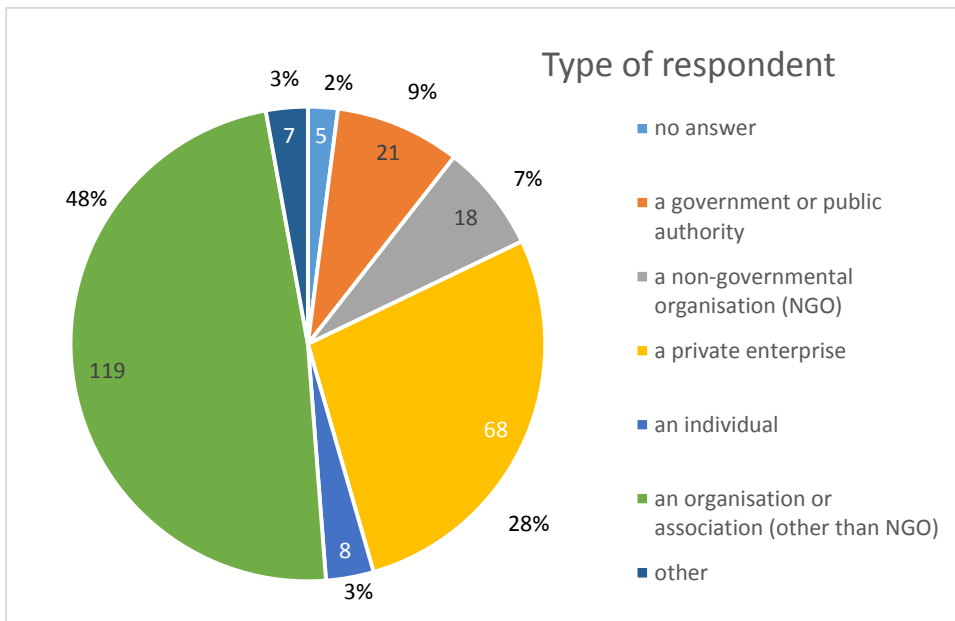


Figure 10-1 Distribution of respondents based on their stakeholder type

Size of companies represented (only for companies)

From all responding private enterprises (total = 68), 39 (57%) belonged to large companies of (more than) 250 employees, 17 respondents (25%) to medium-size companies between 50 and 249 people, and 11 (16%) to small companies between 1-49 employees. We excluded from this analysis responses from stakeholders who are not private enterprises as the size of NGOs. Industry associations and government are less relevant for the results.

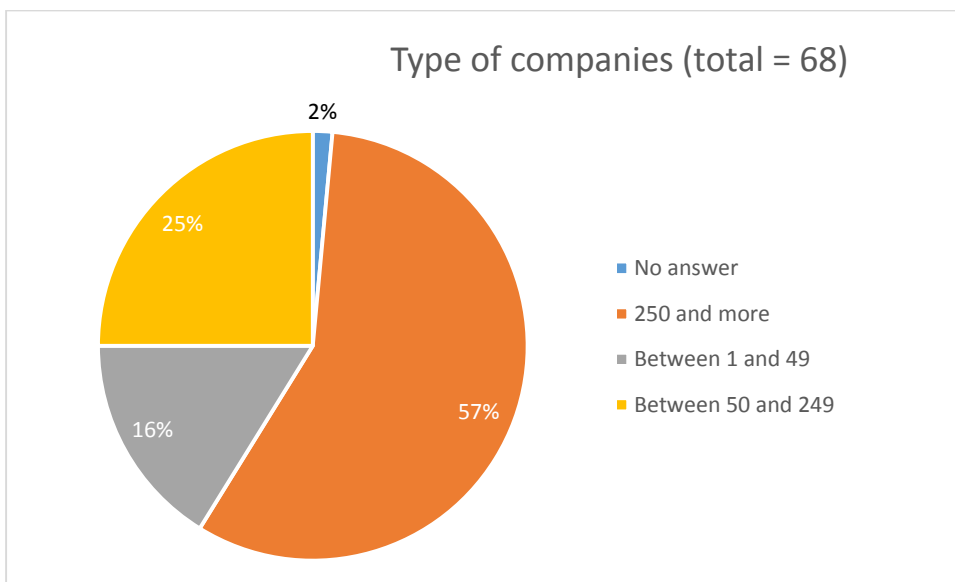


Figure 10-2 Type of companies (private enterprises) who responded to the survey

1.2 Country where the respondents were located

The respondents were for the bigger part residents in Belgium (60 respondents, 24%), the United Kingdom (41 respondents, 16%) and Germany (39 respondents, 16%). Other countries relatively well represented were France (23 respondents, 9%), Spain (22 respondents, 9%), Sweden (19 respondents, 8%), Finland (12 respondents, 5%), Austria (12 respondents, 5%). There were no responses received from respondents located in Malta and Cyprus.

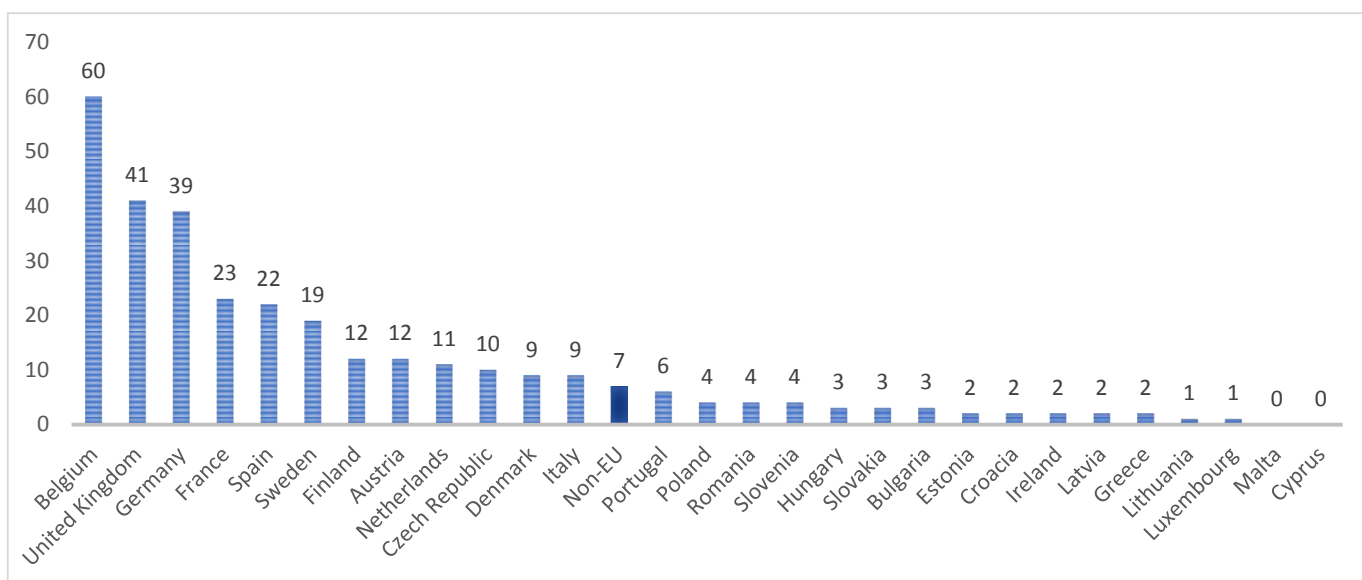


Figure 10-3 Country of residence of respondents to the survey

The types of respondents vary per country. In some countries there is a dominant type of respondent or/and an absence of responses from another category. For example, a vast amount of respondents located in Belgium (45 out of 57, 79%) were organisations or associations (other than NGOs), who represent the EU market rather than Belgium. This is also the case for the Netherlands (83% of responses came from organisations or associations), the Czech Republic and Denmark. Only the United Kingdom and Germany have managed to harvest responses from all five categories of respondents, albeit the response rate of organisations and associations, and of enterprises has been also predominant in these countries. The majority of companies were located in Germany and the United Kingdom. This is not a surprising result as these are two large European economies. These are also the only two countries that managed to obtain responses from individuals (1 and 6 responses respectively), together with Slovakia (1 response).

From the results it is also apparent that there is the ever returning phenomenon that NGOs usually come from EU15 Member States, and only seldom from Eastern European EU12 Member States.

Table 10-1: Overview of respondents and their country of residence

Please enter your country of residence/establishment	no answer	a government or public	a non-governmental	a private enterprise	an individual	an organisation or association (other than NGO)	other	Grand Total
no answer						1		1
BELGIQUE-BELGIË		2	4	5		45	1	57
ČESKÁ REPUBLIKA		1				6		7
DANMARK				1		6		7
DEUTSCHLAND	1	3	2	10	6	8	2	32
EESTI		1						1
ESPAÑA	1	2	2	3		11		19
FRANCE		2	1	7		7		17
IRELAND						1		1
ITALIA				3		1	1	5
LATVIJA		1						1
NEDERLAND		1				5		6
ÖSTERREICH		2	1	1		4	1	9
POLSKA	1			1				2
PORTUGAL		1		3				4
SLOVENIJA			1			1		2
SLOVENSKO				1	1			2
SUOMI / FINLAND			1	4		2	1	8
SVERIGE		1	2	5		5	1	14
UNITED KINGDOM		4	2	15	1	12		34
ΕΛΛΑΔΑ (ELLADA)	1			1				2
БЪЛГАРИЯ (BULGARIA)	1		1					2
Location in more than 1 Member States			1	7		2		10
OTHER COUNTRY (non-EU)				1		2		3

The non-EU countries where respondents were located include:

- Switzerland, Norway, Montenegro, Turkey;
- USA, Russia, China, Australia, India.

1.3 Country of operation of respondents (for organisations only)

38% of all respondents did not state the geographical scope of their operations. This might be due to the fact that they were not an organisation. From those who did specify which countries their organisation is active in (155 respondents), the most covered countries for operation among respondents were the United Kingdom and Germany, where 30% and 25% of the respondents respectively is operating. 42 (27%) respondents claimed to be active in the whole EU market. Organisations that responded rarely (in less than 5% of the cases) operate in Bulgaria, Latvia, Malta, Lithuania, Croatia and Cyprus.

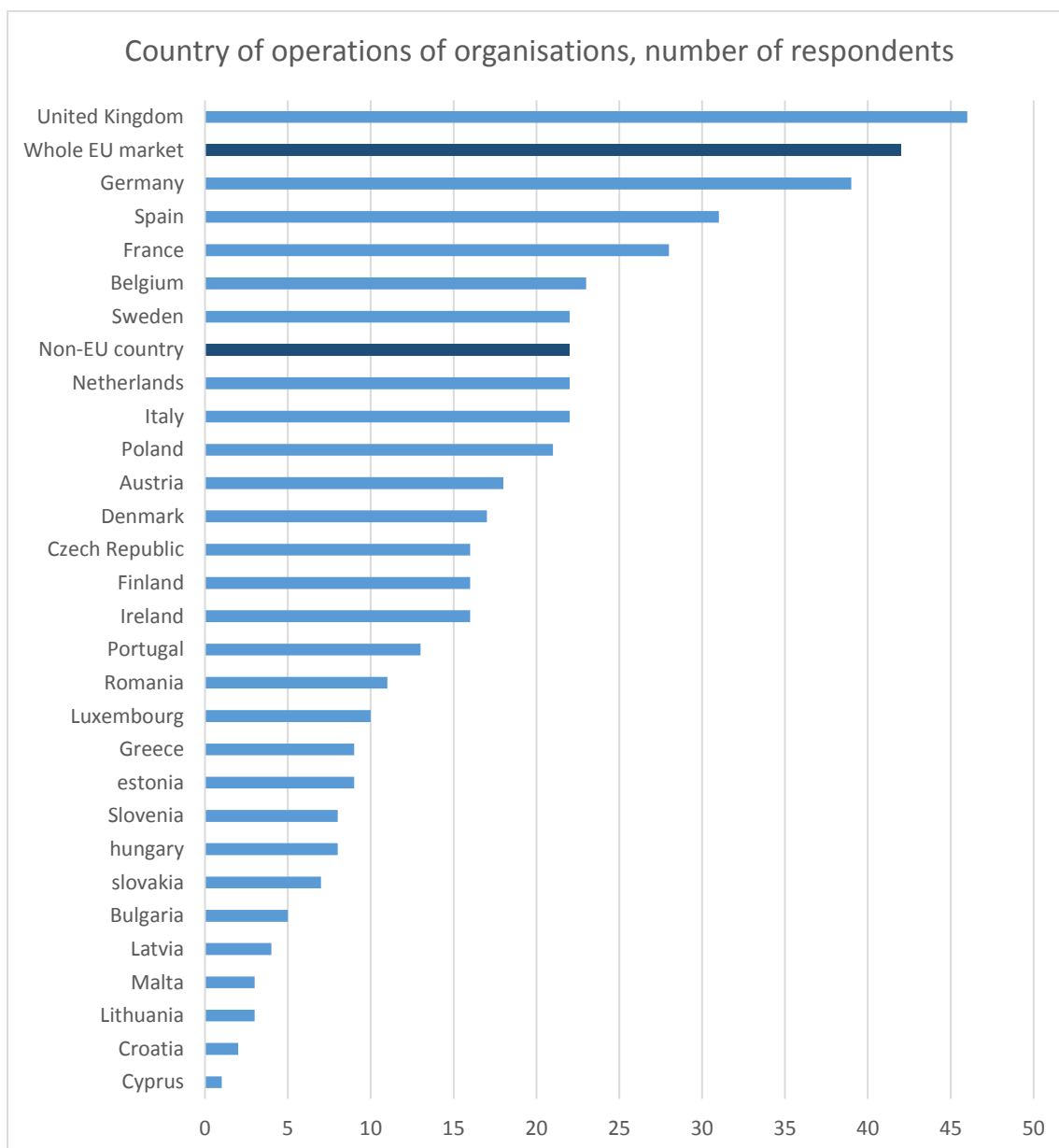


Figure 10-4 Country of operations of organisations (by number of respondents)

These results correspond more or less to the results about the country of residence. They also show again that respondents to the waste survey usually come from the larger western and northern European Member States, rather than the eastern European ones.

The results also show that the majority of organisations that operate on the European market are private enterprises (of whom 57% are large companies) and organisations/ associations other than NGOs (these are in many cases Brussels based associations). The same applies for companies operating in more than one Member State. Many of these private enterprises operate also outside of EU. The coverage outside of EU includes the Americas, Asia and Australia, as well as non-EU European countries.

Table 10-2 Country of operation of the respondents

If you are replying on behalf of a company, please specify in which of the following markets you predominantly operate:	no answer	a government or public authority	a non-governmental organisation (NGO)	a private enterprise	an individual	an organisation or association (other than NGO)	other	Grand Total
No answer	3	18	11		3	56		91
In more than one Member States	1		2	24		7	3	37
BELGIQUE-BELGIË		1				1		2
ČESKÁ REPUBLIKA						5		5
DEUTSCHLAND		2		4	4	1	2	13
ESPAÑA	1		2	1		7		11
FRANCE				2		4		6
IRELAND						1		1
ITALIA				2		1	1	4
NEDERLAND						1		1
ÖSTERREICH				1		1		2
OTHER COUNTRY (non-EU)				15		3	2	20
POLSKA				1				1
PORTUGAL				2				2
SLOVENIJA						1		1
SLOVENSKO				1				1
SUOMI / FINLAND				1		1	1	3
SVERIGE				1		2		3
The whole EU market			1	19		22		42
UNITED KINGDOM			2	7	1	8		18
ΕΛΛΑΔΑ (ELLADA)				1				1

Objectives and methodology

This report describes the results of the public consultation on the efficient functioning of waste markets. By doing so, it provides an understanding of the views on opportunities and challenges and possible ways to address the challenges associated with the functioning of waste markets expressed by citizens, organisations and authorities across the EU (and beyond) through the public consultation.

Presentation of questions

After filling in information to determine the profile of the respondent, the public consultation questionnaire consisted of 20 closed and open questions of which most offered the possibility to enter additional information. For closed questions, respondents were to choose among multiple answers, offering several options. In the report below, all the questions and potential answers to closed questions are presented the same way, the question first followed by the possible answers. The

comments provided by the respondents are summarised as much as possible. Respondents could provide their answers to the question only in English.

Indicators used to present answers

The following indicators are used throughout this report to provide a summarised yet thorough overview of the results of the public consultation:

- Number of respondents: this is the number of respondents that chose a specific answer (e.g. 'Yes', or 'Very important') to a question;
- Share of respondents: this is the share of respondents that chose a specific answer (e.g. 'Yes', or 'Very important') to a question, calculated as the ratio between the number of respondents that chose a specific answer and the total number of respondents to the question of interest;
- Total: sum of answers from respondents.

Cross analysis

We have also assessed the possible patterns of answers found between respondents: in particular, we tried to associate the preferences of specific stakeholder group with their answers. In order to make this assessment, we assess the results of the consultation separately for the answers of individuals, public authorities, and companies and organisations.

A Identification of the main perceived regulatory failures

1: Do you think there are any regulatory failures or obstacles currently affecting the functioning of EU waste markets?

The results to this question show that the vast majority of respondents think there are at least some regulatory failures or obstacles currently affecting the functioning of EU waste markets. 50% of respondents indicates there is a large amount of such regulatory obstacles, while another 43% thinks there are some but are limited. Only 2% of respondents indicated there are no such obstacles.

Table 10-3 Opinions of stakeholders on the presence of regulatory failures or obstacles in the waste markets

1. Do you think there are any regulatory failures or obstacles currently affecting the functioning of EU waste markets?																
	No answer		government or public authority		NGO		a private enterprise		an individual		organisation other than NGO)		other		Grand Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Yes, a large amount	1	24%	5	56%	10	56%	38	56%	1	54%	64	54%	4		123	50%
Yes, but limited		67%	14	44%	8	43%	29	43%	6	39%	47	39%	3		107	43%
No answer	3	0%		0%		0%		0%		3%	4	3%			7	3%
Don't know	1	5%	1	0%		1%	1	1%	1	1%	1	1%			5	2%
No		5%	1	0%		0%		0%		3%	3	3%			4	2%
Grand Total	5	21	100%	18	100%	68	100%	8	119	100%	7	246	100%			

When looking at the stakeholder groups that answered, all stakeholder groups replied similarly. All NGOs thought there are some waste market regulatory obstacles, while a few % of stakeholders in all groups responded 'no' or 'don't know'. What can be also seen is that private enterprises and the federations/ associations representing them perceive more waste market distortions than for example public authorities.

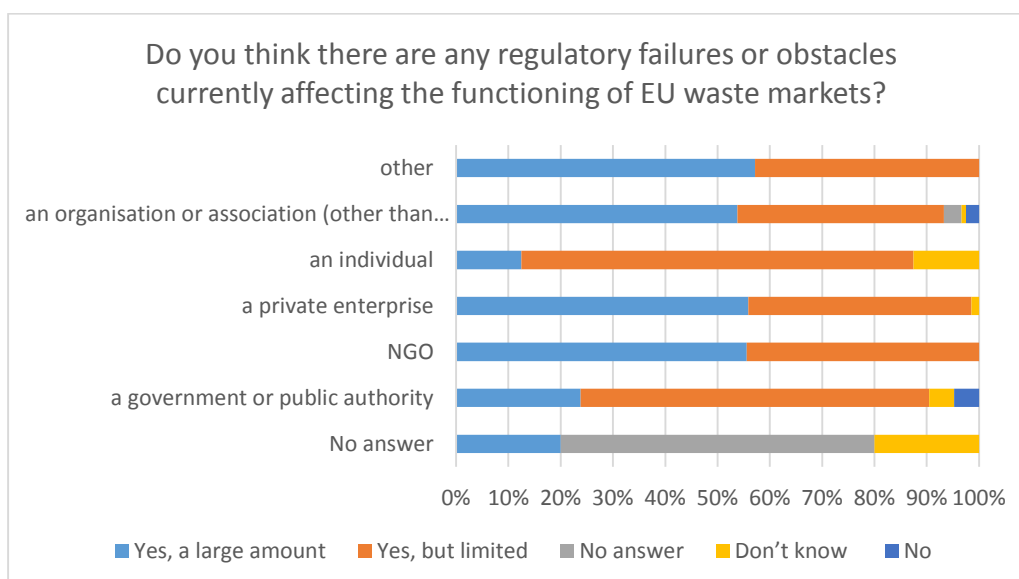


Figure 10-5 Perception of regulatory failures/ obstacles in waste markets per stakeholder type

2: What do you think is the most important aspect of policy and/or legislation that creates distortions in the waste markets or creates unjustified obstacles to the proper functioning of waste markets in the EU?

In this question, respondents were invited to select the aspects that they consider to be the cause of the most distortions in the legal framework. The five most cited aspects in the survey are listed below:

- Lack of harmonisation among national legislation (cited by 42% of respondents)
- Lack of clarity of definitions of waste and by-product (25% of respondents)
- Lack of clarity of end of waste criteria (19% of respondents)
- Lack of enforcement or clarity of the European waste hierarchy (18% of respondents)
- Problems with competition issues, such as subsidies and public monopolies (18% of respondents)

There was some variation in the frequency of answers between each stakeholder group, but all these topics were selected on a regular basis. Among government officials, there was more emphasis on the lack of harmonisation (62% of them cited this distortion). Private companies and organisations are slightly more concerned than government officials about competition issues. 19% of companies cited this concern, whereas 14% of public officials cited it.

3. Could you provide an example of such a regulatory failure/obstacle? Please briefly describe it briefly.

When asked to name examples of regulatory failures in the waste market, the most cited problem was the Shipment Regulation, cited by 30% of respondents. But in this question respondents also reinforced the need to improve in the harmonization of legislation across Europe, specifying the areas in which lack of harmonization becomes a problem: waste definitions (cited by 26% of the respondents), landfilling regulations (26% of respondents) and End of Waste criteria (22% of respondents). Lastly, respondents argued that the waste market does not provide proper price incentives for recycling/re-use as opposed to disposal of waste, a problem cited by 10% of respondents.

- Problems with the Waste Shipment Regulation (cited by 30% of respondents)
- Differences in rules and definitions among various Member States (26% of respondents)
- Lack of stricter landfilling regulations valid for the whole EU (26%).
- Lack of uniformity in end of waste criteria (22%)
- Lack of price incentives which would make recycling and re-use economically viable (10%).

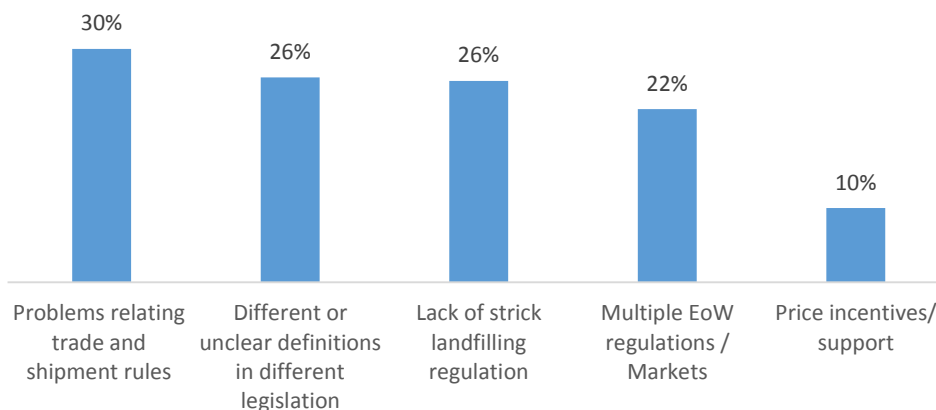


Figure 10-6 Examples of regulatory failures/ obstacles

The surprisingly high amount of respondents who mentioned the lack of harmonized End of Waste criteria usually complained about the lack of criteria for certain products, such as recycled paper, aggregates, rubber waste. Others insisted on a more clear specification of the differences between a recovery operation and industrial practices, which can be easily interpreted by national authorities and market operators. Finally the application of criteria should be similar across all Member States.

4. What do you think this regulatory failure/obstacle is linked to?

Vast majority of respondents indicated that the waste market regulatory failures are linked to EU legislation or policy (87%), and national policy and legislation (81%). 44% indicated, the regulatory failures are linked to regional policy and legislation and 34% to local policy and legislation. Multiple answers were possible, and the results show that the majority (33%) thinks EU and national levels are the main links to the regulatory failures. 31% of respondents thinks all levels should be considered.

		Answers	Ratio
EU legislation or policy		216	86.75 %
National policy, legislation or administrative decisions		201	80.72 %
Regional policy, legislation or administrative decisions		109	43.78 %
Local policy, legislation or administrative decisions		84	33.73 %
No Answer		19	7.63 %

Figure 10-7 Perceptions on the source of waste market regulatory failures/ obstacles

Responses are also similar for the different stakeholder groups. The main difference is between governments/ public authorities and others, as 38% the government/ public authorities who responded indicated that EU legislation on its own is the main link to these distortions. This is not the case for other stakeholder groups.

It can be implied from the results that waste market distortions are clearly not only an issue of national legislation but also of EU legislation.

Table 10-4 Perceptions on the source of waste markets regulatory obstacles or failures per stakeholder type

4. What do you think this regulatory failure/obstacle is linked to?													
	No answer	government or public authority		NGO		a private enterprise		an individual	organisation other than NGO)		other	Grand Total	
	#	#	%	#	%	#	%	#	#	%	#	#	%
EU and National policy, legislation or administrative decisions		6	29%	6	33%	24	35%	2	43	36%	1	82	33%
All		4	19%	7	39%	21	31%		40	34%	4	76	31%
EU legislation or policy		8	38%		0%	4	6%	5	9	8%	1	27	11%
EU, National and Regional policy, legislation or administrative decisions			0%	3	17%	10	15%		13	11%	1	27	11%
No answer	4	2	10%	1	6%	1	1%	1	7	6%		16	7%
National policy, legislation or administrative decisions			0%		0%	4	6%		3	3%		7	3%
National and Regional policy, legislation or administrative decisions		1	5%		0%	1	1%		1	1%		3	1%
National, Regional and Local policy, legislation or administrative decisions	1		0%		0%	1	1%		1	1%		3	1%
EU and Local policy, legislation or administrative decisions			0%		0%	1	1%		1	1%		2	1%
EU, National and Local policy, legislation or administrative decisions			0%	1	6%		0%		1	1%		2	1%
National and Local policy, legislation or administrative decisions			0%		0%	1	1%			0%		1	0%
Grand Total	5	21	100%	18	100%	68	100%	8	119	100%	7	246	100%

When asked to mention what was to blame for the regulatory failures in waste markets, a large number of respondents (37%) referred to the Waste Framework Directive. The main concerns were about lack of definitions or lack of clarity in definitions.

The second most common piece of legislation criticized by the respondents was the Waste Shipment Regulation. 16% of participants in the survey mentioned it, in particular, the respondents opposed administrative procedures created by this regulation. Some respondents blamed this Regulation for illegal waste trade out of the EU.

The third aspect most cited was not a legislation itself, but its lack of enforcement. According to 13.4% of respondents, the EU waste hierarchy is not implemented in a consistent manner by the Member States. Targets are not harmonized across Member States, and in many of them waste is disposed in landfills in cases where other Member States would not allow it.

Related to this, the fourth aspect most cited was the application of the Landfill Directive and its transposition to national legislation, cited by 12% of participants. Many participants complained about the lack of a Europe-wide enforcement of a policy that either banned or severely discouraged landfilling.

Finally, 12% of participants brought up the fact that the European waste policy is not harmonized with the European policy for chemicals (REACH). Consequently, application of these two policies is different across Member States and there is no clarity on which of them should be applied in which case.

- Waste Framework Directive (91 mentions, 37%)
- Waste Shipment Regulation (39 mentions, 18%)
- Bad enforcement of Waste Hierarchy (33 mentions, 16%)
- Landfill Directive (29 mentions, 14%)
- Conflicts with REACH (29 mentions, 14%).

The application of REACH and waste legislation are usually mutually exclusive. REACH is not applicable to waste, which causes a lot of confusion or policy shopping for these cases where the border line between waste and non-waste is rather vague. This creates a link with end-of-waste criteria.

5. Which of the following impacts do you think such regulatory failure/obstacle has within the EU?

The majority of respondents indicated that the main impacts of such regulatory obstacles are:

- Reduced reuse or recycling (82%);
- Reduced resource efficiency (78%);
- Increased environmental impacts (75%).

Other impacts include:

- Reduced recovery, including energy recovery (44%);
- Increased waste generation (35%)

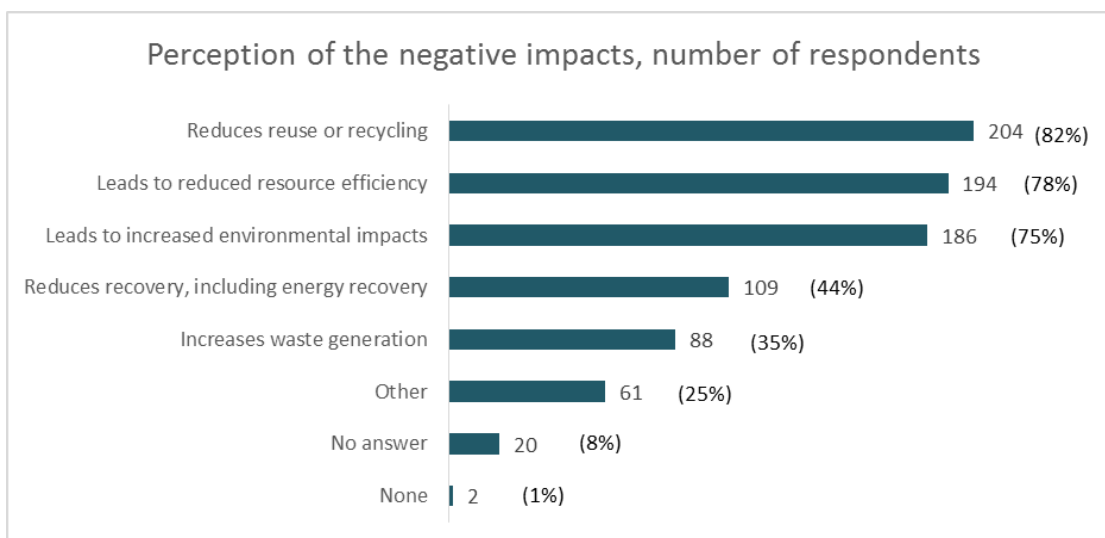


Figure 10-8 Perceptions of the negative impacts of regulatory obstacles to waste markets

When looking at the stakeholder groups, there are no significant differences in their responses. Reducing reuse or recycling, recovery (including energy efficiency), and resource efficiency were among the three most cited impacts for all the stakeholder groups.

Two thirds of respondents also provided additional information on examples of impacts of regulatory failures. Some of the respondents actually repeated answers that were already in the options listed in the question. The most common problems that were repeated from the list were: less recycling or re-use, cited by 41 respondents (25% of those who added information), less resource efficiency, cited by 17 respondents (10% of those who added information) and less energy recovery, cited by 14 respondents (8% of those who added information).

The most cited problem among the concrete additional examples was excessive landfilling, cited by 53 respondents (32%). This problem was often stated in its relationship to increased environmental impacts, such as soil contamination. Competition problems resulting from monopolies and public privileges were cited by 23 respondents (14%), the same number that listed high compliance costs as an effect of the EU's regulatory failures. High compliance and bad regulation were also listed by many as a reason why illegal trade occurs and many illegal facilities operate in this market, one point raised by 16 respondents (10%).

- Excessive landfilling (53 mentions, 32% of those who responded)
- Less recycling/re-use (repeated from the list, 41 mentions, 25% of those who responded)
- Unfair competition (23 mentions, 14% of those who responded)
- Compliance costs (23 mentions, 14% of those who responded)
- Lower resource efficiency (repeated from the list, 17 mentions, 10% of those who responded)
- Illegal operators and activities (16 mentions, 10% of those who responded)
- Less energy valorisation (14 mentions, 8% of those who responded).

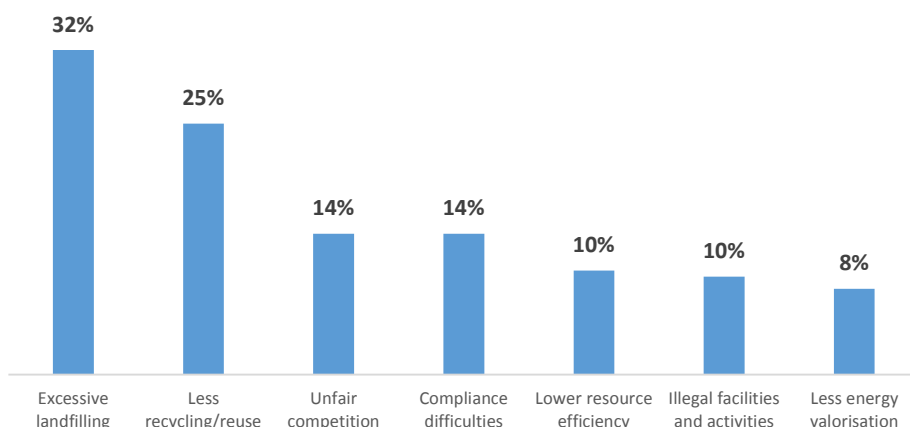


Figure 10-9 The main negative impacts of regulatory obstacles/ failures – examples from respondents

6. How did you become aware of this regulatory failure/obstacle?

The majority of respondents indicated that they became aware of these regulatory failures/ obstacles through them being reported by members of their organisations (68%). The reason for this outcome is the fact that the majority of respondents are associations other than NGOs.

49% of respondents know this through their own experience, and 38% from their own market analyses. Only 15% are aware of them through complaints reported to the authority.

		Answers	Ratio
Reported by members of your organisation		169	67.87 %
Through complaints reported to the authority		37	14.86 %
From literature		53	21.29 %
From own market analyses		94	37.75 %
Own experience		123	49.4 %
Other		19	7.63 %
No Answer		20	8.03 %

Figure 10-10 The information sources of the regulatory failures/ obstacles as reported by respondents

The results match the respondent type. The results show that 45% of associations other than NGOs responded that they are aware of such obstacles through them being reported by members of their organisation. Private enterprises and government authorities are aware of them through their own experience, and or in combination with their own market analyses. Government authorities and associations are also those that are aware of these problems through complaints reported to the authorities.

Table 10-5 Information sources of regulatory obstacles and market failures by respondent type (the main results, i.e. answers with 2 or less respondents omitted from the table)

6. How did you become aware of this regulatory failure/obstacle? (multiple answers possible)	a government or public authority		a non-governmental organisation (NGO)		a private enterprise		an individual	an organisation or association (other than NGO)		other	Grand Total	
Reported by members of your organisation		0%	3		2	3%		53	45%	1	59	24%
Own experience	4	19%			20	29%		1	1%		25	10%
Reported by members of your organisation;From own market analyses;Own experience	1	5%			7	10%		13	11%		21	9%
From own market analyses;Own experience		0%			15	22%	1		0%	2	18	7%
No answer	4	2	10%	1	2	3%	1	7	6%		17	7%
Reported by members of your organisation;From literature;From own market analyses;Own experience	2	10%			2	3%	4	5	4%	1	14	6%
Reported by members of your organisation;Own experience	1	5%	1		3	4%		7	6%		12	5%
Reported by members of your organisation;Through complaints reported to the authority;From own market analyses;Own experience	1	5%	3		2	3%		3	3%		9	4%
Reported by members of your organisation;From literature		0%			1	1%	1	6	5%		8	3%
Reported by members of your organisation;From own market analyses		0%			2	3%		5	4%		7	3%
Reported by members of your organisation;From literature;From own market analyses		0%	2		1	1%	1	2	2%		6	2%
Reported by members of your organisation;From literature;Other		0%	1		1	1%		3	3%		5	2%
Reported by members of your organisation;Through complaints reported to the authority;From literature;From own market analyses;Own experience		0%	3			0%		2	2%		5	2%
Reported by members of your organisation;Other		0%				0%		2	2%	2	4	2%
Through complaints reported to the authority;Own experience	3	14%			1	1%			0%		4	2%
From own market analyses		0%			1	1%		2	2%		3	1%
Reported by members of your organisation;Through complaints reported to the authority	2	10%				0%		1	1%		3	1%
Other	1	5%				0%			0%		1	0%

Regarding additional information on the information source for regulatory obstacles/failures related to waste markets in the EU, around 30% of respondents provided additional information. However, not all information was relevant or there was substantial duplication (same answer for several respondents). In many cases, the respondents stressed again the obstacles they were facing, not referring directly to the source but rather describing the regulatory obstacles. The main sources of information of regulatory obstacles were to a large extent through their members (in case of associations), through associations themselves (by members), own experience (in case of waste management or recycling companies, as well as associations) and through other networks and partner organisations. This comes as no surprise given the type of stakeholders that responded to the survey where the vast majority are associations and private enterprises.

The responses can be summarised as follows:

- Direct contact with waste recyclers and waste producers (as an association) – who ask and complain about burdens, costs, time delays and administrative procedures they face. An example was given regarding paperwork for reusing, difficulties for co-digestion, lengthy processes for permitting, taxes and costs different among regions/ Member States and difficulties for shipping.
- Contact with member companies who report loss of business or other hurdles due to these obstacles. Different sectors (raw materials) report obstacles related to waste markets, such as in the precious metals, steel or the cement industry. The members usually complain about the large administrative burden they need to face when trying to upgrade waste into new raw materials. Associations have at their disposal substantial knowledge based on numerous communications and information from their member companies as well as their own experience. Some of them also cover different Member States and hence can see the differences in public administration and how they deal with waste in different countries.
- Own experiences with for example handling hundreds of waste shipments and the processing of thousands of tonnes of waste per year, or being a waste management and/ or recycling company themselves. The stress is put on having first-hand experience with regulatory obstacles in the EU and in global waste markets where large differences exist between countries (e.g. classification of waste, notification procedure, but also the lengthy administrative process). The companies stressed that they “live” these processes daily and this is why they were very interested in this survey. This corresponds to the fact that the majority of private enterprises were large companies.
- Reports of waste industry associations – many respondents gave a similar answer stating examples of reports (e.g. Solid Waste Management and Greenhouse Gases, A Life Cycle Assessment of Emissions and Sinks (2006) EPA SWICS- Solid Waste Industry for Climate Solutions- "Current MSW Industry Position and State-of-the-Practice on LFG Collection Efficiency, Methane Oxidation, and Carbon Sequestration in Landfills (2009).). This shows there was some coordination in answering the questionnaire among several stakeholders.
- European Commission studies, e.g. “Assessment of Cumulative Cost Impact for the Steel Industry” and other documentation for national governments, e.g. “Trends in the UCO market, Ecofys, for the UK Department of Transport, 2013”.
- Clients and local distributors asking how the legislative proposal would impact waste technologies. Suppliers of these technologies needed to respond by engaging in these discussions and consultation.
- Reported by customers, some of which are members of an organisation.

- Through complaints reported to the authority. This has been mentioned by a competition and consumer authority.
- Own market analyses – a respondent mentioned that in addition to own experience, they also do own market analyses and actively participate in a number of federations, associations, think tanks, etc. As such they also contribute to the literature on this topic.

It has also been mentioned (by one respondent) that official market analyses do not identify regulatory obstacles related to waste markets.

7. What actions are you aware of that could solve or mitigate this problem?

The main actions that could solve or mitigate the problem of these regulatory failures were indicated by the respondents as follows:

- Legislative changes (by 74% of respondents);
- Changes in the policy or decision-making by authorities (62%);
- EU guidance on waste legislation or policy (61%).
- Or a combination of several actions.

Other potential actions could be:

- Co-operation between authorities in different Member States (50%);
- C-operation between authorities in the same Member State (39%);

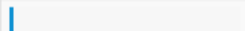

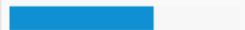


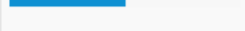
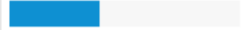
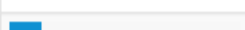
		Answers	Ratio
Not aware of any actions		2	0.8 %
Legislative changes		184	73.9 %
Changes in the policy or decision-making by authorities		155	62.25 %
EU guidance on waste legislation or policy		152	61.04 %
Co-operation between authorities in different Member States		124	49.8 %
Co-operation between authorities in the same Member States		97	38.96 %
Other		33	13.25 %
No Answer		22	8.84 %

Figure 10-11 Respondents' view on the potential solutions

From the stakeholder group analysis, legislative analysis and EU guidance on waste legislation or policy have been the main answer for public authorities, while a combination of the different actions is the most common answer for the other stakeholder groups.

What is interesting to note is the stakeholders' attitude towards promoting legislative changes. This is interesting as in the past regulatory changes were doomed and respondents believed in deregulation, private voluntary commitment, implementation efforts and enforcement rather than more red tape.

Table 10-6 Views of respondents on potential solution by stakeholder type (main results)

7. What actions are you aware of that could solve or mitigate this problem? (multiple answers possible)	No answer	a government or public authority		a non-governmental organisation (NGO)		a private enterprise		an individual	an organisation or association (other than NGO)		other	Grand Total	
Legislative changes;Changes in the policy or decision-making by authorities;EU guidance on waste legislation or policy;Co-operation between authorities in different Member States;Co-operation between authorities in the same Member States		3	14%	4	22%	10	15%		17	14%		34	14%
Legislative changes;EU guidance on waste legislation or policy		4	19%	2	11%	5	7%	4	9	8%	1	25	10%
No answer	4	2	10%	1	6%	3	4%	1	8	7%		19	8%
Legislative changes;Changes in the policy or decision-making by authorities;EU guidance on waste legislation or policy		1	5%		0%	4	6%	1	10	8%	1	17	7%
Legislative changes;Changes in the policy or decision-making by authorities		1	5%	3	17%	8	12%		3	3%	1	16	7%
Legislative changes;Changes in the policy or decision-making by authorities;EU guidance on waste legislation or policy;Co-operation between authorities in different Member States		1	5%	1	6%	8	12%		4	3%	1	15	6%
Legislative changes;Changes in the policy or decision-making by authorities;Co-operation between authorities in different Member States;Co-operation between authorities in the same Member States			0%	4	22%	2	3%		6	5%	1	13	5%
Legislative changes;Changes in the policy or decision-making by authorities;EU guidance on waste legislation or policy;Co-operation between authorities in different Member States;Co-operation between authorities in the same Member States;Other			0%		0%	3	4%		5	4%	1	9	4%
Legislative changes;EU guidance on waste legislation or policy;Co-operation between authorities in different Member States;Co-operation between authorities in the same Member States		2	10%	1	6%	3	4%		2	2%		8	3%
Co-operation between authorities in different Member States			0%		0%		0%		6	5%		6	2%
Legislative changes		2	10%		0%	3	4%		1	1%		6	2%
Legislative changes;Changes in the policy or decision-making by authorities;Other		1	5%	1	6%	1	1%		3	3%		6	2%
Changes in the policy or decision-making by authorities;EU guidance on waste legislation or policy;Co-operation between authorities in different Member States;Co-operation between authorities in the same Member States			0%		0%	2	3%	1	2	2%		5	2%
Legislative changes;Changes in the policy or decision-making by authorities;EU guidance on waste legislation or policy;Co-operation between authorities in the same Member States			0%		0%	1	1%		4	3%		5	2%
Legislative changes;EU guidance on waste legislation or policy;Co-operation between authorities in different Member States		1	5%		0%	1	1%		3	3%		5	2%
Changes in the policy or decision-making by authorities;Co-operation between authorities in different Member States;Co-operation between authorities in the same Member States			0%		0%		0%		4	3%		4	2%
Changes in the policy or decision-making by authorities;EU guidance on waste legislation or policy			0%		0%	2	3%		2	2%		4	2%

7. What actions are you aware of that could solve or mitigate this problem? (multiple answers possible)	No answer	a government or public authority	a non-governmental organisation (NGO)	a private enterprise	an individual	an organisation or association (other than NGO)	other	Grand Total	
Legislative changes;Changes in the policy or decision-making by authorities;Co-operation between authorities in different Member States		0%	0%	1	1%	3	3%	4	2%
Legislative changes;Changes in the policy or decision-making by authorities;Co-operation between authorities in the same Member States		0%	0%	1	1%	3	3%	4	2%
Legislative changes;Changes in the policy or decision-making by authorities;EU guidance on waste legislation or policy;Other		0%	0%	2	3%	2	2%	4	2%
EU guidance on waste legislation or policy		1	5%	0%	1	1%	1	3	1%
EU guidance on waste legislation or policy;Co-operation between authorities in the same Member States		0%	0%	1	1%	2	2%	3	1%
Legislative changes;Changes in the policy or decision-making by authorities;EU guidance on waste legislation or policy;Co-operation between authorities in different Member States;Other		0%	0%	1	1%	1	1%	3	1%
Changes in the policy or decision-making by authorities		0%	0%	0%	0%	2	2%	2	1%
Co-operation between authorities in different Member States;Co-operation between authorities in the same Member States		0%	0%	1	1%	1	1%	2	1%
EU guidance on waste legislation or policy;Co-operation between authorities in different Member States		0%	0%	1	1%	1	1%	2	1%
Not aware of any actions		0%	0%	1	1%	0%	0%	1	0%
Other		1	5%	0%	0%	0%	0%	1	0%

Additional information in related to this question has been provided by around 70% of respondents. It is clear that many respondents were able to make several propositions for mitigating the issue of regulatory obstacles in the waste markets that they were facing.

Similarly as in case of other questions, there was some duplication in answers provided due to coordination among respondents. The range of possible solutions was also very wide, ranging from general solutions/ measures to sector/ industry specific solutions.

In general there was also opposition in answers. On the one hand, the respondents indicated they would like to see more legislation/ binding standards that would make sure interpretation of certain provisions in the existing waste legislation is the same across Europe. On the other hand, some responded there is too much legislation and regulation on EU and national levels, and as such too much administrative burden.

The main elements that were identified pertaining across the answers were:

- There is a **need for legislative changes** in different (waste) legal instruments (WFD, WSR, End of waste criteria, etc.) as well as outside of waste legislation (e.g. legislation supporting technology development, chemicals legislation, etc.). These changes should include:
 - Clear definitions, clear obligations and roles for all stakeholders.
 - Legislation to develop the waste management and recycling market to become more market oriented and give all actors on the market the possibilities and incentives to develop a circular economy and become more resource efficient.
 - These changes should promote opening up of waste markets.
 - Legally binding standards for waste facilities should be introduced.
 - Setting minimum requirements for treatment of the waste on the higher levels in the waste hierarchy should be introduced.
 - EU waste legal framework should be more coherent and transparent, support free market and strict enforcement of waste legislation.
 - Ban on landfilling should be introduced.
 - Legislation should set incentives that correspond with the preferences expressed by the waste hierarchy and create a level playing field between treatment options.
- There is a **need for better implementation and enforcement of existing legislation** – in order to secure a level playing field in European waste markets and decrease illegal shipment of waste and illegal landfilling.
- There should be a detailed **EU guidance on waste legislation** – i.e. how to interpret it and apply it in a similar way. However, the effectiveness of this guidance has been questioned as Member States like to have their national legislation adapted to their specific national market.
- Clear **demand for 'harmonisation' or convergence of waste legislation** in different Member States. These solutions are all to improve the level playing field among actors operating in EU Member States and improve the competition. Many stakeholders asked for, among others:
 - European Standards (if possible, legally binding);
 - A certification system, which would certify that waste exported outside the EU is treated in equivalent environmental conditions as in the EU;
 - A new European Eco design label to incentivise sustainable products, which would decrease the amount of waste;

- Minimum requirements for EPR in Europe with clear and define guidelines;
- Harmonised and ambitious targets for all steps in waste hierarchy.
- Improvement of the **administrative procedures** in order to make them less burdensome, in particular the notification procedure for waste.
 - Solutions included a pre-authorized/ pre-consented recovery facility which would obtain simplified/ faster approval process, e.g. 'fast-tracking'.
 - Implementation of an electronic system/ web platform to accelerate and harmonise procedures and monitor/ track shipments. The respondents asked for a greater digitalisation of as many procedures as possible.
- Improved **cooperation between Member States and the Commission**. The Commission was also said to sometimes give "confusing signals" as different DGs have different interests.
- The Commission could take a more proactive role in **providing platforms** for debate between national/ regional/ local authorities and the exchange of best practices. In general, sharing of best practices was encouraged.
- **Cooperation between authorities and private companies** from different sectors can give a good status in what concerns the waste market (constraints, costs, recycling, others). Better work between policymakers and industry.

In overall, it seems that the reason for the support of more legislative changes is that fact that stakeholders feel legally binding solutions are needed to make the functioning of waste markets more efficient. Such an effect would not be possible with 'soft' measures.

8. Are there other important aspects of policy and legislation that distort the waste market or create obstacles to the functioning of waste markets? If yes, please describe these taking into account the previous questions.

About half of the survey participants (54%) responded to this question. The aggregate figures are similar to the one presented in previous questions (Question 2, for example), but questions were somewhat more generic. Among those who responded, 15% brought up harmonization problems among waste policies of different Member States. 14% cited the lack of clarity in definitions of the existing legislation, especially differences between by-product and waste. Inconsistencies of the waste policy with shipment rules, as well as administrative burden caused by the Shipment Regulation, were cited by 12% of respondents. Also 12% of those who responded to this question cited the lack of a homogeneous policy for landfilling in Europe. Finally, 9% responded that Europe should have a more harmonized Extended Producer Responsibility policy.

- Harmonization problems (21 mentions, 15% of those who responded)
- Unclear definitions (20 mentions, 14% of those who responded)
- Shipment rules (17 mentions, 12% of those who responded)
- Landfilling policies (17 mentions, 12% of those who responded)
- EPR heterogeneity (13 mentions, 9% of those who responded).

B Obstacles to the functioning of waste markets connected to the application of EU waste legislation or other EU legislation

9. Do you consider that there are any obstacles to the functioning of waste markets connected to the application of EU waste legislation or other EU legislation?

There is a clear perception that there are obstacles to the proper function of waste markets, but a roughly equal split between whether these obstacles are limited or numerous.

		Answers	Ratio
Yes, many		98	39.36 %
Yes, but limited		117	46.99 %
No (go to part C of the questionnaire)		5	2.01 %
Don't know (go to part C of the questionnaire)		13	5.22 %
No Answer		16	6.43 %

Figure 0-1 Perceptions on waste markets obstacles related to the application of EU waste legislation

There is an interesting split in responses between government and NGOs and the response from companies and trade associations. Companies (50% of respondents) and trade associations (44% of respondents) felt that there were many as opposed to few problems, whereas public authorities (71%) and NGOs (72%) felt that there were few as opposed to many problems. Similarly as mentioned above, it seems that the governments and NGOs (both acting for the public interest) have their views more or less aligned, similarly as private enterprises and associations representing their interests.

Table 0-1 Perceptions on waste markets obstacles related to the application of EU waste legislation

9. Do you consider that there are any obstacles to the functioning of waste markets connected to the application of EU waste legislation or other EU legislation?														
	No answer	a government or public authority	a non-governmental organisation (NGO)	a private enterprise	an individual	an organisation or association (other than NGO)	other	Grand Total						
No answer	3		1	2		7		13					13	5%
Don't know		1	1	6	1	4		13					13	5%
No		1				4		5					5	2%
Yes, but limited	1	15	13	26	7	52	3	117					117	48%
Yes, many	1	4	3	34		52	4	98					98	40%
Grand Total	5	21	18	68	8	119	7	246					246	100%

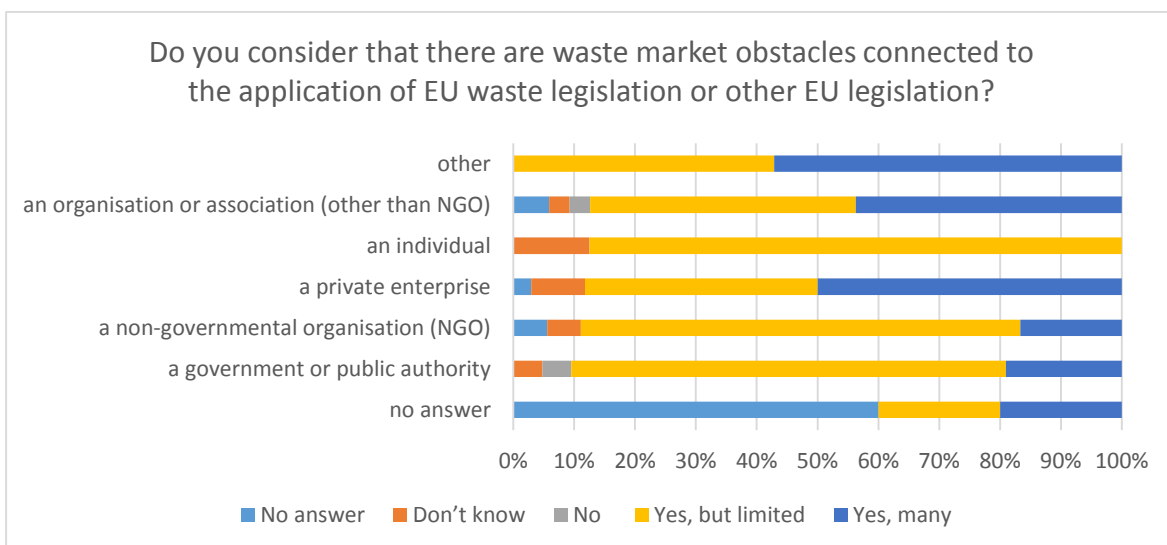


Figure 0-2 Perceptions on waste markets obstacles related to the application of EU waste legislation

10. What are the drivers/causes of these regulatory failures or obstacles to the efficient functioning of waste markets?

In this question the respondents were asked to rate the listed drivers/ causes of the regulatory failures/ obstacles from 0 to 5, with 0 not important and 5 very important. The answers of those that responded are as follows:

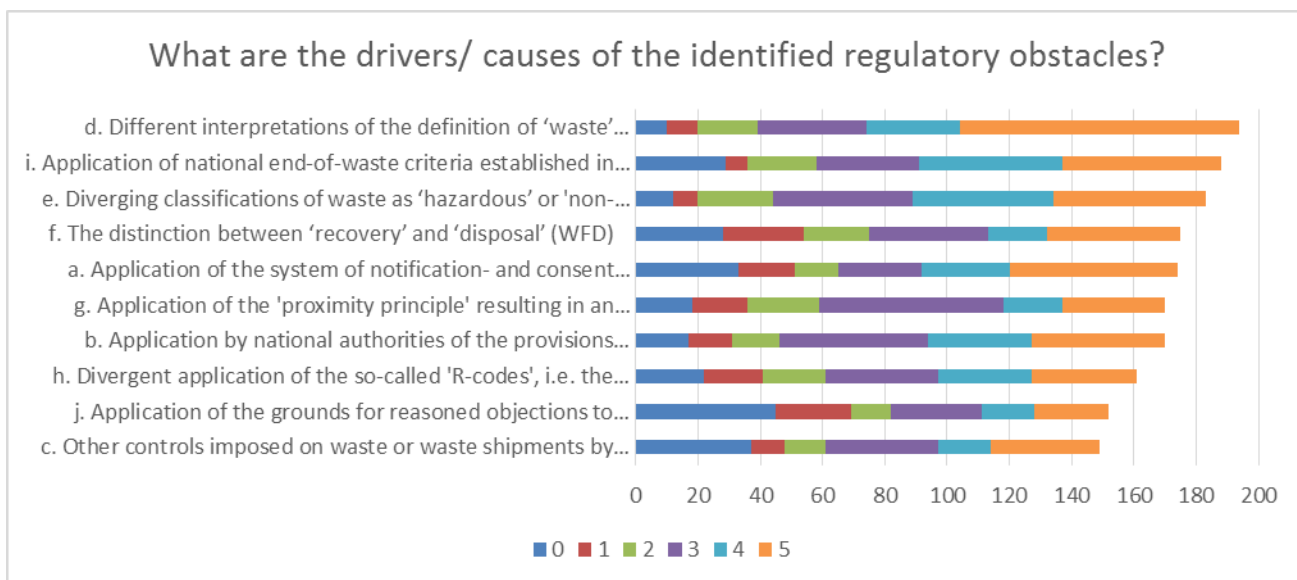


Figure 0-3 Perceptions on the drivers/ causes of the identified regulatory obstacles

If the obstacles are ranked in terms of number of respondents and the view of the severity of the impact they are ranked as follows.

Table 0-2 Ranking of the drivers/ causes of the regulatory obstacles identified

Driver/ cause ranking	Score
d. Different interpretations of the definition of 'waste' according to the WFD	723
e. Diverging classifications of waste as 'hazardous' or 'non-hazardous' (WFD)	616
i. Application of national end-of-waste criteria established in accordance with the WFD, see further Article 6(4) of the directive.	589
b. Application by national authorities of the provisions concerning waste shipments through transit countries (WSR).	535
a. Application of the system of notification- and consent requirements (WSR)	509
g. Application of the 'proximity principle' resulting in an outcome which is inconsistent with the waste hierarchy (WFD and WSR).	482
f. The distinction between 'recovery' and 'disposal' (WFD)	473
h. Divergent application of the so-called 'R-codes', i.e. the recovery operations listed in Annex II to the WFD	457
c. Other controls imposed on waste or waste shipments by application of EU waste legislation	388
j. Application of the grounds for reasoned objections to shipments of waste for recovery, or the requirements for ESM	325

This indicates that differences in the interpretation of arguably the most fundamental definition in waste policy, i.e. (what is waste) are felt to be the most important regulatory obstacle. The classification of material as a waste has major implications on its value and/or potential cost to the material owner, so it is an issue that virtually all stakeholders have an interest in. The top three obstacle types could all be classified as similar issues – in that they have clear and instant impact on the value and /or cost of a material to its owner. The next three issues are lower ranked in terms of importance of impact on the waste market, however (as expanded upon in the general comments section below) these issues are felt to have important implications on compliance with the waste hierarchy and proximity principle.

There were a very large number of comments related to this question. A number of responses contained identical text, implying a common response from multiple members of single (or cooperating) trade associations. The comments included a number of issues on which a consensus was apparent – in that no comments to the contrary were made.

With regard to differing interpretations of 'waste' an important expansion on this point that was raised was the link to other EU legislation and policy. These links include REACH, product standards and to the Circular Economy. A number of respondents made reference to their submissions to the consultation on the Circular Economy. One government respondent raised the lack of definition of the term 'discard', this issue was picked up by another respondent who linked this to the circular economy. There were a number of comments related to a lack of consistency on the application of the term by-product. Four of these comments related to the classification of food waste as a by-product, which enables it to be used as animal feed, though this is not possible in some Member States where it is classified as waste, and as such is not allowed to be used as animal feed. Another point raised on this related to Reclaimed Asphalt Pavement (RAP – which is the worn top surface of roads removed when resurfacing), this is classified as waste in Italy but as a by-product in Germany.

With regard to the classification of waste as hazardous or non-hazardous, the most frequently raised point related to a lack of consistency between Member States on the level of contamination in a stream of reclaimed material (paper/ card, plastics, metal) that was needed to classify a shipment as hazardous rather than non-hazardous.

The application of national end of waste (EoW) criteria was regarded as positive by respondents from some Member States, particularly the UK where national guidance on the issue was well regarded by some respondents in helping to create and stabilise a market for recovered material. One critical comment was received in relation to the use of EoW criteria in the UK as they were seen as favouring EOW (after recovery) as opposed to initial classification as a by-product, this was felt to have a negative impact for certain waste streams. 15 comments were received regarding the difficulties encountered when seeking to ship material from one Member State to another when they had different, or one had no, EoW criteria. An additional problem that was raised by some of those who made this comment was that if the material classified as meeting EoW criteria was used in a product then there may be difficulties associated with this product meeting product criteria (in the Member State or in other Member States) due to different criteria relating to component / material purity for products.

There were a large number of comments (16) confirming a variation between Member States in the interpretation of Waste Shipment Regulations. Some specific points and suggestions for addressing these that were mentioned included the need for consistent guidance (e.g. including illustrations and correlating waste descriptions from the Basel convention, OECD list and Waste Framework list) for customs officials so that they can classify waste shipments in the same way. Differences in the willingness to persecute the initiator (i.e. source) of the waste as opposed to the seller for non-compliance with information requirements were also raised. The practical problems of accurately describing / classifying waste streams made up from combined sources was also raised as concern. The use of electronic (as opposed to paper) forms for non-hazardous waste shipments was mentioned in 12 responses, as a good way to increase accuracy and reduce administrative burden. Although not strictly related to harmonisation between Member States there were a number of comments on the need to address certification for the facilities that waste is shipped to outside of Europe for recovery, recycling or disposal. The lack of any consistent certification was felt to be unfair to European facilities and also place an environmental risk in the countries that receive the European waste.

There were 25 submissions that provided further comment on the application of the proximity / self-sufficiency principle versus the application of the waste hierarchy. Ten of these comments made the suggestion that the proximity principle should be extended to a European border if it enabled waste treatment / recycling / reuse options that were high enough up the waste hierarchy. Two responses questioned the correctness of the ability of a competent authority to cite the proximity principle as grounds for refusal to import waste for disposal but that if waste was imported for 'recovery' this was not an allowable criteria for refusal. They felt that this was not justified and the proximity principle should also apply to recovery. This opinion was in direct contrast to some submissions (mainly from Member States with waste incineration capacity connected to district heating systems) that the waste recovery option they offered to imported waste was a sound option that should be allowed and encouraged as it was higher up the waste hierarchy than the landfill alternative. Ten submissions raised a specific concern relating to the practice of exporting waste to landfills in Member States with low landfill charges in apparent defiance of both the proximity principle and waste hierarchy. A similar point was made in four submissions which criticised the export of waste, classified as refuse derived fuel, for recovery (incineration) this was felt to make sorting and recycling less likely, which is not in line with the waste hierarchy.

A number of examples were provided of variations in the interpretation of recovery and disposal. The most frequently quoted example related to the exporting of ash and flue gas treatment residues from France to Germany, where it is placed in disused salt

mines. This practice would be classified as disposal in France but is classified as 'recovery' in Germany on the basis that it is backfilling a man-made void. A lack of consistency on the definition of backfilling as recovery was specifically raised by 7 respondents.

An interesting comment related to waste recovery concerned the implications of the Seveso III Directive under which waste is not a 'named substance' so any process looking to use a material stream that has been classified as waste faces much lower thresholds regarding trace contamination than is the case for using raw materials which are classified as 'named substances'.

There were four submissions which raised concerns regarding the shipment of wastes for 'scientific testing' purposes. These submissions criticised the small volume of waste that was allowed under the derogation designed to enable this as it felt to be too low for accurate testing. Where larger shipments were required there were difficulties reported with the high cost of regulatory compliance for one off shipments, the time delays and the fact that some research institutes are not registered as waste facilities and therefore are unable to accept waste shipments.

Five submissions (four of them from SMEs) raised concerns about the requirements for financial guarantees for waste shipments. These were felt to be too high and represent a barrier to market entry especially for small companies.

There were eight submissions concerning the lack of consistency in the collation of statistics relating to municipal waste. The potential distortion here related to the lack of consistency in the apparent performance of Member States (and regions) on waste reduction and recycling targets. This lack of consistency could lead to decisions on infrastructure investment and waste import / export that were not ideal.

There were five submissions relating to the treatment of anaerobic digestion (AD) (with subsequent energy recovery) as a waste treatment option. Some felt that in their Member States this technology was overly subsidised via renewable energy support mechanisms. However, others felt that there was a lack of consistency in how AD was classified and that its ability to produce energy and potentially useful material (soil improver) meant it should be classified as a waste recycling option and hence promoted as an option that is high up the waste hierarchy.

There were three submissions relating to detailed concerns on the WEEE recast Directive, and the risk of classifying products being transported for repair as waste if they don't meet strict 'under warranty' definitions. This risked imposing extra costs and making product reuse a much less economically viable prospect.

11. Please provide qualitative or quantitative evidence of the impacts of these distortions (e.g. in terms of additional costs for businesses, missed new job opportunities, environmental impacts etc.)

The most commonly raised impact, with some 35 mentions, concerned the cost of compliance with waste (particularly waste shipment) regulations. These impacts ranged from the time taken to complete the forms, to the inability to make changes to perceived relatively unimportant details (such as the registration number of the waste collection vehicle).

There were nine submissions which raised the economic impact of materials, resources and employment being lost through potentially reusable / recyclable / recoverable waste being landfilled or going to a lower waste treatment option than it could. The

Commissions impact assessment on the Circular Economy package was mentioned as providing evidence of this.

Although no figures on the impact were mentioned there were four respondents who mentioned the negative economic impact they perceived of public administrations preventing access to private firms for collection and treatment of waste.

There were a number of reports and studies quoted which provided data on the economic impact of what the respondents felt to be waste market distortions, these included:

- A reporting on the illegal trade in WEEE which estimated a loss of income of over €2.5 billion a year.
- A study comparing the cost of materials for steel companies using a process that uses some recycled steel (17.4 €/t) to the cost for those using a process that only uses virgin raw materials (€10.7 €/t). The lower cost for the process that does not use recycled materials was cited as an example of a barrier to recycling.
- A study which states that 75% of bio-waste is still landfilled in Europe and that if this waste was separately collected and recycled it would generate 20 to 50,000 jobs and create additional turnover of €9.5 billion per year.
- A report from the UK Resource Association - the 'cost of contamination report' which estimates that UK re-processors incur annual costs of £50million due to contaminants in the separated waste they receive.
- A report from Digital Europe stating that some 3.3 million products shipped for repair might now be classified as waste (thereby reducing the economic viability of reusing them).
- A report which predicted the value to the UK of adopting the Circular Economy was in the order of £29 billion and the creation of 175,000 jobs: The Circular Revolution – An Imperial College London report commissioned by Veolia. https://www.veolia.co.uk/sites/g/files/dvc636/f/assets/documents/2015/07/LIVING_CIRCULAR_BROCHURE.pdf

C Obstacles to the functioning of waste markets arising from national, regional or local rules or requirements and decisions which are not directly linked to EU legislation

12. Do you consider that there are any distortions created by waste policy, requirements or decisions taken at national, regional or local levels?

88% of the responses to this question consider that there are distortions created by waste policy, requirements or decisions taken at national, regional or local levels. This is an identical figure to question nine, where a similar question (are there any obstacles to the functioning of waste markets connected to the application of EU waste legislation) was asked. There is a relatively equal split between those who consider that there are a high number of such distortions (47% of the total) and those who consider that there is a low number (41% of the total).

What is important to note is that the split for question nine was the other way around (48% low, 40% high) indicating that there is a perception that decisions taken at national, regional or local levels are the cause of more distortions than the application of EU legislation.

		Answers	Ratio
Yes, many		116	46.59 %
Yes, but limited		100	40.16 %
No (go to question 15)		5	2.01 %
Don't know (go to question 15)		5	2.01 %
No Answer		23	9.24 %

Figure 0-4 Perceptions on waste market distortions due to national, regional or local policies

There is a split between government and NGOs, where the majority feels that there are a limited number of distortions and private enterprises and trade associations where a majority feels that there are a high number of distortions. This split by respondent type is the same as for question nine, though the split is not as wide in this case.

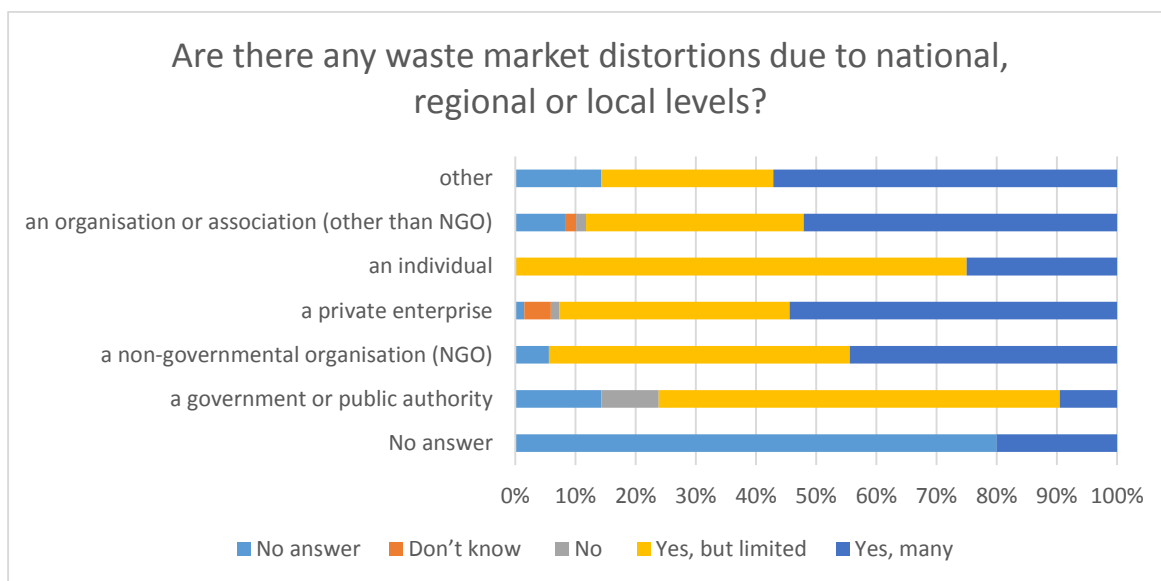


Figure 0-5 Perceptions on waste market distortions due to national, regional or local policies by stakeholder type

Table 0-3 Perceptions on waste market distortions due to national, regional or local policies by stakeholder type

12. Do you consider that there are any distortions created by waste policy, requirements or decisions taken at national, regional or local levels?														
		a government or public authority		a non-governmental organisation (NGO)		a private enterprise		an individual		an organisation or association (other than NGO)		other	Total	
No answer	4	3	14%	1	6%	1	1%		10	8%	1		20	8%
Don't know			0%		0%	3	4%		2	2%			5	2%
No		2	10%		0%	1	1%		2	2%			5	2%
Yes, but limited		14	67%	9	50%	26	38%	6	43	36%	2		100	41%
Yes, many	1	2	10%	8	44%	37	54%	2	62	52%	4		116	47%
Grand Total	5	21	100%	18	100%	68	100%	8	119	100%	7		246	100%

13. What are the drivers/ causes of these market distortions?

Similarly as for question ten, the respondents were asked to rate the listed drivers/ causes of the waste market distortions due to national, regional or local policies from 0 to 5, with 0 not important and 5 very important. The answers of those that responded are as follows:

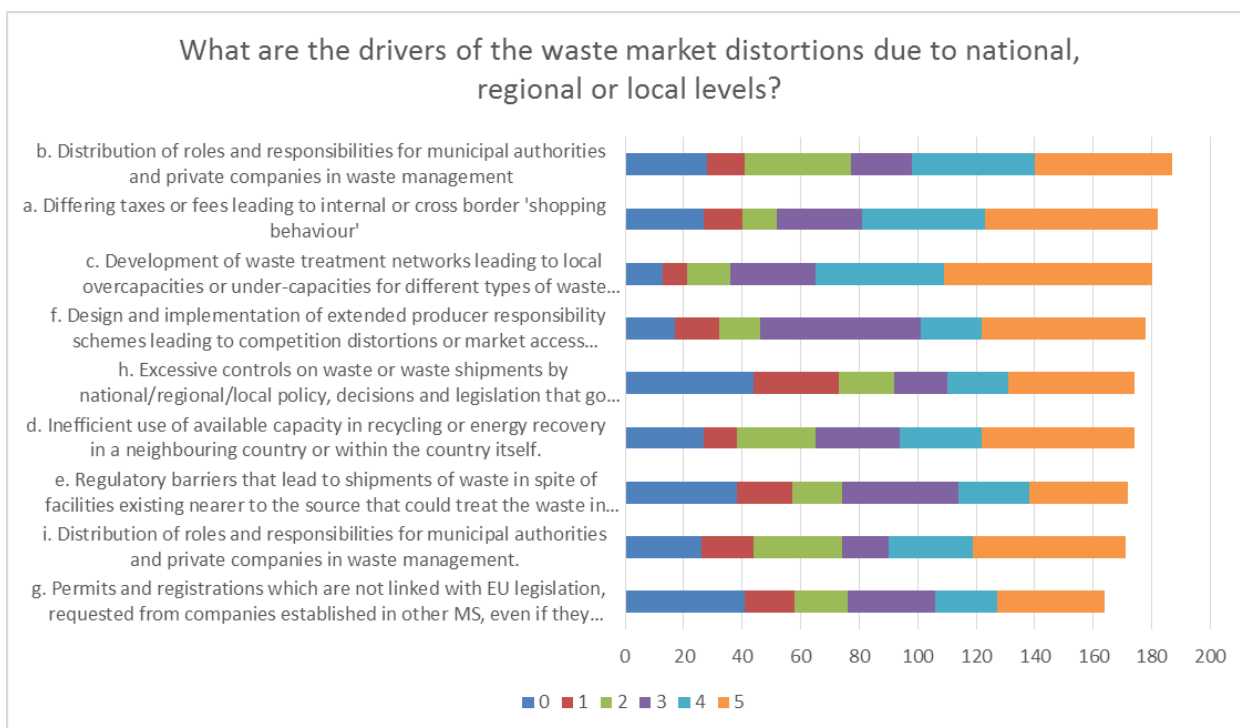


Figure 0-6 Perceptions on the drivers/ cases of waste market distortions due to national, regional or local policies

If the obstacles are ranked in terms of number of respondents and the view of the severity of the impact they are ranked as follows.

Table 0-4 Figure 0-7 Perceptions on the drivers/ cases of waste market distortions due to national, regional or local policies

Drivers/ causes (ranking)	Score
c. Development of waste treatment networks leading to local overcapacities or under-capacities for different types of waste treatment (e.g. incineration) to the detriment of higher positioned treatment steps in the EU waste hierarchy.	656
a. Differing taxes or fees leading to internal or cross border 'shopping behaviour'	587
f. Design and implementation of extended producer responsibility schemes leading to competition distortions or market access problems for producers and waste operators.	572
b. Distribution of roles and responsibilities for municipal authorities and private companies in waste management	551
d. Inefficient use of available capacity in recycling or energy recovery in a neighbouring country or within the country itself.	524
e. Regulatory barriers that lead to shipments of waste in spite of facilities existing nearer to the source that could treat the waste in an equivalent or better manner in terms of ESM and the waste hierarchy	439
h. Excessive controls on waste or waste shipments by national/regional/local policy, decisions and legislation that go beyond EU requirements ('gold plating')	420
g. Permits and registrations which are not linked with EU legislation, requested from companies established in other MS, even if they have fulfilled similar requirements in their home MS	412
Others (not listed above)	172

The ranking of the causes of the market distortions reflects a number of the comments made in question ten. The top ranked causes are related to large capital and operating costs, and as such it is understandable why the respondents would regard these as

having the largest distorting effect. For example the large amounts of capital invested in waste treatment facilities provides a clear incentive for this capacity to be utilised (to make a return on the capital) even if it may be (or may have become) a sub optimal choice in terms of the waste hierarchy.

There were a number of comments clarifying these rankings and offering views and examples of the obstacles.

With regard to differing taxes leading to 'shopping', two respondents pointed out that while they agreed this happened the obvious solution of harmonised EU taxes was not feasible, though a general approach of taxing waste exports and increasing taxes on landfill and incineration would help. Examples of such activity offered included the export of waste for incineration from Norway to Sweden (when Norway banned the landfill of any degradable waste); the export of hazardous waste from Germany for 'legal' reuse due to differing classifications of the hazard.

There were a number of comments made with regard to the role and responsibilities of municipal authorities and private companies. These included concern that national authorities could not control regions in terms of them complying with legislation and the waste hierarchy. Examples were provide from Germany and Austria of private companies being excluded from collecting recyclable waste streams from households. In contrast to these views it was pointed out that in places where the responsibility had been fully privatised (e.g. Ireland) it led to fragmented services and under-investment. It was also pointed out that if local public authorities had access to / responsibility for private / commercial and industrial waste, they would be able to develop larger scale and more efficient solutions. The community waste sector (a combination of public and private) was offered as a good compromise for certain waste streams.

With regard to the overcapacity of waste incineration, six respondents pointed out that it does lead to reduced prices and that waste does tend to flow towards these areas of low cost. Discussion of the reasons behind this pointed to the role of national capacity figures hiding regional under or over capacity issues, a history of poor planning at regional level, the need for national level control / monitoring of regional plans and the suggestion that some EU level coordination of national waste planning would help reduce national capacity imbalances. Three respondents raised the question of the role of EU funding in supporting the building of incineration plants, and that this should be reviewed. The points raised to clarify the ranking of points d, e and f cross over with this discussion, and they included the opinion that cost is often the most important driver in waste disposal, with the cheapest option being the favoured option. Four respondents pointed out that long term contracts signed by municipal authorities for the supply of waste to incinerators (all four examples were in Scandinavia) had the effect of limiting the availability of this waste for other treatment options.

The question on Enhanced Producer Responsibility (EPR) schemes raised a number of interesting points. The issue that was most commonly raised, with 10 respondents mentioning it, was a concern that monopoly EPR schemes can distort the market, because they are claimed to result in higher costs than would be the case if the scheme was open.⁶⁶ There were five suggestions that improved guidance / common rules on EPR schemes (at the EU level) would help. One respondent suggested this guidance would also help in Member States where the schemes had become too complex and burdensome.

⁶⁶ This is not the case as has been mentioned in the BIOIS study Ex-post evaluation of certain waste stream Directives. Final report to DG Environment

The obstacle related to 'gold plating' prompted a number of examples to be offered, these included the difficulties of incinerating any bio-waste in Finland, the treatment of combustion products (ash) in the UK (and elsewhere) and the variation between regions in Spain. This question was used to point out the benefits of electronic (as opposed to paper) notification for waste shipments by 10 respondents.

A number of other obstacles were suggested, with most relating to specific waste streams. These included the problem of goods purchased on the internet escaping EPR schemes, the problems of organic waste (as described in a UK office of fair trading report) and the use of cash in scrap metal purchase (banned in most countries but not in all).

14. Please provide qualitative or quantitative evidence of the impacts of these distortions (e.g. in terms of additional costs for businesses, missed new job opportunities, environmental impacts etc.)

Of the 91 respondents (37%) who reacted to this question, 12 mentioned some kind of quantitative estimates. A German respondent noticed that due to the lack of a strict policy against disposal of waste, recycling gypsum is twice as costly as disposing it. In the Czech Republic, estimates point out that diverting 0.8 million tonnes of household waste from landfill to energy generation could supply 110 thousand households with electricity.

Among the difficulties cited in the waste market, the most common was the lack of fair competition. 15% of the respondents to this question said that subsidies or public monopolies hinder the creation of a free and competitive waste market. 8% of respondents argued in general that waste markets malfunction.

Another 13% of respondents mentioned the high administrative burden that is generated by the overlapping, unclear and sometimes inconsistent pieces of legislation that apply to the waste sector. Specifically, many cited the different systems of extended producer responsibility existing across countries, a topic raised by 12% of respondents.

- Competition issues (14 mentions, 15% of those who responded)
- Malfunctioning of waste markets (7 mentions, 8% of those who responded)
- Administrative burden (12 mentions, 13% of those who responded)
- EPR schemes (11 mentions, 12% of those who responded).

15 Please rank the three most important drivers of market distortions and obstacles according to their importance with respect to being tackled first to improve the efficient function of waste markets.

58% of the survey participants answered this question. Summing up the three main reasons of market distortions ranked by these respondents, we observe that the most frequent problem was "13f) Design and implementation of extended producer responsibility schemes leading to competition distortions or market access problems for producers and waste operators". This item was present in 25% of answers, and is consistent with the recurrence of this topic in the free open questions.

Almost as much responses (24%) cited topic "10d) Different interpretations of 'waste' according to the Waste Framework Directive". Again this was also captured by the

open questions, with many respondents explicitly complaining about the lack of clarity of differentiation between “waste” and “by-product”.

The third most commonly cited problem was also widely present in the spontaneous open questions. According to 21% of answers, item “10b) Application by national authorities of the provisions concerning waste shipment through transit countries” was among the three most important drivers of distortions.

- 13f) Design and implementation of extended producer responsibility schemes leading to competition distortions or market access problems for producers and waste operators (39 mentions, 25% of those who responded)
- 10d) Different interpretations of ‘waste’ according to the Waste Framework Directive (37 mentions, 24% of those who responded)
- 10b) Application by national authorities of the provisions concerning waste shipment through transit countries (32 mentions, 21% of those who responded).

From all the respondents, 12% indicated that they cannot rank the important drivers of market distortions as they are all equally important. Another 12% of all respondents indicated that they do not have enough knowledge to rank them. There are no major differences between the stakeholder groups.




		Answers	Ratio
15 b. Cannot rank them. They are all equally important.		29	11.65 %
15 c. Not enough knowledge to rank them.		30	12.05 %
No Answer		190	76.31 %

Figure 0-8 Respondents who did not rank the most important drivers of waste market distortions

16. What do you feel are the negative impacts within the EU of such obstacles?

Respondents were asked to rank the negative impacts of such obstacles from 0 (no impact) to 3 (high impact). The results are as follows:

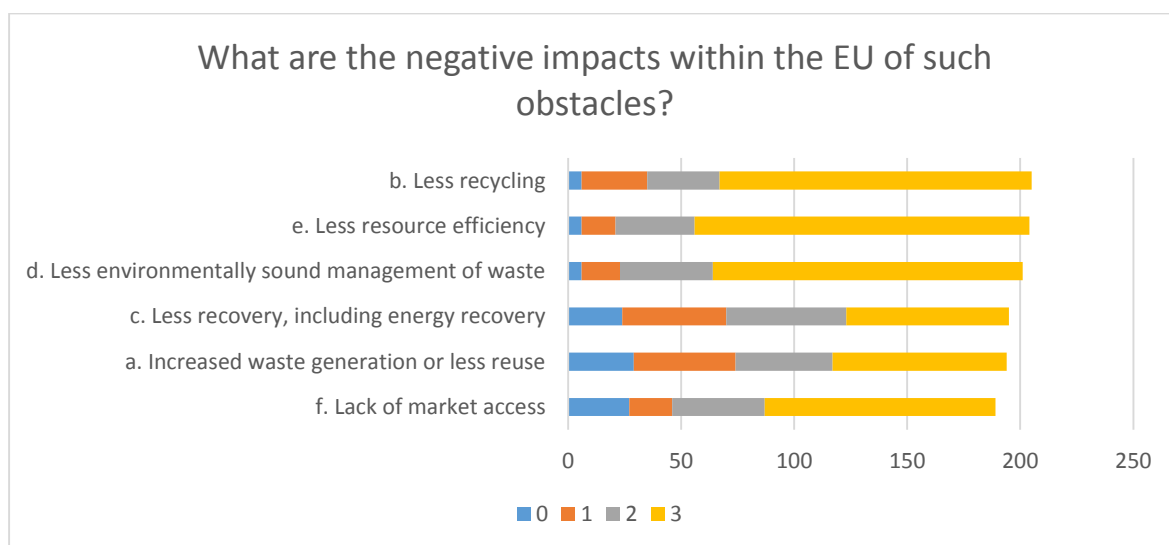


Figure 0-9 Perceptions on the negative impacts within the EU of waste market obstacles

Based on the results of the survey, the negative impacts within the EU due to waste market distortions can be ordered as followed based on the number of respondents and their severity of impact.

1. Less recycling
2. Less resource efficiency
3. Less environmentally sound management of waste
4. Less recovery, including energy recovery
5. Increased waste generation or less reuse
6. Lack of market access.

These answers show that recycling and resource efficiency are the main impacts that the respondents are trying to improve. This corresponds well with the current European Commission's goals regarding its waste and resource efficiency strategies.

It is also apparent that respondents do not think the waste market distortions have a significant impact on recovery, including energy recovery and increased waste generation or less reuse. According to one stakeholder, this is the case because for example, packaging waste generation is related to consumption habits and is not related with a smooth functioning of the waste market. Market access also does not seem to be significantly influenced by waste market distortions.

What can also be seen from the results is that the vast majority of stakeholders do believe waste market distortions can have a negative impact on all the aspects mentioned, as the majority of answers rank these impact as high (score 3).

Regarding the extension to this question, where the respondents could provide additional information or suggest other negative impacts, only 59 respondents provided additional information. However, as in other open questions, several answers were identical, as these have been probably provided by the associations to their members. Also some of the answers and main issues were similar to those identified in question 5 regarding the negative impacts of regulatory failures. This is not surprising as those questions were to some extent interlinked.

The main additional negative impacts identified are the following:

- Non- compliance with waste legislation – several answers pointed out that one of the negative impacts of waste market distortions is non-compliance, illegal shipping and illegal landfilling.
- Increased administrative burden – this answer has been provided many times, by members of the associations.
- Increased economic costs – several times mentioned. These are costs for producers, less money available for investments and innovation and increased costs for the industry and society.
- Monopolisation of the current market – 2-3 respondents mentioned that the current waste markets are monopolised/ oligopolised and that they need to be opened up. The worry is that there is an uneven playing field among collection, recovery and recycling schemes, in particular EPR schemes, operating in some Member States.
- Less innovation on resource efficiency – has been stated by one respondent.

There is a worry that inconsistent implementation of EU laws and poor enforcement results in poor system designs and waste and recyclates being shipped further afield.

This results in less recycling and lessens environmentally sound management. Resources are wasted resulting in poor resource efficiency.

Several stakeholders mentioned the importance of having access to secondary raw materials as the core issue. In other words, access to waste and resources to be able to recover and recycle materials to put them back into a new product life cycle, where resource efficiency and the circular economy plays a key role. The availability of recycled material has been identified as the core issue together with the transport distances for the waste.

It has been also mentioned that policies and legislation always have room for further improvement to facilitate access to such resources within the EU and globally and ensure equivalent conditions and fair level playing field to support the competitiveness of companies.

Another issues many times mentioned (identical answers, implying answers from different members of the association) is that there is a need of more (pull) incentives rather than bans; there is a lack of trustworthy/reliable data and reporting which serves as the basis for investment decisions and other actions in the market.

D Final questions

17. Do you consider that there are large differences between the Member States in the way their waste markets function?

It is no surprising that the vast majority of respondents think that there are very large differences between the Member States and how their waste markets function. 80% of respondents indicated these differences are large, 8% of respondents indicated that there are some differences but these differences are small.

		Answers	Ratio
Yes, very large differences.		200	80.32 %
Yes, but the differences are small.		21	8.43 %
No differences.		0	0 %
Don't know.		12	4.82 %
No Answer		16	6.43 %

Figure 0-10 Perceptions on the differences between Member States

It is interesting to notice the slight difference between the stakeholder groups. Almost 90% of Association respondents and individual respondents believe these differences are very large, around 75% of respondents coming from NGOs and private enterprise believe this is the case and only around 60% of respondents who are government or public authority. The explanation behind this might be the fact that associations have members from across Europe and as such have a better overview and more information on how waste markets differ in different Member States.

Table 0-5 Perceptions on the differences between the Member States per stakeholder group

17.		a government or public authority		a non-governmental organisation (NGO)		a private enterprise		an individual	an organisation or association (other than NGO)		other	Grand Total	
	3	2	10%	2	11%	1	1%	1	4	3%		13	5%
Don't know.		2	10%	1	6%	5	7%		4	3%		12	5%
Yes, but the differences are small.		4	19%	1	6%	10	15%		6	5%		21	9%
Yes, very large differences.	2	13	62%	14	78%	52	76%	7	105	88%	7	200	81%
Grand Total	5	21	100%	18	100%	68	100%	8	119	100%	7	246	100%

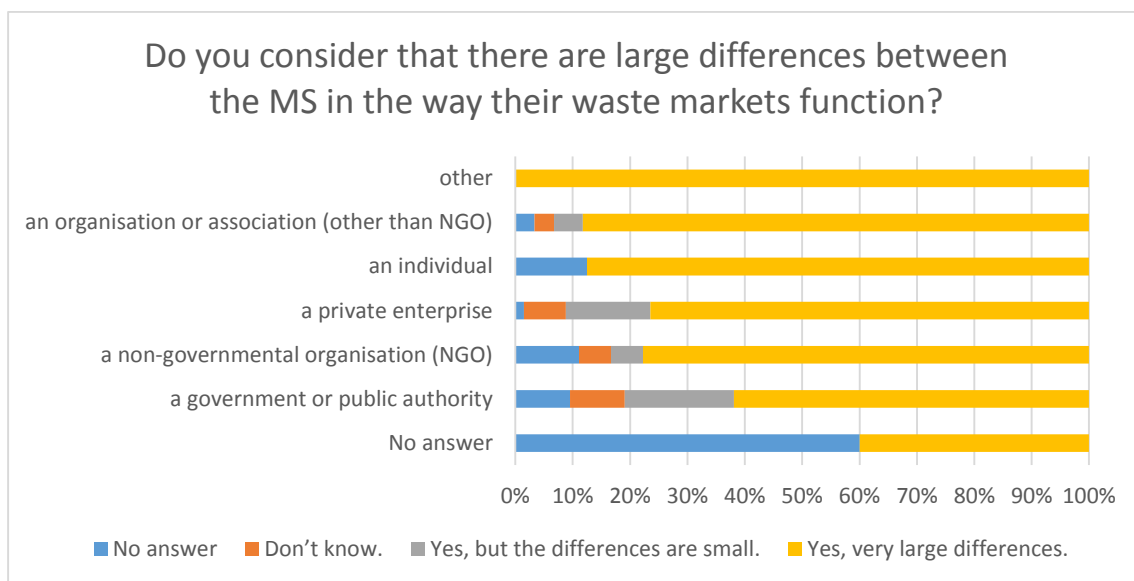


Figure 0-11 Perceptions on the differences between the Member States per stakeholder group

18. Please briefly describe the differences between Member States, perceived as obstacles to the functioning of waste markets:

In this question, to which almost 80% of participants answered, the most commonly cited problem was the heterogeneity in landfilling and incineration policies. Already present in other open questions, the regulatory inconsistency across Member States observed in this field was cited by 21% of respondents to this question. Interestingly, the second most frequent problem is closely connected to the first one: the heterogeneity in infrastructure and facilities for recycling in the various EU Member States, cited by 12% of those who responded to this question.

The third most cited problem was the financial difficulties in operating in different Member States, mainly due to different tax and subsidies policies that distort competition. This was cited by 11% of respondents, who also mentioned difficulties in accessing European funds for their projects. Approximately the same number of answers cited heterogeneity of producer responsibility (11%) and of differences in End of Waste criteria among Member States (11%).

- Landfilling regulation (41 mentions, 21% of those who responded to this question)
- Infrastructure differences (24 mentions, 12% of those who responded)
- Tax policies and funding possibilities (22 mentions, 11% of those who responded)
- Extender Producer Responsibility (21 mentions, 11% of those who responded)
- End of waste criteria (21 mentions, 11% of those who responded)

19. What solutions would you propose in order to address the regulatory failures or obstacles you have identified above?

Unsurprisingly, the most commonly cited solutions reflect the most commonly cited problems. The most recurrent solution cited to address regulatory failures is a tougher and more harmonized policy against landfilling. This was cited by 23%, many of whom explicitly favour European-level bans on landfilling.

The second most cited solution is a general request for harmonization of criteria and definitions. 22% of respondents asked for that, with many citing the need for European guidelines for national transpositions and application of the European legislations. Connected to this comes the third and fifth most common proposals: the

harmonization of reporting criteria and calculating methodologies, cited by 15% of respondents; and the monitoring of implementation of European legislation in the Member States, to be performed by the European Commission. This was cited by 10% of respondents.

Another common proposal relates to funding. 12% of respondents asked for more economic incentives for operating in the waste market, both via access to funds and elimination of distortionary subsidies and taxes.

- Landfilling policies (46 mentions, 23% of those who responded)
- Harmonization of definitions and rules (44 mentions, 22% of those who responded)
- Harmonization of reporting methods and statistics (29 mentions, 15% of those who responded)
- Economic incentives and funding (23 mentions, 12% of those who responded)
- Monitoring of MS implementation of European legislation (20 mentions, 10% of those who responded).

These answers are to some extent similar to answers provided under Question 7 on additional information regarding possible solutions/ mitigating measures.

10.2 Annex IV.2 Replies from the on-line consultation

All individual replies can be found on

http://ec.europa.eu/environment/consultations/waste_market_en.htm

11 Annex V Case study reports

11.1 Direct barriers to movements of waste within the EU

11.1.1 Annex V.1 Case 10: The application of the proximity principle to shipments within and between Member States

11.1.1.1 Headline report

The concept of proximity and self-sufficiency

Proximity and self-sufficiency principles are closely related and often treated as one. Article 16 of the Waste Framework Directive states how Member States should establish an integrated and adequate network of waste disposal installations, in order to enable the Community as a whole to become self-sufficient in waste disposal, and in the recovery of mixed municipal waste collected from private households. Member States should move towards that aim individually, taking into account geographical circumstances or the need for specialised installations for certain types of waste. Member States may limit incoming shipments of waste destined to incinerators that are classified as recovery, if this would result in national waste having to be disposed of or waste having to be treated in a way not consistent with their national waste management plans. As regards waste shipments for disposal the Waste Shipment Regulation provides the possibility for Member States to take into account the principles of proximity, priority for recovery and self-sufficiency at Community and national levels in accordance with the Waste Framework Directive (Article 11).⁶⁷ Member States may not apply the principles to waste shipments for recovery (other than in the specific above-mention case of mixed municipal waste) or recycling. Case-law of the Court of Justice of the EU has confirmed that Member States only can invoke the specific grounds specified in Article 11 or 12 of the Waste Shipment Regulation to object to shipments of waste for recovery. The proximity and self-sufficiency principles are only applicable for disposal or mixed municipal waste recovery.

Market context

Two representative waste streams, one hazardous and one non-hazardous, both show a trend of increasing trans-frontier shipment of waste.

⁶⁷ Where preamble 20 from the Waste Shipment Regulation (EC) n° 1013/2006 states "In the case of shipments of waste for disposal, Member States should take into account the principles of proximity, priority for recovery and self-sufficiency at Community and national levels, article 11 of the Regulation states that "the competent authorities of destination and dispatch may /.../ raise reasoned objections based on /.../ the principles of proximity, priority for recovery and self-sufficiency at Community and national levels.

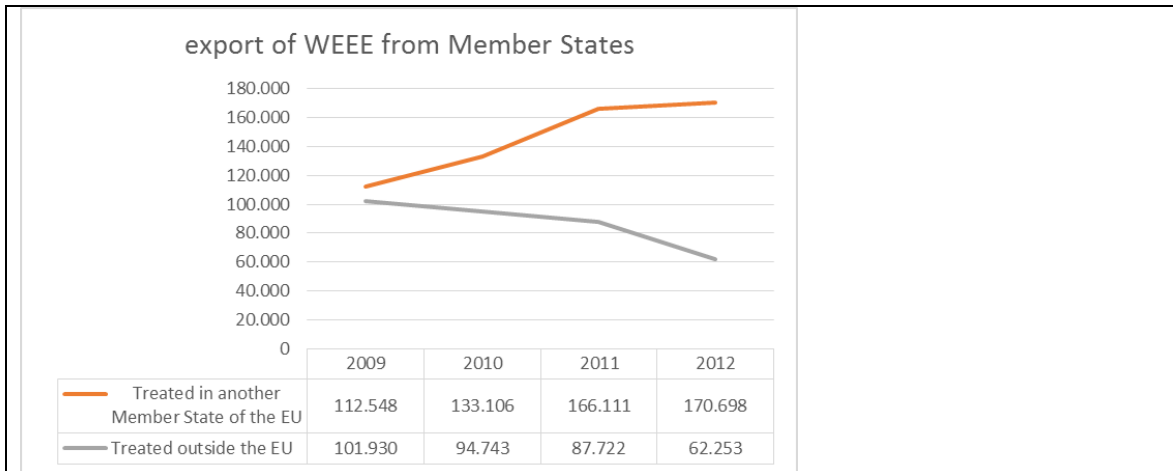


Figure 11-1: Export of WEEE intra or extra the EU

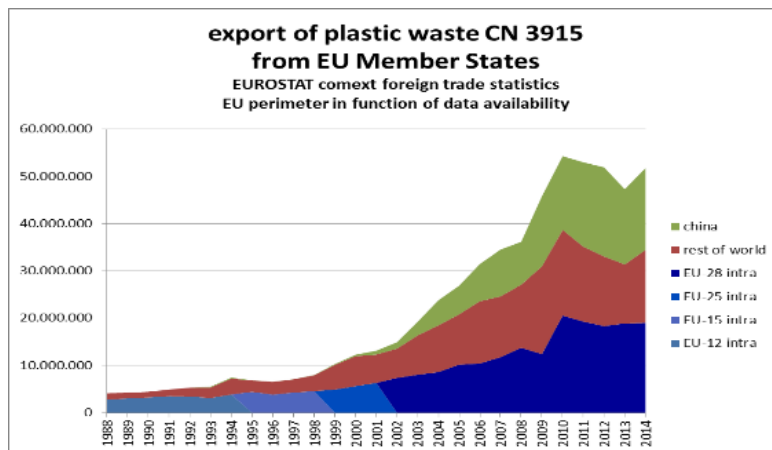


Figure 11-2: Export of plastic waste intra or extra the EU

Sources: EUROSTAT database [env_waselee], based on annual reporting provisions for the WEEE Directive, EUROSTAT database DS-016894 Comext external trade by HS2-4

The economic importance of trans-frontier shipment between Member States is continuously increasing, even when extra-EU shipment takes a larger part of the market. Transfrontier shipment (intra or extra EU) is traded off against treatment within the Member States borders, which may create an incentive to protect one's own waste treatment market. About one fifth of the waste that is shipped cross border is destined for disposal, a figure that remains more or less stable, although the total amount of waste that is shipped cross border keeps increasing.

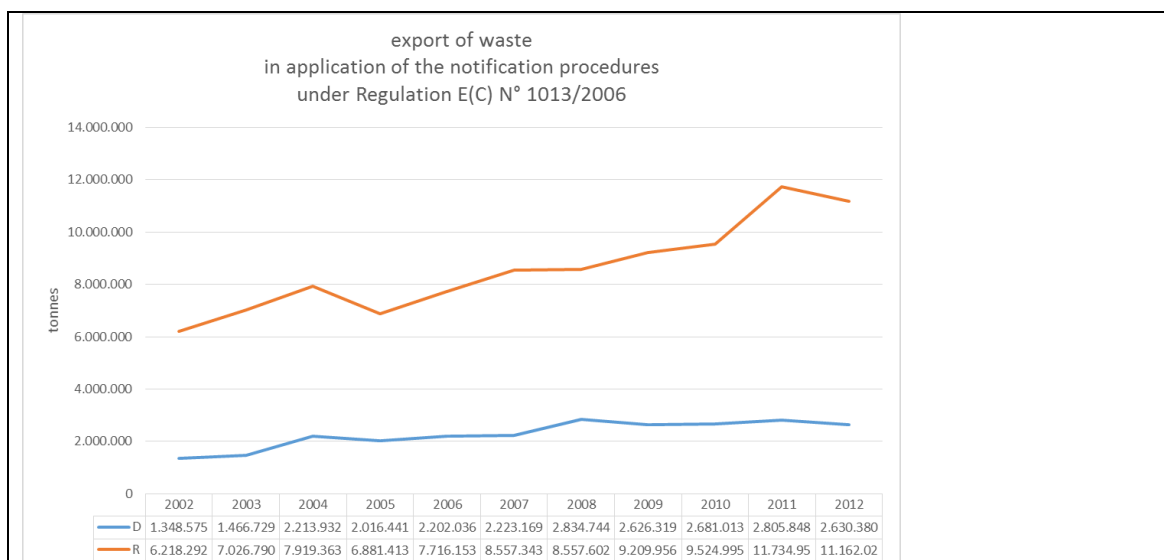


Figure 11-3: Notified export of waste for disposal or recovery

Potential market distortions

- Different implementation of the proximity principle through the application of **general objections**. Member States can apply the possibility to object in a systematical way against shipments that do not respect the proximity principle for disposal. This is done by Bulgaria, Hungary, Croatia, Cyprus, Czech Republic, Denmark, Finland, Germany, Latvia, The Netherlands, Romania, UK.
- Differences in **case-by-case application** of the proximity and self-sufficiency principles between Member States, combined with different policy strategies on closed or open borders, even between neighbouring Member States.
- Application of the proximity principle on waste shipments **for recycling**. At national and EU-level, distortions also include national interpretations prohibiting movements of waste within national and international borders, for sorting for recycling or for energy recovery.
- Application of the proximity principle on **source separated municipal waste**. The proximity principle is only related to shipment of waste for disposal and to the shipment of mixed municipal waste. In Germany and in Greece there is no distinction between separated and non-separated waste – both are classified as municipal waste falling under the proximity principle.

Evaluation of the potential distortions

Each potential distortion is checked against the definition of waste market distortion: *Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy.*

- The application of general objections by Member States is a factual truth. The objections however lead to less landfill options and thus creates a stimulus up the waste treatment hierarchy, which makes that it is not distorting the EU policy lines.
- Different case-by-case application of the proximity and self-sufficiency principles between Member States can lead for the internal market as a whole to lower performance on the waste treatment hierarchy. In the case of over-capacity of waste incineration plants in specific Member States, both open and closed borders

can have a negative effect on the waste treatment hierarchy. Open borders combined with overcapacity and low prices for incineration in a neighbouring Member State lead to loss of market share for recycling or other waste management infrastructure at home. Closed borders and a lack of homeland recycling capacity lead to waste being landfilled because the available recovery capacity remains inaccessible.

- Application of the proximity principle on waste shipments for recycling reduces the availability of recycling options for its waste streams.
- Application of the proximity principle on source separated municipal waste mainly reduces recycling options for separated fractions as glass, paper, metal, plastic, wood, textile...

Evaluation of incineration overcapacity

Overcapacity of MSW incineration is a major driver for distortions. Investments in incineration facilities represent large sunk costs and need to be paid off anyhow. This creates a need of waste being sent to incineration, rather than prevented or recycled, e.g. through lower gate fees. In several EU Member States this competition has led to a number of insolvencies in the medium-sized recycling industry. Moreover, investments in recycling plants fall short if there are uncertainties about future waste flows. Assessing the environmental effects of incinerated waste depends much on the availability of alternative waste treatment (landfilling versus recycling). For most of the waste materials, recycling saves more energy than is generated by incinerating mixed solid waste in an incineration facility. Compared with recycling, incineration also allows a lower CO₂ reduction as is illustrated in the table underneath.

Table 11-1: Comparison of greenhouse gas (GHG) emissions reduction through recycling and incineration for several materials, in MTCO₂eq/tonne (Jofra Sora; 2013).

Material	GHG reduction from using recycled inputs instead of virgin inputs	Avoided GHG emissions per tonne incinerated
Glass	0.28	-0.02
Office paper	2.85	0.48
Newspaper	2.78	0.56
Steel cans	1.80	-0.02
PET	1.11	0.75
Cooper wire	4.89	-0.02
Aluminium cans	8.89	-0.02

In Europe significant regional overcapacities for waste incineration exist, but on the total aggregated level additional investments in waste incineration capacity might be useful to divert additional waste streams from landfilling.

Policy advice

Waste for disposal is not a commodity and in this way the proximity principle is not disturbing the free movement of goods. Application of the principle does not lead to lower performance on the waste treatment hierarchy. The acceptance of waste for incineration or landfill only distorts the market if gate fees for these kinds of treatment are competitive in a way to hinder (the development of a) homeland

recycling sector. Protectionism of a homeland waste treatment market can be a reason to block export or to attract import of waste and it could lead to lower, less performing or less sustainable homeland waste treatment options.

The lessons learned are transferable to other Member States and contexts where inequalities occur in open or closed border policy for waste, presence of free capacity for waste incineration, differing levels of waste recycling quality and capacity, differing costs where cheap gate fees can compensate for extra transport costs.

Legal intervention is advised on

- the (non) applicability of the proximity principle on waste for recycling;
- the conditions under which Member States do not have to comply with the proximity and self-sufficiency principle at Member State level;
- the harmonised definition of mixed municipal waste;
- the cost structure of waste treatment at low levels of the waste treatment hierarchy, which can be controlled by levies in a way that it is always more expensive than recycling for recyclable wastes;
- management at a European level of equilibrated incineration capacity, hand in hand with enhanced development of alternative waste treatment solutions. This may request coordinated legal action and incentives.

Enforcement is advised on

- the non legal application of the proximity principle (via infringement cases or interference of the Impel network or by setting up EU collaborations and exchanges between national enforcement authorities.)

Harmonisation is advised on

- the distinction between recycling/recovery and disposal, e.g. in the case of backfilling of mines;
- the development of waste treatment capacity, avoiding an over-capacity of waste incineration at national or transnational level;
- the application of articles 11 and 12 of the Waste Shipment Regulation;
- an EU wide system of waste levies in order to prevent ecological dumping

Guidance is advised on

- methods to assess in a harmonized and realistic way future waste generation
- the quality of the case judgements of waste shipment notification files;
- the application of the proximity and self-sufficiency principles;
- the application of articles 11 and 12 of the Waste Shipment Regulation;

Continued investments are needed in

- waste collection and waste treatment infrastructure, especially in new Member States.

11.1.1.2 Full case study report

The following sources have been consulted to analyse this case:

- Waste Market Distortions interim report (from 30 04 2015),
- interviews with 15 stakeholders,

- outcomes of the stakeholder workshop on 21/5,
- statistics from Eurostat,
- specific studies on household waste management in the EU.
- Expert interview (representative of FEBEM, the Belgian federation of environmental companies).

CONTEXT

LEGAL CONTEXT

The concept of proximity and self-sufficiency

Proximity and self-sufficiency principles are closely related and often treated as one. Article 16 of the Waste Framework Directive states how Member States should establish an integrated and adequate network of waste disposal installations, in order to enable the Community as a whole to become self-sufficient in waste disposal, and in the recovery of mixed municipal waste collected from private households.

The article also explains how the Member States should move towards that aim individually, taking into account geographical circumstances or the need for specialised installations for certain types of waste. This network should consist of installations applying best available techniques as defined in the IPPC Directive, and the waste should be treated in accordance with legally binding environmental protection standards to disposal operations in line with the EU acquis⁶⁸.

Member States are may under application of article 16.1 second part of the Waste Framework Directive limit incoming shipments of waste destined to incinerators that are classified as recovery, if this would result in national waste having to be disposed of or waste having to be treated in a way not consistent with their national waste management plans.

Shipment to other Member States for disposal

The main principle is that waste for recycling and other recovery activities shall move freely within the EU without any unjustified restrictions imposed by national, regional or local policy and legislation. This means that Member States may only raise certain, specific reasons to restrict the free movement of waste for recycling and other recovery activities, e.g. that the shipment would not be in accordance with EU or national legislation or that the person shipping the waste has previously been convicted of illegal shipments, see Article 12 (1)(a-k). Member States may not object to waste shipments for recovery by referring to the principles of proximity and self-sufficiency.

As regards waste shipments for disposal, the situation is different. For such shipments, the Waste Shipment Regulation provides the possibility for Member States to take into account the principles of proximity, priority for recovery and self-sufficiency at Community and national levels in accordance with the Waste Framework Directive (Article 11).⁶⁹

⁶⁸ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives

⁶⁹ Where preamble 20 from the Waste Shipment Regulation (EC) n° 1013/2006 states "In the case of shipments of waste for disposal, Member States should take into account the principles of proximity, priority for recovery and self-sufficiency at Community and national levels, article 11 of the Regulation states that "the competent

Mixed municipal waste recovery

Installations for the recovery of mixed municipal waste collected from private households are also covered by these principles and this network, even if these installations recover mixed municipal waste from other sources than private households. Member States may limit incoming shipments of such waste destined to incinerators that are classified as recovery, if such shipments would result in national waste having to be disposed of or waste having to be treated in a way that is not consistent with a Member States waste management plans, see further Article 13(1) para. 2 of the Waste Framework Directive. Recovery in this context refers to incineration plants with energy recovery, described under code R1. This stands for "use principally as a fuel or other means to generate energy" and is further defined by the calculation method in footnote⁷⁰.

Scale of application

The self-sufficiency and proximity principles are to be realised for the European Union as a whole. Member States should try to reach self-sufficiency and proximity, but may deviate from it, and still export waste for disposal in another Member State, if necessary for geographical or technical reasons, e.g. the needed scale for specific specialist disposal operations. Article 16.4 of the Waste Framework Directive state explicitly that "*the principles of proximity and self-sufficiency shall not mean that each Member State has to possess the full range of final recovery facilities within that Member State.*"

Conclusion

The proximity and self-sufficiency principles are limited to waste for disposal or to waste destined to incinerators that are classified as recovery, if such shipments would result in national waste having to be disposed of or waste having to be treated in a way that is not consistent with a Member States waste management plans, see further above. Member States may not apply the principles to waste shipments for recovery (other than in the specific above-mention case of mixed municipal waste) or recycling. The Waste Shipment Regulation provides a harmonised set of procedures for

authorities of destination and dispatch may /.../ raise reasoned objections based on /.../ the principles of proximity, priority for recovery and self-sufficiency at Community and national levels.

⁷⁰ R1 includes incineration facilities dedicated to the processing of municipal solid waste only where their energy efficiency is equal to or above:

- 0,60 for installations in operation and permitted in accordance with applicable Community legislation before 1 January 2009,
- 0,65 for installations permitted after 31 December 2008, using the following formula:

$$\text{Energy efficiency} = (E_p - (E_f + E_i)) / (0,97 \times (E_w + E_f))$$

In which:

E_p means annual energy produced as heat or electricity. It is calculated with energy in the form of electricity being multiplied by 2,6 and heat produced for commercial use multiplied by 1,1 (GJ/year)

E_f means annual energy input to the system from fuels contributing to the production of steam (GJ/year)

E_w means annual energy contained in the treated waste calculated using the net calorific value of the waste (GJ/year)

E_i means annual energy imported excluding E_w and E_f (GJ/year)

0,97 is a factor accounting for energy losses due to bottom ash and radiation.

This formula shall be applied in accordance with the reference document on Best Available Techniques for waste incineration.

shipments of waste. Case-law of the Court of Justice of the EU has confirmed this. Member States need therefore to invoke the specific grounds specified in Article 12 of the Waste Shipment Regulation to object to shipments of waste for recovery. The proximity and self-sufficiency principles are not part of these grounds for objection.

MARKET CONTEXT

We illustrate the market context with two representative waste streams, one hazardous and one non-hazardous, which both show a trend of increasing trans-frontier shipments.

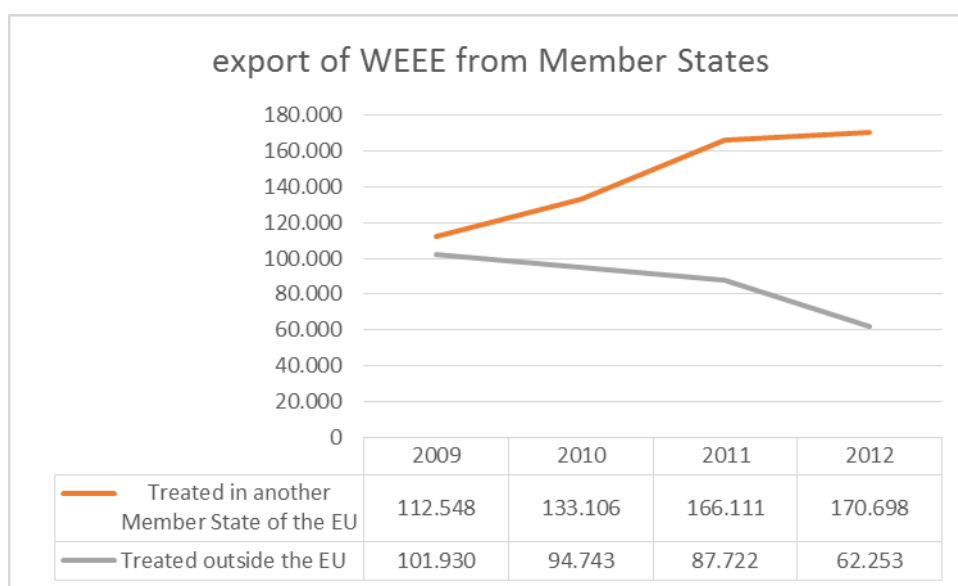


Figure 11-4: Export of the WEEE intra or extra the EU

Source: EUROSTAT; 2015 database [env_waselee], based on annual reporting provisions for the WEEE Directive

Figure 11-5: Export of WEEE from Member States to EU and non EU destinations

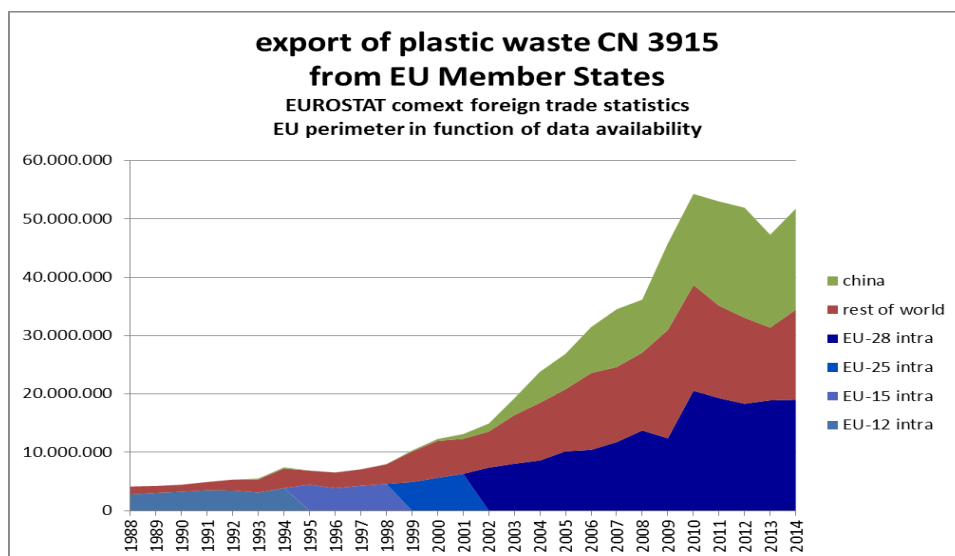


Figure 11-6: Export of plastic waste from Member States to EU and non EU destinations

Source: EUROSTAT database DS-016894 Comext external trade by HS2-4, latest available data

For WEEE, shipments increase between Member States. For plastic waste, the export to non OECD countries increases. Even over a limited set of years the increase is remarkable. For plastics export between Member States as well as export to China and other non-EU destinations is largely increasing, with extra-EU export increasing at a higher speed.

The economic importance of trans-frontier shipment between Member States is continuously increasing, even when extra-EU shipment takes a larger part of the market. Export (intra or extra EU) is traded off against treatment within the Member States borders, which may create an incentive to protect one's own waste treatment market.

Data on the balance between shipment for recycling and shipment for disposal are not validated by Eurostat. The data reported in accordance to the Waste Shipment Regulation include raw data as reported directly to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. It shows that about one fifth of the waste that is shipped cross border is destined for disposal, a figure that remains more or less stable, although the total amount of waste that is shipped cross border keeps increasing.

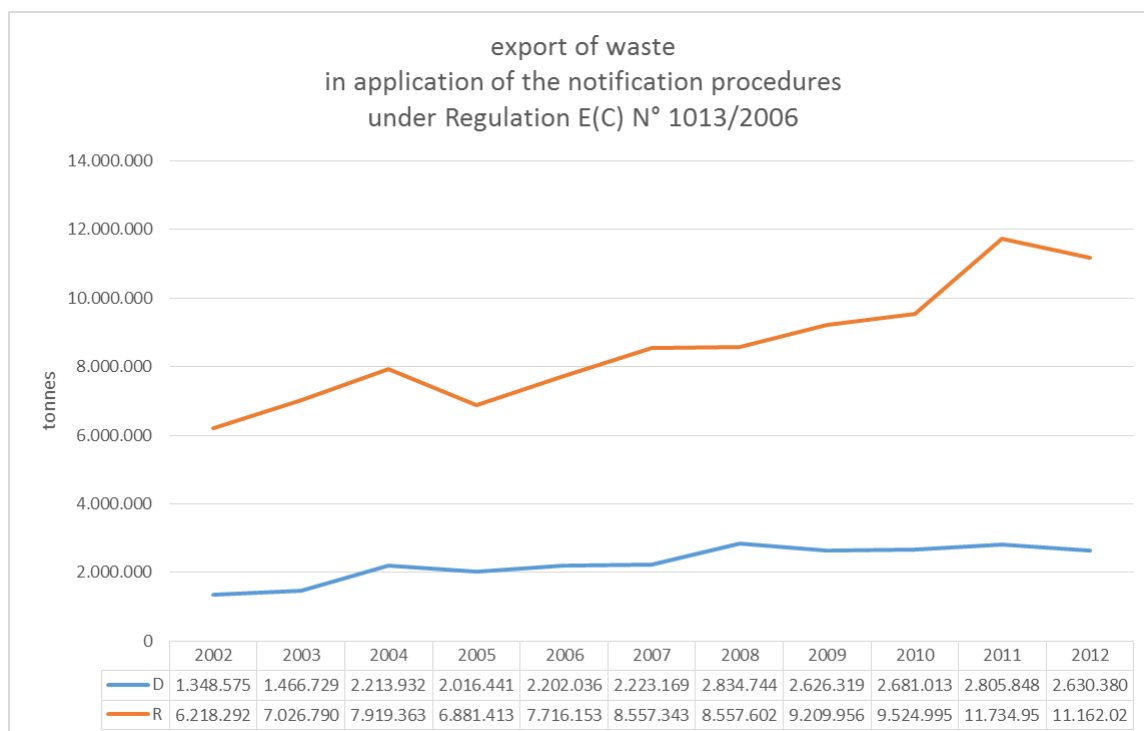


Figure 11-7: Export of waste notified under Regulation (EC) N° 1013/2006

Source: own analysis, raw data as reported directly to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

POTENTIAL MARKET DISTORTION

The potential market distortion which have been identified is that the proximity principle is applied by national or regional authorities in a way that is more stringent than the European provisions, and that this stringent application distorts the waste market in a way that wastes are deviated from the higher options in the waste treatment hierarchy.

EXAMPLE 1: DIFFERENT IMPLEMENTATION OF THE PROXIMITY PRINCIPLE THROUGH THE APPLICATION OF GENERAL OBJECTIONS.

Retrieved from literature

The study "International Review of Waste Management Policy: Annex 65 to Main Report -Exports and Imports of Waste" (Eunomia; 2009) describes how the proximity principle is not implemented in a harmonized way in the different Member States. Member States can apply the possibility to object in a systematical way against shipments that do not respect the proximity principle for disposal, referring to article 11.1 (a) of the Waste Shipment Regulation. Article 4, paragraph (1) of the Basel Convention provides that Parties exercising their right to prohibit the import of hazardous wastes or other wastes for disposal shall inform the other Parties of their decision pursuant to Article 13. An, updated, summary of the implementation differences⁷¹ is represented below:

⁷¹ <http://archive.basel.int/natdef/frsetmain.php> ; select 'pursuant to articles 4(1) and 13(2)(c)'

Member State	Way in which the proximity and self-sufficiency principles are applied in a general way, as notified to the Basel Convention.
Bulgaria	The Bulgarian Waste management Act states (art 73 point 2) that <i>"the import in the country shall be prohibited for waste with objective storage, depositing of whatever other form of disposal"</i> . The same Act states that import is prohibited for recovery if <i>"during the previous calendar year the operator has utilized smaller quantity waste from Bulgarian origin in comparison with the quantity of imported waste for utilization in the same installation."</i>
Hungary	Under section 17 of the Act XLIII of 2000 on waste management import of all type waste for disposal purposes into Hungary is prohibited. <i>"Waste may be imported to the territory of this country including customs free zones a) for recovery only"</i>
Austria	Formally answered referring to the Waste Shipment Regulation
All other Member States	No formal response pursuing art 4.1 and 13 of the Basel Convention, but applying the provisions of the Waste Shipment Regulation.

Member State	Way in which the proximity and self-sufficiency principles are applied in a general way, as included in the Basel Convention country fact sheets ⁷² . (updated where necessary)
Croatia	The import of hazardous waste is prohibited.
Cyprus	The import of hazardous wastes for final disposal is not permitted, as there are no facilities for this purpose
Czech Republic	The Act on Waste No. 185/2001 Coll. as last amended by Act No. 34/2008 Coll. states: <i>"Waste generated in the Czech Republic shall be preferentially disposed of in the Czech Republic. Transboundary movements of waste to the Czech Republic for the purpose of disposal shall be prohibited."</i>
Denmark	Paragraph 10 in the Danish Statutory Order no. 799 on the shipment of waste includes a general prohibition on the import and export of waste for disposal.
Finland	Imports of all wastes to disposal operations D1, D2, D3, D4, D5, D6, D7, D11 and D12 are totally prohibited. Imports of all wastes to disposal operations D8, D9 and D10 are prohibited with certain exceptions. The implied restrictions concern both hazardous and non-hazardous wastes.
Germany	Federal States have implemented an obligation for delivery of certain wastes to public facilities within Germany.
Latvia	The Waste Management Law of 01.03.2001 prohibits the import into the territory of the Republic of Latvia of any waste for disposal or long-term storage.
The Netherlands	The former Waste Policy Plan 2002-2012 made the Netherlands to object in general to the export of all kinds of waste for final disposal and did not allow imports for disposal. The actual Waste Policy Plan 2009-2021 bans export for landfill, but not for D10 disposal through incineration. Form 2007 on the Netherlands apply an open border policy for D10.
Romania	The import of any kind of wastes for final disposal is prohibited

⁷² <http://archive.basel.int/natreporting/cfs.html>

Member State	Way in which the proximity and self-sufficiency principles are applied in a general way, as included in the Basel Convention country fact sheets ⁷² . (updated where necessary)
	until the end of the transition period of the Treaty concerning Romania's adherence to EU law, 31 December 2015.
UK	The UK prohibits the export of all wastes for disposal, imports of all wastes for disposal are prohibited, except in limited circumstances such as imports for high temperature incineration from Ireland and Portugal.

EXAMPLE 2: DIFFERENCES IN CASE-BY-CASE APPLICATION OF THE PROXIMITY AND SELF-SUFFICIENCY PRINCIPLES BETWEEN MEMBER STATES

Retrieved from literature and interviews

During the Symposium on international trade of waste in Brussels, Wante (2015) indicated how the Flemish region of Belgium has chosen a strict implementation of the self-sufficiency and proximity principle and has therefore closed its borders for mixed municipal waste. On the contrary, the Netherlands chose to open its borders for municipal waste, set high taxes for the incineration of national municipal waste to stimulate prevention and recycling and does not set taxes for imported waste. This leads to a strong pull factor for Flemish municipal waste towards Dutch incineration.

FEAD states in its interview that while hazardous waste from the Netherlands can and is exported to Germany and Belgium because the Dutch government made the assessment that in those countries equivalent treatment infrastructure is available, at the same time the shipment of non-hazardous residual waste for energy recovery is still hampered: the Dutch borders are open but the Belgian borders are closed.

CEWEP states in its interview that some Member States are more willing to accept imports of waste to their EFW plants. CEWEP claims that The Netherlands and the Scandinavian countries are more willing than Germany.

EXAMPLE 3: APPLICATION OF THE PROXIMITY PRINCIPLE ON WASTE SHIPMENTS FOR RECYCLING

Retrieved from interviews and stakeholder meeting

EUCOLIGHT states in its interview: "WEEE lamps and lighting have a net recycling cost and are, due to their low specific weight, mainly treated by national facilities. In some cases of intra EU movement, neighbouring Member States rely on the proximity principle in order to block waste lamps shipments. Relying on the proximity principle in regard to lamps and lighting (and WEEE in general) is not in line with the principle of free movement of goods. The proximity principle is only applicable on waste shipped for disposal, or for mixed municipal waste, but not for WEEE or lamps."

MWE states: "At national and EU-level, hindrances also include national interpretations of the Directive, prohibiting movements of waste within national and international borders, for example, for sorting for recycling or for energy recovery, where these treatment methods are either not available or lacking capacity locally or nationally." At the workshop MWE illustrates this with the example of a law in Greece, which implements the self-sufficiency principle by making the shipment from or to the Greek islands of any type of waste illegal. Waste being generated on an island has to stay there, which minimises options for reuse and recycling.

FNADE, member of FEAD, states: "Hazardous flue-gas treatment residues from energy recovery of municipal solid waste are exported from France to Germany to be

“recovered” according to the German law in disused salt mines. There is no legal possibility to oppose these transfers because the French treatment installations of hazardous waste are considered to perform a disposal operation.”

MWE states in the workshop that there is improper implementation of the proximity principle by the Member States, because of a lack of knowledge at certain levels. A helpdesk for Member States and implementing authorities would be beneficial.

EXAMPLE 4: APPLICATION OF THE PROXIMITY PRINCIPLE ON SOURCE SEPARATED MUNICIPAL WASTE

Retrieved from interviews and stakeholder meeting

BDE describes in the workshop how separately collected waste should not be included in the self-sufficiency principle. The proximity principle is only related to shipment of waste for disposal and to the shipment of mixed municipal waste. In Germany and in Greece there is no distinction between separated and non-separated waste – both are classified as municipal waste falling under the proximity principle.

In Germany, the self-sufficiency principle is implemented at the regional level of the Bundesland. BDE claims that environmental rules are sometimes used for protectionism and hinder the movements of waste. Action 17 Überlassungspflichten from the German Kreislaufwirtschaftsgesetz stipulates that it is the duty of municipalities to collect household waste, and that they might use proximity and self-sufficiency principles to protect the public companies which tend to hold on to their incineration capacities.

EVALUATION OF THE POTENTIAL DISTORTIONS

Each potential distortion is checked against the definition of market distortion:

Each national, regional or local policy or legislative act which distorts the European Union’s ambition to reach high levels of prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy.

DIFFERENT IMPLEMENTATION OF THE PROXIMITY PRINCIPLE THROUGH THE APPLICATION OF GENERAL OBJECTIONS.

This is a factual truth. Member States have established different general policy lines on whether they intend to import or export waste for disposal. This is included either in national legislation or in national waste management planning. Bulgaria and Hungary have officially notified general import bans for disposal to the Basel Convention. Croatia, Cyprus, Czech Republic, Denmark, Finland (partially), Latvia, Romania (temporarily), UK (partially) have banned import for disposal and in this way do not use the possibility to deviate from the proximity and self-sufficiency principles at Member State level. Where this leads to less landfill options and thus creates a stimulus up the waste treatment hierarchy, it is not distorting the EU policy lines. On the contrary the EU policy line encourages Member States to achieve proximity and self-sufficiency for disposal at Member State level.

The provision in the Bulgarian Waste Management Act art 73 on recovery installs a self-sufficiency principle for recovery which is strictly spoken not forbidden taking into account article 193 of the Treaty, but highly exceptional and might lead to protectionism. Nevertheless if it leads to Bulgarian waste not being landfilled but

recovered or recycled, it complies with the obligation of Member States to realise the waste treatment hierarchy.

Conclusion: a different interpretation of the self-sufficiency principle in the sense of systematically banning import for landfill is not a distortion as defined above.

DIFFERENCES IN CASE-BY-CASE APPLICATION OF THE PROXIMITY AND SELF-SUFFICIENCY PRINCIPLES BETWEEN MEMBER STATES

In the case of over-capacity of waste incineration or W2E plants in specific Member States, closed or open border can have a large impact on waste management in neighbouring Member States. Waste management strategies work as communicating vessels, often driven by price. Open borders combined with overcapacity and low prices for incineration in a neighbouring Member State can lead, and have led, to loss of market share for recycling or other waste management infrastructure at home. Closed borders and a lack of homeland recycling capacity can lead to waste being landfilled because the available recovery capacity remains inaccessible. Both open and closed borders can have a negative effect on the waste treatment hierarchy, and can lead to suboptimal use of made investments. But both can have a positive effect as closed borders and an artificial scarcity of incineration capacity combined with a strong landfill ban can lead to the development of a viable recycling industry. Open borders can lead to recovery instead of landfill if recovery capacity becomes accessible. Border policy needs to be harmonised at a higher level taking into account each Member States' capacity for recycling, landfill and recovery to reach better overall performance.

Conclusion: non harmonized policy of closed or open borders can lead for the internal market as a whole to lower performance on the waste treatment hierarchy. The actual practice has a risk of distortion as defined above.

APPLICATION OF THE PROXIMITY PRINCIPLE ON WASTE SHIPMENTS FOR RECYCLING

The possibility to use the proximity principle for recycling is not foreseen at EU level and is very hard to realise at Member State level. See legal context in chapter 0. When a Member State applies the proximity principle on waste shipments for recycling, it reduces the availability of recycling options for its waste streams. In this way it can hinder the full application of the waste treatment hierarchy. The reverse effect, where not applying the proximity principle and thus allowing lower grade waste treatment to take place in another Member State is unlikely, because article 11 and 12 of the Waste Shipment Regulation⁷³ contain sufficient grounds for objection to avoid this.

Conclusion: applying the proximity principle for recovery and recycling may lead to waste market distortions as defined as it leads to lower levels of the waste treatment hierarchy.

APPLICATION OF THE PROXIMITY PRINCIPLE ON SOURCE SEPARATED MUNICIPAL WASTE

The application of the proximity principle in these cases is closely linked to a failing distinction between separated and non-separated municipal waste. As the proximity principle can only be applied to non-separated or mixed municipal waste, the thin line

⁷³ Article 11 of the Waste Shipment Regulation indicates how competent authorities can install objections to shipments of waste destined for disposal. Article 12 describes in a limitative way the objections to shipments of waste destined for recovery.

between separated and non-separated municipal waste also defines the applicability of the proximity principle. As in the allegation above, applying the proximity principle reduces the possible waste treatment options. For separated municipal waste (e.g. glass, paper, metal, plastic, wood, textile... fractions) it mainly reduces recycling options.

Conclusion: applying the proximity principle for separated municipal waste fractions recovery and recycling may lead to waste market distortions as defined as it leads to treatment at lower stages of the waste treatment hierarchy.

CASE DESCRIPTION – ANALYSIS OF THE DISTORTIONS

The above described distortions will be first analysed by exploring the relationship between overcapacity of waste incineration plants, intra EU waste shipment and its consequences to recycling and landfilling. Consecutively the economic and environmental effects of the impact of the self-sufficiency principle will be scrutinized.

RELATIONSHIP INCINERATION CAPACITY, WASTE SHIPMENT AND RECYCLING RATE

Incineration capacity

A recent report on Municipal Solid Waste Management Capacities in Europe (EEA; 2014) gives indications for regional over-capacities for waste incineration in Europe. The figure below sets into relation the mixed municipal waste incineration capacity per capita and country with its waste generation. Most of the countries have an incineration capacity of less than a quarter of their generated municipal waste. Seven of the 32 countries analysed have an incineration capacity exceeding their annual waste generation by 50 %. In two of countries (DK & SE) the incineration capacity is more than 100% of the mixed municipal waste generation.

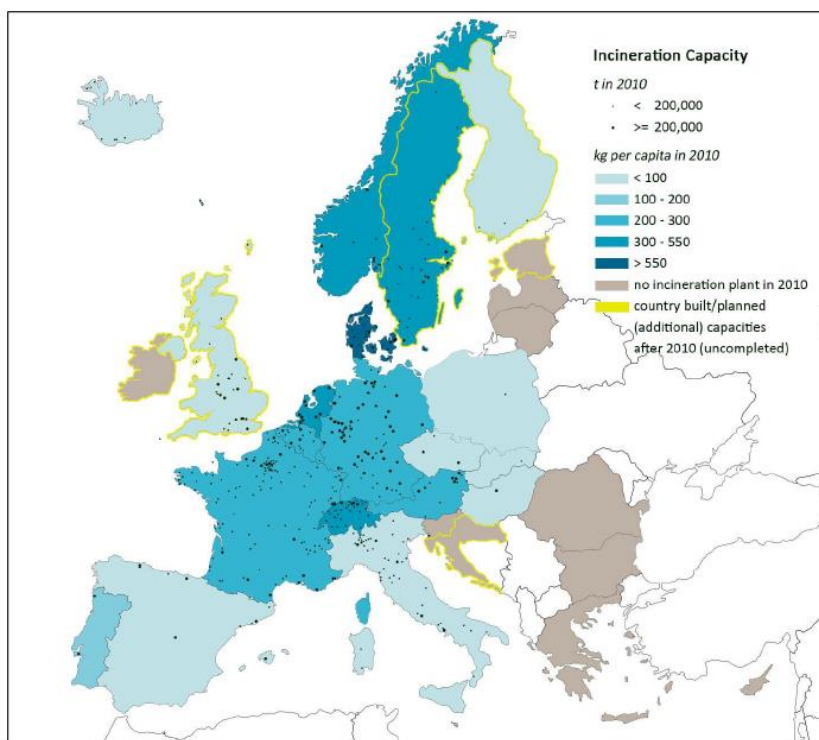


Figure 11-8 : Incineration capacity for mixed municipal waste per capita and country as well as specific plant size (EEA; 2014)

Between 2007 and 2013, nearly 300 new incineration plants were constructed, the technical capacities increased by 25 % up to more than 250 million tons per year.

A study by the Global Alliance for Incinerator Alternatives (Jofra Sora; 2013) reveals that incinerators already operating in some EU states have the capacity to incinerate more than the non-recyclable waste generated. The study finds that Germany, Sweden, Denmark, the Netherlands and the United Kingdom already have more incineration capacity than waste to incinerate⁷⁴. As an example, Denmark has four times as many incineration plants according its waste generation. In order to reach their capacity, household waste from the UK (London) and Germany is imported to Denmark, Member States with already sufficient household waste treatment capacities.

Waste shipping among Member States

Levels of exports and imports of mixed municipal waste Y46 under the notification procedure differs among EU Member States. In an analysis on waste flows for incineration for the year 2010, Austria, Germany, the Netherlands and especially Sweden turned out to be main importers (for Y46, D10+R1, see figure below). Exporting countries are Germany, France, Italy, the UK and mainly Finland (EEA; 2014).

⁷⁴ These findings should be put in perspective. In the EEA study only DK and SE were mentioned to have overcapacity in mixed municipal waste incineration, but their capacity was compared to the total generation of municipal waste while in the latter study only the fraction fit for incineration was considered.

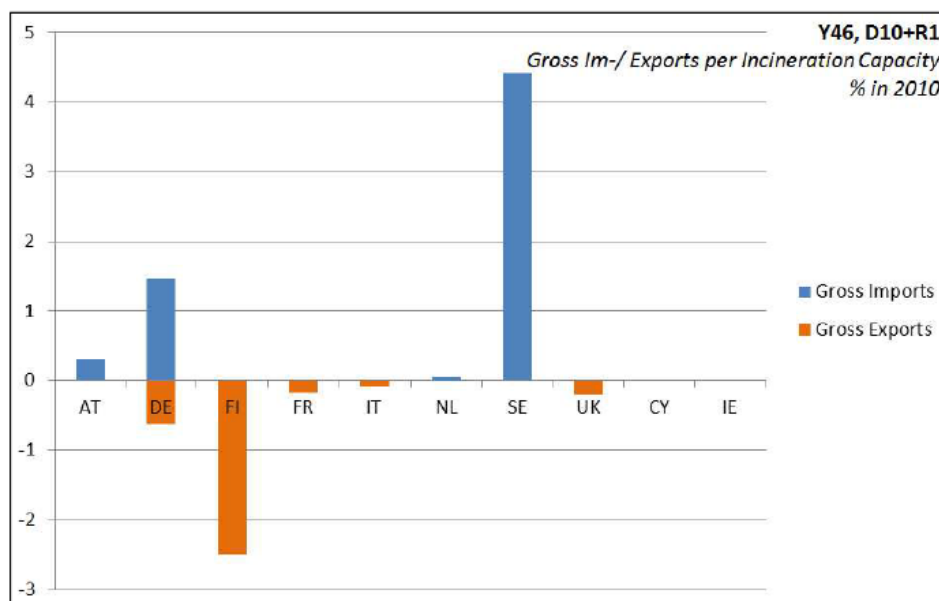


Figure 11-9: Gross imports and exports per incineration capacity in 2010 (Source: EEA; 2014)

On a per capita basis, the most significant importers are Sweden followed by Cyprus and Germany. With regard to exports, Finland, the Netherlands and Austria take the lead for the year 2010. In general, key drivers for waste shipments are:

- A lack of treatment capacity in the exporting MS
- Lower transport costs (particularly in border areas, where the nearest treatment plant is located in the neighbouring country)
- Lower gate fees due to over-capacity in the importing MS
- Differences in tax rate (e.g. landfill tax)

From the EEA study on municipal solid waste management capacities in Europe there are several waste flows that can clearly be linked to differences in waste treatment capacities in relation to waste generation e.g. the high imports of waste for incineration of Sweden⁷⁵. The data analysis also shows that imports/exports vary significantly over time and react very sensitively on changed market situations, e.g. introduction or increase of landfill taxes in Member States.

The perspectives of the incineration industry for the near future show an increase in incineration capacity at a European level, which together with the existing overcapacity in some countries may lead to an even larger increase in waste shipping among Member States.

Impacts on recycling and landfilling

The increase in waste shipments may endanger accomplishment of recycling targets, particularly in those countries that are currently further away from achieving them.

⁷⁵ Sweden's mixed municipal waste incineration capacity exceeds the amount of generated waste (4.5% of the Swedish incineration capacity is assigned to imported waste).

The latest UK Residual Waste Infrastructure Review (Eunomia; 2014) forecasts over 14 million ton per annum of extra capacity by 2030. This planned incineration capacity can constrain the maximum level of recycling, which is targeted at 66% in 2030 for household, commercial and industrial waste streams. Continuing this analysis, if 40% of this capacity was developed then the maximum level recycling would decrease to 60%. If 100% will be developed, the maximum recycling rate would drop below the current level (of 54%), to 50%.

ECONOMIC EFFECTS OF OVERCAPACITY

Overcapacity has a proven impact on waste treatment prices. Investments in incineration facilities are large sunk costs and need to be paid off anyhow. This creates a need of waste being sent to incineration, rather than prevented or recycled, e.g. through lower gate fees.

Overcapacity also represents a financial risk for investing companies and public bodies. Especially the competition for commercial waste seems to lead to low price levels for thermal treatment. In several EU Member States this competition has led to a number of insolvencies in the medium-sized recycling industry, since at lower incineration prices more materials will be incinerated rather than fed to material recovery facilities. The recently published European Greenbook on Plastic Waste describes this phenomenon as the 'vacuum cleaner effect' (European Commission, 2013). Moreover, investments in recycling plants fall short if there are uncertainties about future waste flows.

ENVIRONMENTAL EFFECTS

These regional over-capacities might act as an incentive to use the capital intensive waste incineration plants at full capacity and at the same time demotivate further recycling efforts. This increase may also hamper the accomplishment of the recycling targets set out in the Waste Framework Directive, especially in those Member States that are currently further away from achieving them. However, additional investments to further increase regional waste incineration capacity could alleviate the need for waste landfills.

The Green Paper on a European Strategy on Plastic waste, published by the European Commission in 2013, mentions the lack of alternatives as one reason for the fact that about 50 % of all plastic waste generated in the EU is still landfilled (European Commission, 2013). However, overcapacities in municipal waste treatment also opposes the achievement of the 50% recycling target of the 2008 Waste Framework Directive, as well as the objectives of the EU's 7th Environmental Action Programme to further move towards a circular economy, to limit energy recovery to non-recyclable material and to reduce the generation of waste.

Assessing the environmental effects of incinerated waste depends much on the availability of alternative waste treatment (landfilling versus recycling). Improved waste management can reduce dependence on the import of raw materials.

Transport to foreign EU waste treatment facilities may have an environmental impact in terms of CO₂ emissions, derived from transportation. In case the nearest incineration plant is situated in a cross border region, environmental benefits can however be attained by trans-frontier shipment.

The EEA report (2014) makes reference to Monstadt (2009), who stresses the importance of sorting and recycling infrastructure as key catalyst for sustainable development. In many ways they determine direction and magnitude of material flows.

For most of the materials that compose waste, recycling saves more energy than is generated by incinerating mixed solid waste in an incineration facility. Compared with recycling, incineration also allows a lower CO₂ reduction as is illustrated in the table underneath.

Table 11-2: Comparison of greenhouse gas (GHG) emissions reduction through recycling and incineration for several materials, in MTCO₂eq/tonne (Source: Jofra Sora; 2013).

Material	GHG reduction from using recycled inputs instead of virgin inputs	Avoided GHG emissions per tonne incinerated
Glass	0.28	-0.02
Office paper	2.85	0.48
Newspaper	2.78	0.56
Steel cans	1.80	-0.02
PET	1.11	0.75
Cooper wire	4.89	-0.02
Aluminium cans	8.89	-0.02

CONCLUSIONS

In general the figures presented in this report might allow drawing the preliminary conclusion that in Europe significant regional overcapacities for waste incineration exist, but on the total aggregated level additional investments in waste incineration capacity might be useful to divert additional waste streams from landfilling.

Deliberately planning overcapacity when the magnitude of the current and future waste flows is not certain represents both an environmental and an economical risk, especially in Member States with lower financial possibilities. Investing in incineration is expensive and plants are designed to function for decades. A high level of certainty on available material for incineration is necessary, taking into account realistic presumptions on future waste generation and the effects of prevention and reuse, and future recycling capacity.

Both missing capacities as well as possible over-capacities seem to pose relevant risks for the path from a waste disposal system towards a circular economy.

POLICY ADVICE

IS THE CASE A REAL AND AN IMPORTANT DISTORTION OF THE EFFICIENT FUNCTIONING OF THE WASTE MARKET?

- The application of the proximity principle on waste streams, in a sense that blocks export destined for recycling of among others separated fractions of municipal waste, limits the access to recycling solutions in foreign Member States. This results in a protectionist effect that leads either to the development of the homeland recycling industry or to the treatment of the waste in less performing homeland solutions. In both cases the solutions are not submitted to the effects of intra-EU competition which can have long-term negative effects on innovation, and which can lengthen a suboptimal performance on the waste treatment hierarchy.
- An open border policy for recovery is foreseen in the EU waste management policy, while an open border policy for disposal and for incineration of mixed municipal waste can only be set up if the proximity and self-sufficiency principles are not

applied at the level of a Member State. An open border policy combined with an overcapacity of waste incineration (or landfill) infrastructure or low waste incineration (or landfill) tariffs can lead to extra transfrontier movements and can hamper the development of a homeland recycling sector.

WHAT (LEGAL, ADMINISTRATIVE, ECONOMIC, CULTURAL,...) FACTORS ARE INFLUENCING THE OCCURRENCE AND THE IMPACT OF THE DISTORTION?

- The legal or policy decisions on banning import for disposal are regulating the market and are limiting the free movement of waste, but waste for disposal is not a commodity and in this way not disturbing the free movement of goods. Moreover it does not lead to lower performance on the waste treatment hierarchy.
- The acceptance of import, by classifying it as recovery or recycling in national law or national waste management plans while other Member States consider it as disposal (e.g. backfilling of mines), does influence the occurrence and impact of the distortion.
- The acceptance of waste for incineration classified as recovery, or for incineration of mixed municipal waste, does influence the occurrence and the impact of the distortion only if gate fees for these kinds of treatment are competitive in a way to hinder homeland recycling or in a way to hinder the development of a homeland recycling sector.
- The banning of export for recycling, recovery or for disposal through incineration distorts the functioning of the waste markets only if no equivalent homeland treatment capacity at the same or at higher levels of the waste treatment hierarchy is present and waste will e.g. be landfilled. Due to the large differences in waste management infrastructure and gate fees/levies in the EU, a higher focus on closed borders is favoured by FEBEM, the Belgian federation of environmental companies. This can be supported for other Member States, like many western European countries, that possess a performing inland recycling capacity.
- In regard to recycling, open borders may also lead to distortions. An example pointed out by FEBEM refers to the import of wood waste from the UK to Belgium, which puts pressure on national suppliers of this type of waste material. As a result Belgian wood waste risks to end up lower on the waste treatment hierarchy (incinerated as R11 instead of being recycled). This is a distortion if wood waste could have been recycled at the same level in the UK. This is not a distortion if the UK wood waste would otherwise be landfilled. Keeping the waste hierarchy in mind, it is better to incinerate Belgian waste than to landfill an equivalent amount of UK waste. The lack of self-sufficiency on waste recycling capacity at EU level is sometimes the cause of lower recycling performance of locally generated material at national level, due to imports.

WHAT ARE THE LESSONS LEARNED FROM THIS CASE?

- Both a too stringent and a too permissive use of the proximity and self-sufficiency principles can lead to market distortions in a way of lower performance on the waste treatment hierarchy. FEBEM indicates in our opinion correctly that national waste policies using high levies on waste incineration/landfilling as an instrument do not profit from open borders, as waste is prone to be exported to Member States with lower gate fees.
- Protectionism of a homeland waste treatment market can be a reason to block export or to attract import of waste and it could lead to lower, less performing or less sustainable homeland waste treatment options.

- In the long run, a free movement of waste can be considered, although harmonisation must be improved at first instance on high level waste management standards (uniform emission standards, environmental performance of waste infrastructure). Although in theory these standards are uniform within the EU, a lack of enforcement within Member States lead to a current distorted playing field.
- Driving forces are often the sunk costs invested in waste incineration infrastructure.

IS THE CASE OR ITS LESSONS LEARNED TRANSFERABLE TO OTHER MEMBER STATES AND CONTEXTS?

Yes, it applies on all Member States where inequalities occur in:

- Open or closed border policy for waste
- Presence of free capacity for waste incineration
- Differing levels of waste recycling quality and capacity
- Differing costs where cheap gate fees can compensate for extra transport costs

HOW COULD THE PROBLEM BE SOLVED?

Legal intervention on

- the (non) applicability of the proximity principle on waste for recycling;
- the conditions under which Member States do not have to comply with the proximity and self-sufficiency principle at Member State level;
- the harmonised definition of mixed municipal waste;
- the cost structure of waste treatment at low levels of the waste treatment hierarchy, which can be controlled by levies in a way that it is always more expensive than recycling for recyclable wastes;
- management at a European level of equilibrated incineration capacity, hand in hand with enhanced development of alternative waste treatment solutions. This may request coordinated legal action and incentives.

Enforcement on

- the non legal application of the proximity principle (via infringement cases or interference of the Impel network or by setting up EU collaborations and exchanges between national enforcement authorities.)

Harmonisation on

- the distinction between recycling/recovery and disposal, e.g. in the case of backfilling;
- the development of waste treatment capacity, avoiding an over-capacity of W2E at national or transnational level;
- the application of articles 11 and 12 of the Waste Shipment Regulation⁷⁶;
- an EU wide system of waste levies in order to prevent ecological dumping (according to FEBEM)

Guidance on

- methods to assess in a harmonized and realistic way future waste generation

⁷⁶ For trans-frontier shipments article 11 of the Waste Shipment Regulation indicates how competent authorities can install objections to shipments of waste destined for disposal.

Article 12 describes in a limitative way the objections to shipments of waste destined for recovery.

- the quality of the case judgements of waste shipment notification files;
- the application of the proximity and self-sufficiency principles;
- the application of articles 11 and 12 of the Waste Shipment Regulation;

Continued investments in

- waste collection and waste treatment infrastructure, especially in new Member States.

WHO IS ABLE TO REMEDIATE?

As the proximity and self-sufficiency principles are par excellence connected to the issue of trans-frontier waste movements and the functioning of the internal waste market as a whole, solutions have to be developed or imposed at a supra-national and thus European level.

Only when the application of the proximity principle for disposal depends upon specific geographical conditions a bilateral level of agreements between specific Member States can be sufficient.

National authorities and the European level can each within their competences create incentives for enhanced sales opportunities and markets for recycled materials. This measure influences national recycling performance, as economic viable recycling will incentivize private investment in recycling infrastructure.

11.1.2 Annex V.2 Case 4: Notifications for packaging waste, separate collected as one single waste stream

11.1.2.1 Headline report

Waste treatment in Denmark – The Danish waste model

Waste from households and waste for incineration and landfilling is primarily the responsibility of local municipalities, except for Waste Electrical and Electronic Equipment (WEEE), ELV and Batteries, for which producers provide collection equipment and treatment facilities.⁷⁷ There are currently no producer responsibility schemes for packaging waste in Denmark mainly due to cost-effectiveness (i.e. the municipalities can collect it for a lower cost than industry) and therefore responsibility remains with the municipalities.⁷⁸ However, for beverage packaging (e.g. carbonate sodas, beers) Denmark has an obligatory deposit scheme.

Separate collection schemes are established for metals, plastics, paper glass packaging and hazardous waste, and most municipalities also collect garden waste separately. However, Denmark does not have sorting and recycling plants for all types of waste streams.

Relevant waste legislation in Denmark

Denmark has transposed Directive 2008/98/EC on waste (Waste Framework Directive) and the provisions of the Packaging and Packaging Waste Directive 1994/62/EC, as amended in 2015 (Directive (EU) 2015/720). However, Denmark already had a packaging waste management system in place, thanks to which the targets set by the Directive had already been reached in 2001.⁷⁹

Denmark follows the EU Waste Shipment Regulation. To support its implementation, Denmark adopted a Statutory Order which supplements the EU Waste Shipment Regulation by setting the payments for notification. When exporting waste from Denmark, the shipment is required to have a note from the sender, confirming the content of the shipment⁸⁰ or a chemical analysis of the waste content and a description of how it was produced. The sender pays 13,400 DKK (about € 1,800) in administrative fees per notification. Failure to comply imposes a 5% interest rate on the payment.

Denmark also follows the EU Waste Shipment Regulation with respect to classifying waste as either 'green' or 'notifiable' waste. To support this, Denmark adopted guidelines in 2011 on "green listed" waste, i.e. waste that is exempt from prior notifications procedures and approval from the Danish environmental agency (Miljøstyrelsen) when it is exported from, or imported to Denmark for recycling or recovery. Green listed waste shipped for recycling or recovery only has to be accompanied by information required under Annex VII, in article 18 in the Waste Shipment Regulation (1013/2006).

For shipment for disposal a full notification procedure is obligatory, also for green listed waste. The Waste shipment regulation includes mixed municipal waste Y46

⁷⁷ <https://www.dpa-system.dk/en/WEEE/ProducerResponsibility/LegislationinDenmark>

⁷⁸ Interview with the Ministry of Environment and Food

⁷⁹ PRO Europe Country profile Denmark <http://www.pro-e.org/Denmark>

⁸⁰ In the "Bekendtgørelse om overførsel af affald og overførsel af brugt elektrisk og elektronisk udstyr"

(Waste collected from households unless appropriately classified under a single entry in the green list) in the amber list of annex IV.

Potential waste market distortion

The potential market distortion is related to the EU Waste Shipment Regulation (WSR) and to the Danish guidelines on classifying green wastes. Because of the current lack of suitable sorting facilities, the mixed plastics have to be exported for sorting, as a prior step to recycling. In order to ensure that the waste is sent to the optimal sorting and recycling facilities, the Danish waste management company would like to send samples to a variety of sorting plants before entering into contract. The municipalities have attempted to export shipments of the mixed household plastics to potential sorting and facilities as green waste, but this was not accepted by the Danish Competent Authority who classified it as 'unlisted waste' which falls under the prior written consent procedure for waste shipments. This classification as a notifiable waste, implies that the full notification procedure had to be followed. The procedure is considered expensive and time consuming, posing a barrier for municipalities to identify the facility, which provides them with the optimal waste treatment option.

Two main issues that indicate this case could illustrate a waste market distortion read as follows:

- b) The differences between Member States with respect to how they classify waste as un-listed or as green, and hence the need for prior written consent notification procedure was applied.
- c) The fact that mixed household plastics shipments exported from Denmark do not fall under the article 3.4 of the WSR, which exempts shipments from the heavy notification procedure.

Analysis of the potential distortion

- The shipments of the samples of the mixed plastic waste sent to sorting plants outside of Denmark were larger than the prescribed maximum weight in the WSR, (100kg instead of 25kg). As such the Danish authorities could not classify this shipment as falling under the exemption of full notification procedure.
- The Danish waste management company did not provide the specification of the mixed plastic waste, hence it was not possible to determine whether this waste stream could be seen as a green listed waste.
- The importing country did not consent to receive this waste from Denmark as 'green' listed waste, and communicated that waste of this nature needed to be notified.
- The Ministry of Environment and Food does not know why Danish waste management company did not provide a specification of this mixed waste stream nor why they did not sort the waste before exporting it for recycling.

Conclusion

The case does not seem to be a waste market distortion due to national Danish policies and legislation, but it rather relates to the EU waste legislation and the need for notification procedures for un-listed wastes to be exported, in specific cases of non-hazardous mixtures or in the case of larger sample sizes for analysis.

The case has an economic impact due to the administrative burden of the notification procedure for the company and for the public authorities of both

exporting and importing countries.

The case has an environmental impact as the costs and delays of the notification procedure could be a disincentive for the collection of mixed plastic waste. This could be seen as contrary to the waste hierarchy, as the mixed plastic waste would be incinerated instead.

It is not clear if the benefits of this restriction, such as the avoidance of environmental risks that exporting the waste under the prior consent procedure as opposed to the green procedure, would outweigh the costs. It is also not clear why mixed (as opposed to separated) kerbside collection of this plastic waste was chosen.

Policy advice

Potential actions to help address this case in particular read as follows:

- Establishing better communication with the company with respect to specifying the mixed waste stream in order to facilitate its classification as green- instead of amber- listed or un-listed.
- Shipping the maximum allowable quantity (25 kg) according to Article 3.4 of the WSR. This would allow the company to apply for the exemption from the notification procedure.
- Making the notification procedure digital in order to speed up the process.
- Adapting the kerbside collection system from mixed to single stream.

Potential actions in general (depending on the root of the problem) read:

- If the problem is the classification of wastes, the responsible authorities need to provide good guidance on which waste is classified as green listed and which amber or un-listed.
- Guidance is needed on good application of the precautionary principle, especially in case of non-listed but proven non-hazardous waste fractions or mixtures.
- Inclusion of such wastes in the green list procedure can be considered for intra-EU shipments.
- If valid technical reasons exist to justify increasing the 25 kg threshold value for shipments of waste for testing, this threshold might be lifted. We propose to combine this with documentary evidence on the technical necessity to be submitted to the competent authorities before receiving an exemption on the notification. This approach is vulnerable to abuse, and therefore needs to be well enforced and enforceable.
- Harmonisation at EU level of costs that Member States can impose on companies for complying with inland administrative procedures of notifications.
- Cooperation between waste management companies and authorities is important as well as good communication between them.

Who is able to remediate?

At the EU level, legislative changes are required regarding the minimum requirements/ standards for waste facilities, additional EU guidance on specific aspects of the implementation of waste legislation, clear guidance on definitions, thresholds and obligations.

At the Member State level, authorities need to ensure that their enforcement and

monitoring systems are working well and that they have a waste infrastructure that enables ESM. Good guidance documents need to be in place to provide companies with information on how to ship their waste and what rules apply. Authorities should have a good communication channel with the waste management companies.

Waste management companies need to ensure that they are aware of and comply with the applicable rules in their home and destination country, and also need to classify their waste for shipment properly.

11.1.2.2 Full case study report

The Danish municipalities operate a system of a single stream collection of plastic waste. This stream is sent to sorting plants outside Denmark in order to separate the different types of plastic waste (PET, PE etc.) so they can be recycled. This stream of exported waste is classified as a "mixed waste fraction" which means that the amber-list procedure for waste shipments (waste code Y46) is applied which leads to a more difficult and expensive notification procedure than if the waste was not classified in this way. This expense and difficulty is seen as a barrier to achieving a waste treatment option which is higher up the waste hierarchy.

CONTEXT

Danish Waste Statistics

Since the early 1990's, the Danish government's waste management policy has been to favour recycling and incineration with energy recovery as opposed to landfill. This has resulted in relatively high recycling and incineration rates compared to other European countries. In 2012, of a total 10.4 million tons of waste, 63 % was recycled, 29 % was incinerated and 6 % was landfilled.⁸¹ Household waste, which is one of the largest waste streams in Denmark, is particularly likely to be incinerated, with about 52 % being incinerated. Denmark has both the highest percentage of incineration and the highest amount of municipal waste generated per capita in the EU27⁸², the latter is partly caused by the fact that much household-like waste from commercial, industrial and institutional activities is included in the reporting to Eurostat of municipal waste.

Danish waste policy changed in 2013 when a new resource strategy – "Denmark without waste – Recycle more – incinerate less" – was adopted to increase levels of recycling and reduce the amount of incineration.⁸³ This policy succeeded strategies from 2005 – 2008 and 2009 - 2013, and lays out plans for the period 2013 to 2018 to reduce incineration, increase recycling of valuable materials, reduce the environmental impact of waste, increase quality in recycling, remove hazardous waste, increase the levels of re public-private cooperation in providing waste treatment infrastructure and enable flexible solutions which are adapted for local contexts.

⁸¹ Danish Ministry of Environment- Miljøministeriet. (2014). Excluding soils. Affaldstatistik 2012., MST-7761-00562, 24 October 2014.

⁸² According to Eurostat data. Source: EEA.(2013). Managing municipal solid waste - a review of achievements in 32 European countries

⁸³ "Danmark uden affald - Genanvend mere- forbrænd mindre ", http://mst.dk/media/mst/Attachments/Ressourcestrategi_DK_web.pdf

The following tables provide official statistics on waste generated in Denmark as compared to the EU28, in tonnes and in kg per capita.

Table 11-3: Total waste generated for all NACE activities + households in Denmark (compared to EU28) in 2012

WASTE/GEO	Tonnes		kg/ capita	
	EU28	Denmark	EU28	Denmark
Total Waste	2,514,220,000	16,332,249	4,982	2,921
Chemical and medical waste	57,880,000	294,064	115	53
Recyclable waste	242,390,000	3,261,161	480	583
Equipment	16,000,000	163,118	32	29
Animal and vegetal waste	110,060,000	889,560	218	159
Mixed ordinary waste	282,010,000	4,282,022	559	766
Common sludges	21,510,000	171,928	43	31
Mineral and solidified waste	1,784,370,000	7,270,396	3,536	1,300

Source: Eurostat; 2015a

In comparison to the European average, Denmark performs fairly well in terms of total waste generation. In 2012, Denmark generated 2,921 kg/capita compared to the EU28 average of 4,982, which is approximately 40 % less than EU average. Denmark's performance is less impressive in for mixed ordinary waste, where Denmark generates 766 kg per capita in comparison to the European average of 559 kg per capita. This mixed ordinary waste is unsorted waste of household and other origin.

Table 11-4: Recyclable wastes (total, paper and plastic) generated for all NACE activities + households in Denmark (compared to EU28) in 2012

GEO/WASTE	Tonne		Kg/ cap	
	EU28	Denmark	EU28	Denmark
Total Waste	2,514,220,000	16,332,249	4,982	2,921
Recyclable wastes	242,390,000	3,261,161	480	583
% recyclable waste/ total	9.6%	20.0%		
Paper and cardboard wastes	46,950,000	1,025,491	93	183
% paper & cardboard/ recyclable	19.4%	31.4%		
Plastic wastes	17,090,000	107,195	34	19
% plastic/ recyclable	7.1%	3.3%		

Source: Eurostat; 2015a

Around 20 % of total waste generated in Denmark in 2012 was recyclable waste, compared to 9.6 % for the EU28. Of the recyclable waste, about 31 % is paper and cardboard and only 3.3 % is plastic waste. In 2013 Denmark had the highest quantity of waste classified as municipal waste generated per capita in the EU27 (see figure below).

Figure 11-10: Municipal waste generated by country in 2003 and 2013, sorted by 2013 level (kg per capita)

Figure 11-11: Municipal waste generated by country in 2003 and 2013, sorted by 2013 level (kg per capita)

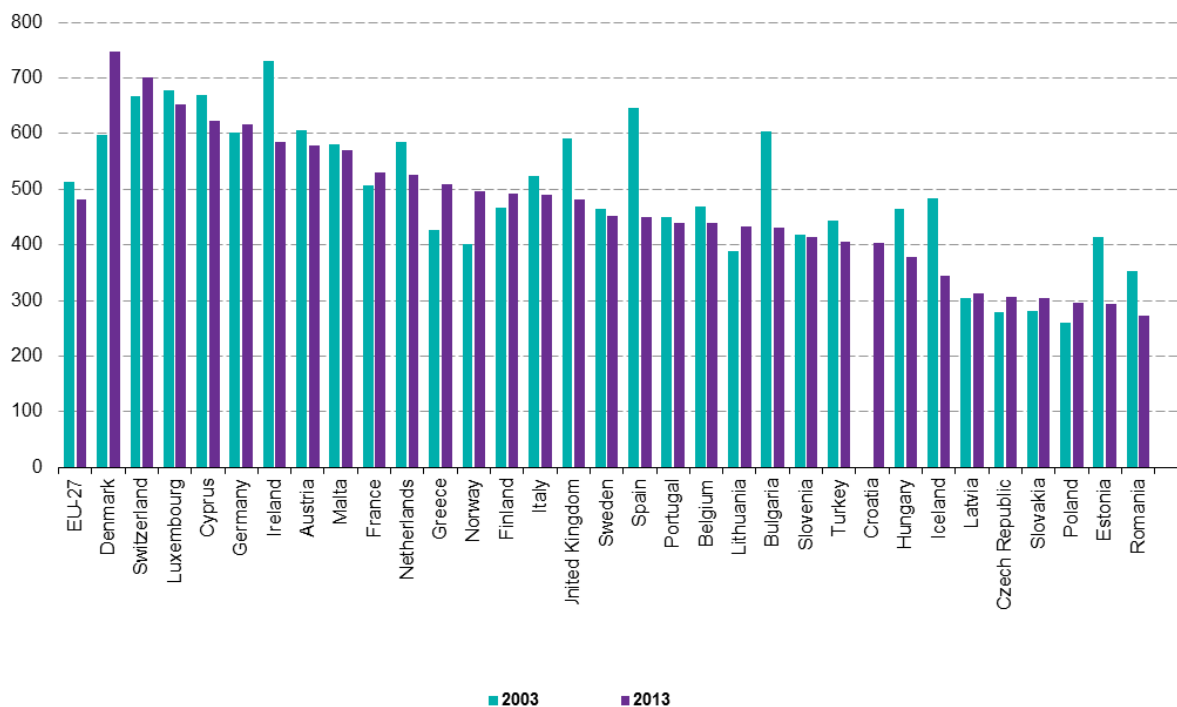


Figure 11-12: Municipal waste generated by country in 2003 and 2013, sorted by 2013 level (kg per capita)
Source: Eurostat; 2015a

In 2013, Denmark generated 747 kg/ capita of municipal waste, in comparison to only 481 kg/ cap on average for the EU27. This is 55% more than the EU27 average. EU countries with a similar population to Denmark generated considerably less municipal waste per capita than Denmark (see table below) although as mentioned above the high Danish amount per capita has to be seen in the context of what is included in the reporting, with Denmark including more waste within this definition than other Member States. Total incineration including energy recovery is significantly higher in Denmark than in the other Member States listed in both absolute and relative terms, although the incineration rate is similar in Sweden (around 50%) and The Netherlands (around 49%).

Table 11-5: Municipal waste generation and treatment in the EU and in Denmark in 2013 in kg per capita

Waste type	kg/ cap		Similar population size as DK			Other	
	EU27	DK	FI	SK	IE	SE	NL
Municipal waste	481	747	493	304	586	453	526
Total waste treatment	470	747	493	278	531	453	526
Landfill/ disposal	147	12	124	213	223	3	8
Total incineration (including energy recovery)	122	405	209	32	93	228	256
Materials recycling	131	207	94	10	180	153	126
Composting and digestion	71	124	67	22	34	69	137
Incineration rate	26%	54%	42%	12%	18%	50%	49%

Source: Eurostat; 2015a

Denmark is also actively engaged in the import and export of various waste streams. The waste companies' industry association reports that 26 waste treatment installations are currently importing non-recyclable waste. In 2012, roughly 725,000 tons of waste (scrap metals, sludge and hazardous waste) were imported, apart from the metal scrap mainly for incineration.⁸⁴ 2,360,000 tons were exported in 2012 of which approximately 50 % was scrap metal. About 86 % of the exported waste went for recycling.

Waste treatment in Denmark (Danish Waste Model)

Waste from households and waste for incineration and landfilling is primarily the responsibility of local municipalities, and – except for Waste Electrical and Electronic Equipment (WEEE), ELV and Batteries. There are currently no producer responsibility schemes in Denmark. The primary reason for not introducing a general producer responsibility for packaging waste has been cost-effectiveness, i.e. the municipalities can collect it for a lower cost than industry.⁸⁵ However, for beers, carbonated soft drinks and some other beverages Denmark has an obligatory deposit scheme, which in practice has the same effect as a producer responsibility scheme. WEEE collection from households is the responsibility of municipalities, while producers provide collection equipment and treatment facilities.⁸⁶

Waste management practices vary from one municipality to another, with large municipalities handling the waste themselves. Due to the fact that Denmark is a small country, it does not have sorting and recycling plants for all types of waste streams. In particular, some mixed waste streams require specific technologies that are currently not available in Denmark.

There are several economic instruments to promote the use of practices higher up the waste hierarchy. For example, there are 'green' taxes on packaging, plastic bags, etc. and deposit and return systems for a number of packaging types (e.g. beer and carbonated soft drinks).

Relevant waste legislation in Denmark

Denmark has transposed Directive 2008/98/EC on waste (Waste Framework Directive) and the provisions of the Packaging and Packaging Waste Directive 1994/62/EC, as amended in 2015 (Directive (EU) 2015/720) . However, the transposition into national legislation took a somewhat different form than in other Member States because Denmark already had a packaging waste management system in place, thanks to which the targets set by the Directive had already been reached in 2001.⁸⁷ Thus, the original transposition of the Packaging and Packaging Waste Directive had little effect on recycling in general. A deposit refund system runs for beverage packaging, however for all other household packaging waste streams, no separate collection of waste has been organised in the form of producer responsibility schemes, and the responsibility remains with the municipalities.

Separate collection schemes are established for metals, plastics, paper glass packaging and hazardous waste, and most municipalities also collect garden waste separately. The municipalities had to implement collection schemes for metal packaging and certain types of plastic packaging in 2003. The introduction of a deposit

⁸⁴ Miljøministeriet. (2014). Affaldstatistik 2012. MST-7761-00562, 24 October 2014.

⁸⁵ Interview with the Ministry of Environment and Food

⁸⁶ <https://www.dpa-system.dk/en/WEEE/ProducerResponsibility/LegislationinDenmark>

⁸⁷ PRO Europe Country profile Denmark <http://www.pro-e.org/Denmark>

refund system for one way beverage packaging in 2002 increased the amount of plastic and metal packaging waste and the amount of recycling.⁸⁸

Denmark follows the EU Waste Shipment Regulation. To support implementation of the Regulation, Denmark adopted a Statutory Order which supplements the EU Waste Shipment Regulation by setting the payments for notification, etc. When exporting waste from Denmark, the shipment is required to have a note from the sender (which can be a municipal authority), confirming the content of the shipment (para 3.3 in the Statutory Order on waste shipments)⁸⁹ or a chemical analysis of the waste content and a description of how it was produced (para 3.3). The sender pays 13,400 DKK (about € 1,800) in administrative fees per notification (para 5). Failure to comply imposes a 5 % interest rate on the payment.

Denmark also follows the EU Waste Shipment Regulation with respect to classifying waste as either green or notifiable waste. To support this, Denmark adopted guidelines in 2011 on "green listed" waste, i.e. waste that is exempt from prior notifications procedures and approval from the Danish environmental agency (Miljøstyrelsen) when it is exported from, or imported to Denmark for recycling or recovery. Green listed waste shipped for recycling or recovery only has to be accompanied by information required under Annex VII, in article 18 in the Waste Shipment Regulation (1013/2006). Other rules may apply for waste shipments outside OECD countries. For shipment for disposal a full notification procedure is obligatory, also for green listed waste.

The regulations state that Green waste should be of such character that it requires only simple treatment procedures, without harm to the environment, and thus it would be relatively easy to reintroduce as raw material into new production procedures. Hence, mixed waste is generally not classified as "green". The Waste shipment regulation includes mixed municipal waste Y46 (Waste collected from households unless appropriately classified under a single entry in the green list) in the amber list of annex IV. The Danish guidelines⁹⁰ for classifying green waste were inspired by Austrian guidelines.⁹¹ The system is based on five code system, B1 – metal scrap, B2 – inorganic waste, B3 – organic waste, B4 – paints, resins, and disposable cameras, and Part III – other wastes. For some waste, some mixing is allowed. For codes B1010 – Metal and Metal-alloy wastes, and 1050 – Mixed non-ferrous metal and heavy fraction scrap, there are specific guidelines on how much impurity (in %) the waste may contain. This is also the case for plastics, B3010. Some mixing is allowed in the "green waste" classification, however, it may not be mixed with impurities such as

⁸⁸ SEPARATE Waste Systems (2014) 'Enabling market uptake of innovative separation and cleaning solutions for material recycling of all product groups contained in bio-wastes and MSW', Country Profiles

⁸⁹ In the "Bekendtgørelse om overførsel af affald og overførsel af brugt elektrisk og elektronisk udstyr"

⁹⁰ Klassificering af grønlistet affald under "transportforordningen" (forordning nr. 1013/2006) - en praktisk vejledning An english version can be found here. http://eng.mst.dk/media/mst/70098/guideline%20Greenlistet%20waste_120316.pdf But some subsequent amendments has not been translated

<http://mst.dk/virksomhed-myndighed/affald/import-og-eksport-af-affald/revideret-forord-til-groenne-vejledning/>

<http://mst.dk/media/mst/70068/B1250%20Retteblad%20190112.pdf>

http://mst.dk/media/130361/b3010_rev_141126.pdf

http://mst.dk/media/130360/b2020_rev_141126.pdf

⁹¹ Klassificering af grønlistet affald under "transportforordningen" (forordning nr. 1013/2006) - en praktisk vejledning

glass or paper or other green or non-green listed wastes. The three main plastic types – waste from non-halogen polymers or copolymers, hard plastics, fluoropolymers – may also not be mixed. Composite materials are not covered by the code.⁹²

The classification system is based on the properties of the waste, not on the *procedures* with which the waste could be treated, i.e. even if there is a possibility of separating the waste in a technically advanced manner, its classification remains based on the physical nature of the waste.⁹³

ALLEGATION

Description

Municipal Waste Europe, the European association representing municipalities responsible for waste management and their publicly owned waste management companies, suggests that the Danish approach leads to a potential waste market distortion. The concern was raised by one of their members, Vestforbrænding, which is a Danish waste management company owned by 19 municipalities. This company deals with all aspects of waste management, including recycling, incineration, landfill, collection of waste, separation and management of hazardous waste, etc. In addition, they operate six recycling centres and the largest incineration plant in Denmark, generating both power and district heating.⁹⁴

The potential distortion which they raise is as follows⁹⁵: In the case of Denmark, which has recently adopted higher recycling goals, the Waste Shipment Regulation (WSR) is a hindrance both to the market and to achieving a circular economy. Several municipalities around Copenhagen have started curbside collection of plastic waste as one mixed plastic fraction (other municipalities collect foil and hard plastics separately). As the goal of increased recycling is a relatively new goal, Denmark does not yet have a sorting facility for this mixed plastic fraction. The plastic waste consists of mixed post-consumer plastics. There is currently a national discussion on these sorting facilities covering who will build them, where, how many and what type. The organisations who could potentially support investment in such facilities have stated that in order to do so they require stability from European and Danish legislation.

Because of the current lack of suitable sorting facilities the mixed plastics have to be exported for sorting, as a prior step to recycling. In order to ensure that the waste is sent to the optimal sorting and recycling facilities, Vestforbrænding would like to send samples to a variety of sorting plants before entering into contract. Vestforbrænding wish to select a sorting and recycling plant which can provide data on sorting efficiency and final recycling. The municipalities have attempted to export shipments of the mixed household plastics to potential sorting and facilities as green waste, but this was not accepted by the Danish Competent Authority who classified it as a 'unlisted waste' which falls under the prior written consent procedure for waste shipments. This classification as a notifiable waste, implies that the full notification procedure had to be followed.

The municipalities involved had to follow the notification procedure (amber or unlisted waste), which takes several months to complete and involves an administration fee for

⁹² A full list of which plastics that are allowed to be mixed can be found in: http://mst.dk/media/130361/b3010_rev_141126.pdf

⁹³ Correction to preambula to classification guidelines, <http://mst.dk/media/mst/70175/Forord%20Retteblad%20190112.pdf>

⁹⁴ <http://www.vestfor.com/what-we-do>

⁹⁵ MWE position paper provided within this study

each notification and shipment (around Euro 1800/ notification – 13,400 DKK). The procedure is considered expensive and time consuming. This expense and delay could be regarded as a barrier to the municipalities identifying (and utilising) the facility which provides them with the optimal waste treatment option.

Evaluation

This potential waste market distortion is related to the Waste Shipment Regulation (WSR), with respect to the waste classification and notification procedure in Denmark. This Regulation lays down rules for controlling waste shipments in order to achieve environmental protection. It covers almost all types of wastes, and has two control procedures, which can be simplified to:

1. The general information requirements of Article 18, which are applicable to shipments of green listed wastes, bob-mixed and non-hazardous. Wastes falling under this category are exempt from notification procedure. This procedure applies for wastes classified as single entry in Annex III, IIIB or the mixtures in Annex IIIA of the WSR.
2. The procedure of prior written notification and consent for shipments of other types of waste, i.e. amber listed waste, containing both hazardous and non-hazardous material or for shipments of not classified – un-listed - waste types.

The potential distortion is from Municipal Waste Europe's point of view related to the Danish national legislation supplementing this EU Regulation and to the Danish guidelines on classifying green wastes (see section 1.1.3). The EU Regulation offers less discretion as to the interpretation of its provisions compared to a Directive, where the latter needs to be transposed into national legislation, although according to the reference in the Waste Shipment Regulation to article 175(1) now article 192 of the Treaty, Member States have the freedom to be more strict than the Regulation itself if needed for reasons of environmental protection.

There are two main issues, which could allow this case to be within the scope of the definition of a waste market distortion in this study:

- a) One issue relates to the classification of waste by Denmark. The differences between Member States with respect to how they classify waste (first, is it waste or not; second, what kind of waste) can be considered as waste market distortions. In this case, the mixed plastic waste was classified as un-listed by the Danish and importing Member States public authorities⁹⁶, as opposed to classifying it as green. As such, the prior written consent notification procedure was applied.
- b) The second issue is to understand why this shipment does not fall under the article 3.4 of the WSR, which exempts shipments from the heavy notification procedure if the shipments of waste is explicitly "destined for laboratory analysis [...] to determine its suitability for recovery or disposal operation" (Article 3.4 of the WSR).

Regarding the classification of waste as green, amber or not listed, the WSR provides rules on which waste can be classified under which category. Wastes that can be classified as single entry under Annex III, IIIB or the mixtures under Annex IIIA of the WSR can be classified as 'green' listed. Other wastes are classified as 'amber' listed in accordance to annexes IV and IVa, and non- classified wastes⁹⁷ should follow the prior

⁹⁶ Consider article 28 of the WSR on disagreement on classification issues, stating that if the status waste/ no-waste is disputed, the material shall be treated as waste, if the status green list/amber list is disputed, the amber list procedure shall be applied and if the status recovery/disposal is disputed, the procedure for disposal shall apply. In other words the opinion of the more strict competent authority shall always prevail.

⁹⁷ See article 3.1 points (b) (iii) and (b) (iv) of the WSR

written consent procedure. As such prior notification procedure is required for any such transboundary shipments. There are also differences between Member States with respect to their administrative procedures and fees for notified shipments. High administrative procedures and fees for notification can be a disincentive to ship waste to a waste treatment option, which is higher up the waste hierarchy.

CASE DESCRIPTION

To discuss this case, we have interviewed two experts from the Ministry of Environment and Food (recommended by the Danish Environment Protection Agency). The experts were familiar with this case prior to our interview as there has been a dialogue between the Ministry of Environment and Food and Vestforbrænding, regarding this situation. One of the two experts was the Deputy Head of Soil and Waste Division in charge of Waste Shipment Regulation team and the other was a Technical Advisor. We have not been able to get an interview with Vestforbrænding – the waste management company consisting of 19 municipalities who brought up this allegation (despite several attempts to contact them).

Facts

The facts of the case are the following according to the Ministry of Environment and Food:

- The shipments of the samples of the mixed plastic waste sent to sorting plants outside of Denmark were larger than the prescribed maximum weight in the WSR, i.e. larger than 25kg (they were around 100kg). As such the Danish authorities could not classify this shipment as falling under the exemption of full notification procedure as described in Article 3.4 of the WSR. Is it not clear why the samples were larger than 25 kg.
- Vestforbrænding did not provide the specification of the mixed plastic waste, hence it was not possible to determine whether this waste stream could be seen as a green listed waste. As this specification was not provided, the precautionary principle was adopted and the waste stream was classified as un-listed and hence the full notification procedure under the WSR applied.
- In similar previous cases the importing country, Germany, would not give a consent to receive this waste from Denmark as 'green' listed waste, and communicated that waste of this nature needed to be notified.
- The Ministry of Environment and Food does not know why Vestforbrænding did not provide a specification of this mixed waste stream. One plausible assumption is that it would be very costly to get a classification (because of the variety of materials that the waste could contain).
- The Ministry does not know why Vestforbrænding did not sort the waste before exporting it for recycling. Sorting the waste first in Denmark would have been beneficial for Vestforbrænding as it would produce single streams of waste, some of which could be reused within Denmark. The Ministry was under the impression that although Vestforbrænding do not have a suitable sorting facility, private sorting plants in Denmark for this type of waste do exist, and they might be able to sort the waste. It is not known to them why Vestforbrænding did not explore this option (one possible explanation suggested was that the sorting may require very specific technologies which are not available in Denmark, but are available in Germany).

Impacts

From the analysis of the facts, it is apparent that the waste market distortion discussed in this case is more related to the EU legislation, i.e. Waste Shipment

Regulation, rather than the Danish legislation and policy. It is clear that Vestforbrænding could not ship their waste samples under the exemption of Article 3.4 of the WSR as the samples were larger than prescribed 25 kg. The fact that the company did not provide a specification of the materials in the mixed post-consumer plastic waste it wanted to export also made it impossible for the Danish] authorities to consider classifying it as 'green' listed waste. It might be the case that Vestforbrænding actually did not know the specification of the waste and that the export of a sample for testing actually was intended to determine the specification and the recyclability of the waste.

The impacts of this case are the following:

- **Economic impacts** – there is an administrative burden for the company as well as for the public authorities of both, exporting and importing countries with respect to the notification procedure. The notification procedure includes a fee for Vestforbrænding of around 1,800 euro per notification. This price seems reasonable as one notification can include multiple shipments. As a comparison, in the UK the fee for notification is £1,450 for 1-5 shipments, and increases proportionately with the number of shipments (e.g. £2,700 for 6-20 shipments, etc.).⁹⁸
- **Environmental impacts** – the costs and delays of the notification procedure could be a disincentive for the collection of mixed plastic waste, because it needs to be exported as there are no sorting and recycling plants for this waste fraction in Denmark. This could be seen as contrary to the waste hierarchy, as the mixed plastic waste would be incinerated instead (which seems to be the case for 50% of municipal waste in Denmark). If this waste is not sorted or recycled, some material resources could be lost, which goes against the resource efficiency and circular economy principles. On the other hand, if the mixed waste was classified as 'green listed' it could be argued that it fails to comply with the environmental protection objectives of the WSR because it may contain unknown materials which could be harmful to the environment.

There are a number of areas of uncertainty around this case. It is not clear (and it is difficult to estimate or calculate) if the benefits of this restriction, such as the avoidance of environmental risks that exporting the waste under the prior consent procedure as opposed to the green procedure, would outweigh the costs. These costs are for example, the risk of the mixed plastic waste being incinerated as opposed to exported for sorting – because of the time and cost of exporting it. It is also not clear why mixed (as opposed to separated) curbside collection of this plastic waste was chosen.

Conclusions

In summary, the case does not seem to be a waste market distortion due to national legislation, rather it seems that it relates to the EU waste legislation and the need for notification procedures for un- listed wastes to be exported in specific cases of non-hazardous mixtures or in the case of larger sample sizes for analysis. The company did not specify the contents of the mixed plastic waste and as such it was impossible to classify it as green listed plastic waste according to the WSR. What is not clear is why the company needs shipment sizes to test which sorting/ recycling facility would be best which are above the maximum allowed sample size in the WSR.

⁹⁸ <https://www.gov.uk/guidance/importing-and-exporting-waste>

POLICY ADVICE

Is the case a real and an important distortion of the efficient functioning of the waste market?

There are several examples of waste management companies questioning the administrative burden imposed on them by the notification procedure required to export waste for recovery. As such, this case exemplifies an important issue in the efficient functioning of the EU waste market, as the aim is to allow waste to move freely to places where it can move up the waste hierarchy. The fact that some Member States, such as Denmark, do not appear to have sorting and recycling facilities for certain waste streams shows how important transboundary movement of waste can be for reaching higher treatment options.

The size of the shipments of mixed waste required to “test” a waste sorting and recycling is not clear. If there are legitimate technical reasons for requiring a sample of larger than the 25 kg allowed in the WSR, for example the sorting machine cannot operate with such a small batch, this suggests that the 25 kg figure may be too small, or that some other arrangement needs to be considered.

What (legal, administrative, economic, cultural, ...) factors are influencing the occurrence and the impact of the distortion?

The key legal issue is that the WSR requires shipment notification procedures for waste that is deemed to pose an environmental risk, because their contents cannot be specified as being of low risk. There are some differences between Member States in the precise interpretation of which waste streams are low risk but the accepted principle is that the regulations of the Member State (exporter or importer) which are strictest apply.

Additional factors of interest here include the potentially cultural and economic reasons why the kerbside collection of waste cannot be more separated and the reasons why a facility capable of sorting the mixed waste stream has not been built in Denmark – although such facilities may exist.

What are the lessons from this case?

The lessons that can be learnt from this case are that the transboundary movement of waste is often driven by the availability of waste treatment facilities and system in the Member State. The fact that Denmark does not appear to have appropriate sorting and recycling plants for certain waste streams (due to economic or historic reasons) creates the need for waste management companies to look for solutions abroad.

The case also shows that good communication between the waste management companies and public authorities is crucial, in particular with respect to providing detailed specifications on the composition of waste to be exported. In case of a test shipment under application of article 3.4 of the WSR such specification might not be available but is not needed if the quantity remains under a defined threshold value.

It also shows that companies are questioning the administrative burden imposed by EU waste legislation, in particular regarding the amber and un-listed wastes that have to undergo full notification procedures. On the other hand it could also be argued that the case also illustrates that Member States might use this regulatory instrument to control what kind of waste moves out of, or into their territory or market.

Is the case or its lessons learned transferable to other Member States and contexts?

It is apparent that this case is not limited to Denmark or to the plastics sector. For example, there is a similar case concerning obstacles encountered in shipping waste paper from Ireland to the Netherlands and Belgium for recovery. Twenty waste companies in Ireland shipped mixed recyclables for recovery under Article 18 of the WSR. The Irish authorities classified these as green waste and hence allowed export without prior notification. However, in the view of importing authorities the mixture of recyclables were co-mingled materials that fell outside of the 'green' list and as such required prior notification by all the relevant authorities.⁹⁹ Upon inspection Dutch and Belgian authorities rejected the classification of these shipments as 'green' listed waste and refused their entry into their territory. In Ireland, it has been stressed that the local councils, as the competent authorities for the export of waste, should make sure they are classifying waste correctly.

How could the problem be solved?

A number of potential solutions could be suggested in order to help address this case. These are:

- Better communication with the company with respect to specifying the mixed waste stream in order to facilitate its classification as green- instead of amber- listed or un-listed.
- Shipping the maximum allowable quantity (25 kg) according to Article 3.4. This would allow the company to apply for the exemption from the notification procedure.
- Making the notification procedure digital in order to speed up the process.
- Adapting the curbside collection system from mixed to single stream.

There are also several potential solutions to mitigate these issues in general, depending on the root of the problem:

- If the problem is the classification of wastes, the responsible authorities need to provide good guidance on which waste is classified as green listed and which amber or un-listed (which seems to be the case for Denmark, UK, etc.). This includes criteria for the level of pollutants acceptable in green listed wastes like B3010 solid plastic waste or B3020 paper. It also includes criteria on the composition of amber listed code Y46 mixed municipal waste.
- Guidance is needed on good application of the precautionary principle, especially in case of non-listed but proven non-hazardous waste fractions or mixtures. Inclusion of such wastes in the green list procedure can be considered for intra-EU shipments.
- If valid technical reasons exist to justify increasing the 25 kg threshold value for shipments of waste for testing, this threshold might be lifted. We propose however to combine this with documentary evidence on the technical necessity to be submitted to the competent authorities before receiving an exemption on the notification procedure. This is however an approach vulnerable to abuse, and therefore needs to be well enforced and enforceable.
- Harmonisation at EU level of costs that Member States can impose on companies for complying with inland administrative procedures of notifications.
- Cooperation between waste management companies and authorities is important as well as good communication between them.

⁹⁹ <http://www.letsrecycle.com/news/latest-news/illegal-waste-exports-returned-to-ireland/>

Who is able to remediate? (subsidiarity level)

There are some solutions that could be pursued at the EU level: legislative changes as to the minimum requirements/ standards for waste facilities, additional EU guidance on specific aspects of the implementation of waste legislation, clear guidance on definitions, thresholds and obligations.

At the Member State level, the competent authorities need to make sure that their enforcement and monitoring systems are working well and that they have a waste infrastructure that enables ESM. At the national level, good guidance documents need to be in place to provide information for the companies on how to ship their waste and what rules apply (this already seems to be the case in some Member States). The responsible authorities should make sure there is a good communication channel with the waste management companies.

At the waste management company level, they need to ensure that they are aware of, and comply with, the applicable rules in their home and destination country and to classify their waste for shipment properly.

11.1.3 Annex V.3 Case 2: Divergent application of Article 18 and Annex VII in the Waste Shipment Regulation

11.1.3.1 Headline report

The Waste Shipment Regulation requires that certain information (Article 18 and Annex VII of the Regulation) is provided when non-hazardous waste for recovery is shipped. The purpose is to ensure that waste is managed without endangering human health and in an environmentally sound manner throughout the period of shipment and during recovery or disposal. Some of these requirements have been interpreted differently between Member States and risks leading to obstacles to movements of waste between Member States.

These requirements are the following:

- The person which has to accompany shipments of non-hazardous waste and waste for recovery with the Annex VII-form needs to fall "under the jurisdiction of the country of dispatch" (Article 18 of the regulation). Sometimes this has been interpreted as requiring a seat of establishment in the country from where the waste is to be shipped.
- Transporters (Box 5), waste producers (Box 6) and recovery facilities (Box 7) are all required to have registration or permits in order to comply with the Waste Framework Directive. National documentations proving such registration and respect of the respective national legislation differ between Member States and are not always publicly available. Issues have arisen relating to these documents when used in other Member States.
- Relevant waste codes shall be filled in to identify the waste in Annex VII (Box 10, waste identification). Issues have arisen where waste covered by different codes are loaded in the same container or truck.
- Relevant recovery operations have to be filled in to identify the final recovery process the waste went through (Box 8 in Annex VII). Issues have arisen when the final recovery operation is not known because: waste transits with temporary operations (reconditioning, rebaling ...) being carried out; the waste is subject to temporary storage or; the recovery operation changes in the last minute.
- Name and details concerning importer/consignee (Box 2), waste generator, original producer, new producer or collector (Box 6) and recovery facility (Box 7) shall be provided in Annex VII. Confidentiality issues have arisen as regards the protection of business secrets.

11.1.3.2 Full case study report

Context

The person responsible for accompanying shipments of non-hazardous waste and waste for recovery with the so-called Annex VII-form needs to fall "under the jurisdiction of the country of dispatch".

Article 18(1)(a) of the Waste Shipment Regulation stipulates that "In order to assist the tracking of shipments of such waste, the person under the jurisdiction of the country of dispatch who arranges the shipment shall ensure that the waste is accompanied by the document contained in Annex VII."

Article 2(15) defines "notifier" as follows: "in the case of a shipment originating from a Member State, any natural or legal person under the jurisdiction of that Member State

who intends to carry out a shipment of waste or intends to have a shipment of waste carried out and to whom the duty to notify is assigned."

Member States define differently the conditions upon which a person falls under their jurisdiction. Some Member States require that the company which intends to ship the waste has a seat of business establishment in the country of dispatch. Other Member States only require a registration in a national registry or a permit under national laws and do thus not require any establishment within its country.

The following table illustrates these divergences in application of Article 18 and Annex VII of the Waste Shipment Regulation.

Member State	Conditions for jurisdiction pursuant to Art. 18(1)(a)
Belgium	<p>The person referred to in the Article 18 (1) of the Regulation (EC) N° 1013/2006 who arranges a shipment of waste has to comply with the following requirements:</p> <p><u>For producers or new producers:</u></p> <ul style="list-style-type: none"> • environmental license or legal seat/domicile in Belgium. <p><u>For collectors/dealers/brokers:</u></p> <ul style="list-style-type: none"> • Flemish region: Flemish registration for non-hazardous and hazardous waste (OVAM), • Walloon region: Walloon agreement for hazardous waste, Walloon registration for non-hazardous waste (SPW OWD-DSD Direction de la Politique des Déchets), • Brussels Capital region: Brussels agreement for hazardous waste, Brussels registration for non-hazardous waste (IBGE-BIM).
Bulgaria	<p>A person arranging a shipment falls under the jurisdiction of Bulgaria as country of despatch if this person is:</p> <ul style="list-style-type: none"> • a legal person with a legal seat in Bulgaria, or • a natural person who is a resident in Bulgaria, or • a foreign legal person acting in Bulgaria on the basis of a waste-related permit/registration issued in accordance with the requirements of the Bulgarian Waste Management Act
Croatia	<p>A legal or natural person – craftsman – with a legal address in Croatia - shall be entered by Ministry into the Register (must be registered for the relevant trade business, importer-a permit for the recovery of waste which it wishes to import, or an evidence of the status of a waste dealer or broker) according to Act No. 94/2013.</p>
Czech	<p>A legal person with a legal seat (address) in Czech Republic or a natural person approved to do business resident (having a legal address) in Czech Republic; both have to be registered in public register in Czech Republic.</p> <p>In addition, any person handling waste under jurisdiction of the Czech Republic shall be licensed in accordance with</p>

Member State	Conditions for jurisdiction pursuant to Art. 18(1)(a)
	Waste Management Act No. 185/2001.
Denmark	The person who arranges the shipment must have a Danish business- or private address.
Finland	<ul style="list-style-type: none"> • Company recorded in the Finnish Business Information System and having a Finnish Business Identity Code (Business ID), or • Finnish citizen or a resident in Finland for several years
France	The person referred to in the Article 18 (1) of the Regulation (EC) N° 1013/2006 who arranges a shipment of waste shall be established in France in accordance with article L 541-40 of the Code of the Environment.
Italy	<p>In case the person who arranges the shipment:</p> <ul style="list-style-type: none"> • manages a facility (producer, new producer, collector), then the authorisations granted according to the Italian legislation (Art. 208 of Legislative Decree 152/2006) are regarded as a sufficient condition; • is a dealer or broker, this person needs to be registered in the National Register of Waste Managers (Category 8) according to art. 212 (5) of Legislative Decree 152/2006.
Luxembourg	<p>A person arranging a waste shipment pursuant to Article 18(1)(a) falls under the jurisdiction of Luxembourg as country of dispatch if the shipment starts in Luxembourg.</p> <p>In case the person, who arranges the shipment, manages a facility (production, collection of waste), then the waste shipment permit is a sufficient condition. In case the person who arranges the shipment is a waste dealer or broker, then the dealer- or broker permit is a sufficient condition.</p>
Netherlands	<p>A person arranging a shipment with an Annex VII document and with the Netherlands as country of dispatch shall fall under the jurisdiction of the Netherlands.</p> <p>Such a person/entity should have a registered business or personal address within the Netherlands. If the person arranging the shipment is a broker or a dealer, then this person should also be registered at NIWO, the licensing authority for road transport.</p>
Portugal	As of 2015, the person who arranges the shipment must

Member State	Conditions for jurisdiction pursuant to Art. 18(1)(a)
	be a legal person with a legal seat in Portugal.
Slovakia	<p>According to Slovak legislation, the person under the jurisdiction of the country of dispatch who can arrange a shipment of waste is one of person or bodies listed below:</p> <ol style="list-style-type: none"> 1 the producer, or 2 the licensed new producer who carries out operations prior to shipment, or 3 the licensed collector, or 4 a registered dealer, or 5 a registered broker <p>The companies or natural person-entrepreneur are licensed or registered in the field of waste management in the District office on the territory of the Slovak Republic (collectors, brokers, dealers, etc.) and have a residence or business address on the territory of the Slovak Republic.</p>
Slovenia	A legal person with a legal seat in Slovenia or a natural person resident in Slovenia.
Sweden	A legal person with a legal seat in Sweden or a natural person resident in Sweden.
United Kingdom	<p>A person arranging a shipment falls under the jurisdiction of the UK as country of despatch if the shipment starts from the UK. Such a person or entity should have a registered business or personal address within the UK. However, if the person/entity is a broker/dealer based in the European Union, they must be registered as a broker or dealer with the relevant competent authority if arranging waste shipments from Great Britain or Northern Ireland. If they are a broker or dealer based outside the European Union, they must be registered as a broker or dealer as above. Additionally, if they are a broker or dealer based outside the European Union and arranging waste shipments from England and Wales, they must also have a business/personal address in the UK.</p>

Registration documents for transporters and facilities in Annex VII

Transporters (Box 5), waste producers (Box 6) and recovery facilities (Box 7) are all required to have registration or permits in order to comply with the Waste Framework Directive. National documentations proving such registration and respect of the respective national legislation differ between Member States and are not always publicly available. Issues have arisen relating to these documents when used in other Member States.

An example is when the organizer of the transfer does not know the recovery facility; this is the case when the client is a broker for example. In this case the organizer of

the transfer finds it very difficult to verify if the recovery facility actually has the relevant authorizations as the organizer of the transfer does not necessarily know (or understand when in a foreign language) the document and can be unable to check its legality and verify the facilities ability to treat and recover waste.

The same issue arises under Ex works for example when the organizer of the waste transfer that was mandated by the client to transport the waste sub-contracts the shipment to another transporter. This is a regular event in the current organization of the road transport. In this case the organizer of the transport, as well as the producer of the waste, do not have knowledge of the identity of the transporter before he actually is at the site coming to collect the waste. When he arrives, given that the national documents authorizing waste transportation are not harmonized the producer of the waste does not necessarily know (or understand when in a foreign language) the document and can be unable to check its legality and verify the sub-contracted transporter is actually legally allowed to transport waste.

The filling in of waste codes in Annex VII

Relevant waste codes shall be filled in to identify the waste in Annex VII (Box 10, waste identification). Issues have arisen where waste covered by different codes are loaded in the same container or truck, so-called 'grocery loads' where the waste is appropriately packaged, loaded and separated without being co-mingled.

An example is a loading with 5 plastic bales (B3010 code). The 5 plastic bales are all of different kinds of plastics coming out of the same sorting center: PET, HDPE, PVC, PE and PP. The waste is packaged separately and do not form a mixture and are for the same final client who either prepares the Secondary Raw Material or uses it in its industrial production process. Waiting for enough plastic bales of a specific kind of plastic to be formed would not be effective for several reasons. It would take too much time to accumulate enough volume of each plastic flow for a full container, while clients ask for regular feed-in for their productions process. Moreover, even if storage where possible, it deteriorates the quality of the material and increases the cost of recycled plastics. Finally, if stored for too long it can lose the qualities making it recyclable.

Recovery operation in Annex VII

Relevant recovery operations are filled in to identify the final recovery process the waste went through (Box 8). Issues have arisen when the final recovery operation is not known before going to final recovery process (temporary storage) or changes at the last minute (industrial activity flexibility), leaving the box empty or incorrectly filled.

An example of such an issue happens when B class wood is sent to be recycled in an industrial process to manufacture new particle board (then sold to construct new furniture or other wood based products), but ends up in an energy recovery process. The sites that harbor such industrial tools usually also produce heat for their industrial process thanks to the waste biomass they use on-site. Depending on a number of factors linked to industrial process efficiency (variations in wood feedstock, machinery problems...) the B wood original meant to be recycled in the industrial process can in fact be recovered in the energy-from-waste plant to produce steam or electricity for the industrial process. When they happen these changes are on-site and last minute, once the B wood has arrived, meaning the Annex VII can become wrong once on the recovery site.

Another example leading to the absence of the right recovery process code is when the waste transits through temporary storage. This happens when the organizer of the transport sells the waste to a trader / broker who does not wish to fill in the recovery facility (see part 1.5), and fills in the Annex VII Box 8 with a temporary storage code (R13 – Storage being defined in the directive n°2008/98 as an intermediate recovery operation), for business confidentiality reasons (see part 1.5), leaving only a

temporary recovery code. However, the Waste Shipment Regulation requires that the final recovery process be filled in after the temporary storage code.

Name and details in Annex VII

Name and details concerning importer/consignee (Box 2), waste generator, original producer, new producer or collector (Box 6) and recovery facility (Box 7) shall be provided in Annex VII. These information are crucial to ensure effective control of the destination of the waste and its recovery operation.

However, confidentiality issues have arisen as regards the protection of business secrets, notably the end client or the supplier of the waste. Indeed, actors along the entire value chain are required to fill in parts of the Annex VII that will be consolidated by the organizer of the transfer that is required by the Regulation to consolidate all these information, or face being fined. The organizer of the waste transfer though can either be part of a bigger group that has activities on other parts of the chain, or itself have other activities directly. In that case the information on the Waste producer (Box 6), Transporteur (Box 5), Recovery facility (Box 7), Waste flow (Box 9 and 10) and Recovery operation (Box 8) would have commercial value for him. It could enable organizer of the waste transport to cut a middle-man out, increasing his turnover and margin by either go directly to the waste producer if he was at the end of the chain, or go directly to recovery facility if he was at the start of the chain. The Waste flow and recovery operation information can also be of interest in terms of competition analysis to better analyze the strategy and positioning of competition (what priority flows, what recovery operations are favored ...).

Potential market distortions

The person responsible for accompanying shipments of non-hazardous waste and waste for recovery with the so-called Annex VII-form needs to fall "under the jurisdiction of the country of dispatch".

Some waste operators may have a seat of establishment in one or several Member States, but not in the Member State from where they intend to ship the waste. In that country they may, e.g. have a permit under national laws for recovery or disposal of waste or be registered as a waste transporter, collector, dealer or broker.

In this situation, the shipment of the waste for recovery to another Member State may be impeded. It could be argued that this is not consistent with the principle that waste for recovery shall move freely between Member States, see e.g. Article 12 of the Waste Shipment Regulation.

There are two market distortions. The first one is linked to the administrative costs of registration. Organizers of the waste transport compete on the same EU wide market for waste / resources that are increasingly being pushed out of landfill by legislation (50% recycling target in 2020, mandatory separate collection in directive n°2008/98, landfill and incineration fees ...). But their registration obligations are not the same depending on the Member State in which they are based, bringing a cost advantage depending on the size of the administrative obligations. The second distortion is linked to the fact that some Member States recognize companies registered in another Member States while others don't. A company registered in Member State A (which does not recognize registration in other Member States) will be able to trade easily in Member State B (which recognizes registration in other Member States), when a company registered Member State B will not be able to do see as easily in Member State A (which requires registration). Accessibility of national markets is hampered depending on the national original of trading companies, limiting recovery options for the waste producers. It also increases risks for waste producers, without being paid at that level of risk, as he has to organize the transfer under Ex works. He takes the legal responsibility without having control over all the elements and documentations (see 2.2).

Registration documents for transporters and facilities in Annex VII

The differences in the national authorization documentation combined with an absence of publication of these documents lead to comprehension problems and control issues for the organizer of the transport. In turn, this exposes him to fines and criminal charges as the Annex VII of the Waste Shipment Regulation would not be correctly filled in.

If the organizer of the waste transfer, or the facility producing the waste are unable to verify that the transport and / or the recovery facility have the necessary authorizations for practical (sub-contracting in road transport, language barrier ...) or transparency (absence of publication of authorized sites and transporters) issues this brings inefficiencies. The organizer risks fines and/or criminal charges and will be reluctant to ship to some Member States, leading to economic loss (less competition, demand for the Secondary Raw Materials) and less recycling (energy recovery could be favored over recycling if more practical).

The filling in of waste codes in Annex VII

Shipment of so-called "grocery" loads answer an industry need. If waste producer have to wait every time to be able to fill one container or truck at every shipment with the same waste flow, time will be lost, pushing clients away from waste / Secondary Raw Materials sources and reducing recycling rates. Indeed, availability and regular delivery is key for a smooth industrial process. Moreover, storage impacts quality of waste / Secondary Raw Materials, reducing demand by industry and price for the waste manager, increasing economic losses and negatively impacting the environment (reduced recycling, increasing storage sites). It also increases costs of materials, increasing the disadvantage of recycled material against virgin material, exacerbating a current key barrier to increase recycling given the current market prices of primary raw materials.

Recovery operations in Annex VII

In both cases the Annex VII reduced required flexibility for industry and compromises necessary business confidentiality.

In the B wood example, if the procedure were to be respected the shipment would have to be resent back to the waste producer in order for a new Annex VII to be issued and sent back along with the shipment. Or the shipment would have had to be stationed and waited for a new Annex VII to be sent with the correct recovery code. This would take a few days, generating increased pollution (second truck shipment) as well as increase costs and reduce efficiency, and is clearly unadapted to an industrial process which relies on regular, efficient and flexible supply.

In the case of temporary storage a fine is imposed or criminal charges filled against the organizer of the waste shipment when he is unable to access the information. Some organizers of the waste shipment use confidentiality agreements or an agreement to not undertake commercial activities with the client of the broker to build trust and get the relevant information to fill in the Box 8 with the final recovery code. But this solution can only be temporary as pushed to the extreme it freezes the market, all traders agreeing to not undertake commercial activities with the clients of others in order to receive the information to fill in the Annex VII correctly and not be fined.

Name and details in Annex VII

Absence of information on the importer/consignee (Box 2), waste generator (Box 6) and recovery facility (Box 7) lead to a lack of traceability of waste streams, complicating the work that is done by the control organisms (customs or environmental protection units). Indeed, in the statistics, all incomplete document qualifies the shipment as illegal, even those not filled in for business confidentiality reasons only. The higher apparent volume of illegal shipments makes the task of

identifying intentional illegal shipments more complex and less effective. This has a negative effect on business as the companies that abide by the rules face competition by non-respectful companies that have lower risks of being caught. It also has a negative impact on the environment as illegal shipments are more easily evading controls and waste is not treated properly. And finally, it increases the cost of administrating and controlling waste shipments for Member States.

For the company organizing the shipment, the incomplete Annex VII increases legal risks and exposition to fines even if it strives to respect the legislation but do not receive the requested information for business confidentiality reasons. This risk is increased by the difference in competences between customs and environmental protection units. If customs stop a shipment with an incomplete Annex VII the charges are criminal, the fines can be up to 100 times higher than if it is an environmental protection unit and there is no progressivity in the fine depending on the gravity or intentionality of the infringement.

Some organizers of the waste shipment use confidentiality agreements or an agreement to not undertake commercial activities with the client of the broker or trader to build trust and get the relevant information to fill in the Box 8 with the final recovery code. But this solution can only be temporary and is not entirely satisfactory. Pushed to the extreme this solution freezes the market, all traders agreeing to not undertake commercial activities with the clients of others in order to receive the information to fill in the Annex VII correctly and not be fined.

Conclusions

The Waste Shipment Regulation is currently susceptible to create direct barriers to movements of waste within the EU as shown by the above case studies. This may negatively impact the environment (reducing recycling), hinder controls, and increase risks and costs of waste recovery.

In order to address the extra risks, costs, administrative burdens and inefficiencies in controls entailed by these issues the following recommendations can be made:

Developing an Electronic Data Interchange system at EU level for hazardous and non-hazardous waste

Giving public access to national documentation and authorizations through an EU centralized platform and national databases

Drafting guidelines for Member States on the interpretation of the Waste Shipment Regulation.

The improvements brought by the implementation of the recommendations will enable better distinction between intentional illegal shipments and those that only suffer from complex and sometimes incoherent legislation. These recommendations are also adapted to the reality on the field and should differentiate between hazardous and non-hazardous waste, the second being an important facilitator for achieving the circular economy.

11.1.4 Annex V.4 Case 1: Distortions generated by the Waste Shipment Regulation's procedure with prior written notification and consent for intra-EU shipments

11.1.4.1 Headline report

This case study focuses on analysing to what extent waste market distortions are created by the notification procedure of the Waste Shipment Regulation and consent for intra-EU shipments.

Legal context

The Waste Shipment Regulation distinguishes between **green-listed** and **amber-listed** wastes, which are based on at least three waste codification systems; the Basel A and B lists, some remainders of the OECD green-amber-red lists and the European List of Waste codes. The **prior notification procedure** (i.e. red tape) only exists for shipments of amber-listed waste, for waste not listed, for waste destined for disposal and for certain shipments of green-listed waste to non-OECD countries. For green-listed waste for recovery a limited administrative procedure is applied – i.e. an identification form and a signed agreement between sender and receiver.

The **export and import procedures** depend on the kind of foreseen treatment of the waste, the treaty status of the countries of origin and destination, and the classification of the waste as green- or amber- listed.

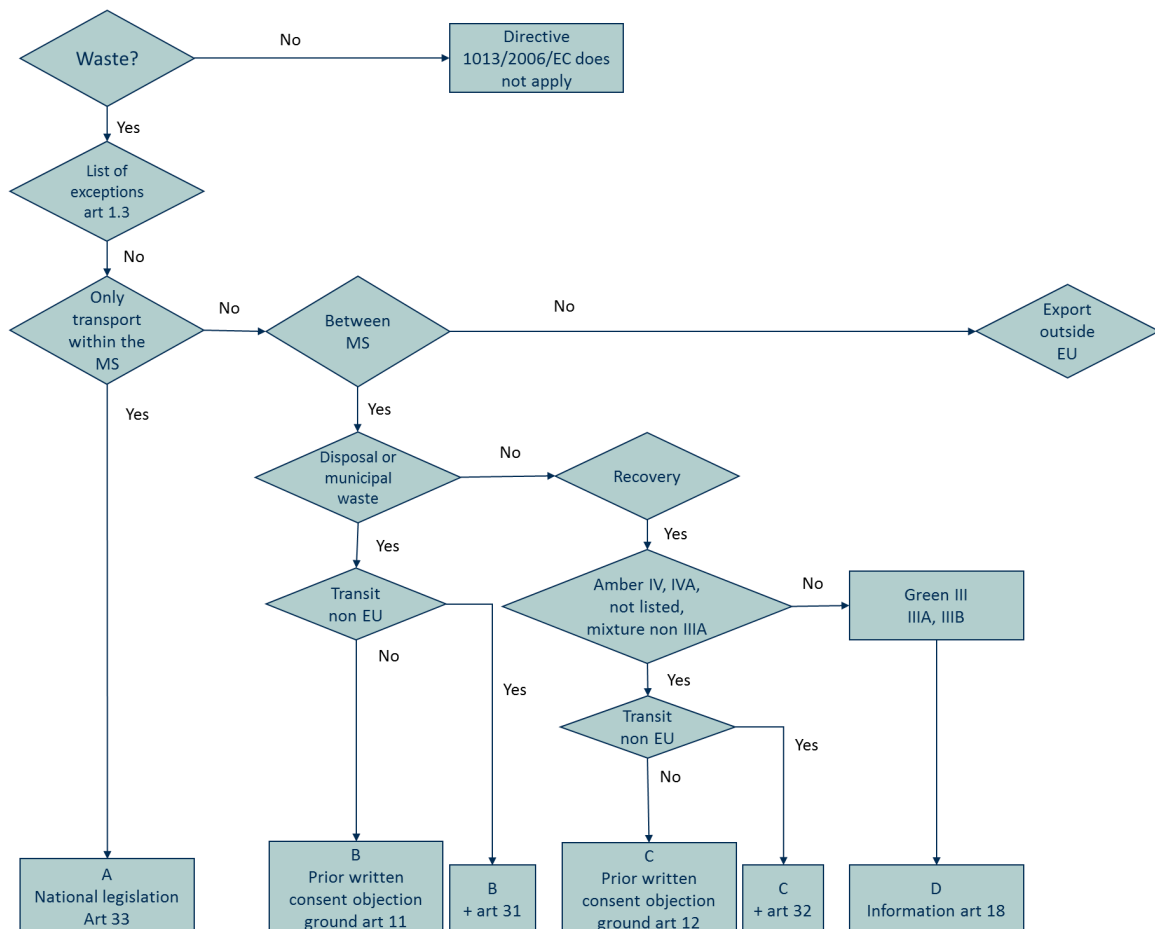


Figure 11-13: Decision tree to select the correct procedure under Regulation (EC) No 1013/2006 for intra-EU shipments

Source: own analysis

Evidence on intra-EU shipments

The main EU level body collecting evidence on the implementation and enforcement of environmental law in the EU is the **IMPEL** (The EU Network for the Implementation and Enforcement of Environmental Law). The Enforcement Actions III Project of IMPEL (which is the seventh inspection project under the umbrella of IMPEL – transfrontier shipment strand) has carried out around 11 800 administrative and more than 10 000 physical transport inspections at exit points (roads and ports) during two years. It has also conducted more than 400 company inspections. A report has been published on the outcomes of this study, the Enforcement of the European Waste Shipment Regulation (2013).¹⁰⁰ The results show that on average more than 20% of these inspections were inspections of waste shipments, out of which around 28-35% were in violation of the WSR. 30 countries participated in the project.

Potential waste market distortion

The issue of distortions generated by the Waste Shipment Regulation's (WSR) procedure with prior written notification and consent for intra-EU shipments has been already widely discussed among many stakeholders. The Waste Shipment Regulation is frequently mentioned as blocking the effective functioning of the waste market, due to its perceived unnecessary red tape. The main complains include:

- WSR is used for protectionist reasons as it allows the MS to stop the waste shipment under certain circumstances;
- There are large differences in administrative burden between MS prohibiting movements of waste for sorting, recycling or energy recovery;
- The size and relative complexity of the file, the length of the procedure, the conditions (e.g. the bank guarantee), the rigidity of the permit, etc.; and
- The unequal use of waste codes, where the stricter partner counts.

Analysis of the potential distortion

Based on the interview with IMPEL, it is clear that some improvements in the notification procedure can be made with regard to making it faster and less cumbersome, e.g. through digitalisation, putting a limit on the time to respond, etc. However, what is also clear is that this procedure is absolutely currently necessary in order to protect the environment due to the existing large amount of 'shopping behaviour' for best deal, which often results in sub-optimal recovery. To avoid this, you need to have proper checks and balances in place. In addition, Europe is still very far from harmonisation of the Environmentally Sound Management systems. Waste in Europe moves a lot to places where the ESM is the lowest, as it is the cheapest. Before the ESM in the EU Member States is improved, proper checks and balances are needed. Moreover, in many cases the responsible authorities in the Member States are not creating any unnecessary administrative burden to verify the shipment, but have reasonable requests to provide these checks and balances, as companies are often not complying even though they say so (this is real evidence).

Conclusion

Based on the information collected and analysed, it could be concluded that the prior notification procedure and consent for intra-EU waste shipments, as required by the Waste Shipment Regulation do create to some extent waste market distortions as outlined above. However, the strict procedure is still much needed in order to protect

¹⁰⁰ IMPEL (2013). Enforcement of the European Waste Shipment Regulation

the environment as there is a great variation among the EU Member States with respect to their ESM of waste. If the countries have the same (high) level of environmental performance, borders could be opened for waste shipments, and markets could benefit from adequate price settings and from removing market inefficiencies. But this is still far from the reality, as can be seen from the inspections studies.

It is important to balance the administrative burden against the effectiveness of the system, and as such some new processes and in particular digitalisation could decrease the red tape and improve the timeliness of the procedures.

Since waste is not merely a commodity or a product but can have significant environmental risks, a stricter control seems to be justified. This procedure also helps to avoid that 'shopping' between the Member States is happening where waste is being shipped to more 'lenient' countries.

In sum, a waste-Schengen zone without administrative burden between specific Member States could overcome the problem of red tape, if combined with a guaranteed high level of environmental performance on waste treatment within these Member States and thus no leakage towards the lowest performing and cheapest solution. However, at this moment, this seems to be rather a dream than a reality.

Policy advice

The main improvements to the prior notification procedure under the WSR could be:

- Making (part of) the procedure **digital** in order to speed up the process and set up an **online registration and tracking system** to register and track shipments as well as to see previous submissions (without the need to go back to the public authorities of the country of origin or destination). This would be of great benefit for everyone. The main bottleneck here is to find finance for implementing such a system as not all Member States could find such finance. Here the European Commission could be of a great help.
- The EU could provide **guidelines on the standards for pre-consented waste facilities**. Legally binding standards for waste facilities, like included in the BREF reference documents under the IPPC Directive have been introduced for several treatment options, setting minimum requirements. They could be used to create the lists of pre-authorised/ pre-consented recovery facilities which would obtain a simplified/ faster approval process. In this case, good enforcement/ monitoring is needed.
- Revision of the maximum allowed size of waste samples shipped for trials under the WSR, currently set at 25kg, which seems to be low.
- If the ESM level of performance needs to be improved, some legislative changes/ harmonisation is necessary. Improved enforcement and compliance of laws is also needed in Member States that are lagging behind.

Who is able to remediate?

The solutions can be set up at both EU and Member State level. At the EU level, (financial) support for digitalisation and creation of an online system for registering and monitoring waste shipments would improve the situation considerably. Some Member States do not have the financial means to implement such systems, and hence EU funding would be necessary. The EU could also provide guidelines for setting up standards for pre-consented waste facilities as the system is currently rather open and more rigid guidelines at the EU level are necessary.

At the Member States, further cooperation between Member States and between different regulatory bodies, such as the Police and Customs, within Member States that are lagging behind in this respect is needed. Also the coordination between several notification authorities in one Member State (where applicable) could be improved.

11.1.4.2 Full case study report

The following sources have been consulted to analyse this case:

- Waste Market Distortions interim report (from 30 04 2015),
- interviews with 15 stakeholders,
- outcomes of the stakeholder workshop on 21/5,
- specific studies on the topic – e.g. IMPEL study on the enforcement of the WSR (2013),
- Expert interview (representative of IMPEL).

CONTEXT

This case study focuses on analysing to what extent waste market distortions are created by the notification procedure of the Waste Shipment Regulation and consent for intra-EU shipments. Shipments outside the EU are not considered part of this case study.

Legal context

Green- vs. Amber-listed waste concept

Regulation (EC) No 1013/2006 on waste shipment combines the use of at least three waste codification systems; the Basel A and B lists, some remainders of the OECD green-amber-red lists and the European List of Waste codes.

The Regulation and its predecessor Regulation 259/93/EEC gave implementation to:

- The original OECD decision C(92)39/FINAL on the control of transboundary movements of wastes destined for recovery operations, and;
- The initial Basel Convention 1998.
- Because historically the Basel convention did not have a waste list, and the European List of Waste (or European waste catalogue, as defined in Commission Decision 94/3/EC) was not yet fully developed or in force, the Regulation 259/93/EEC took over the existing OECD coding.
- The procedures for transfrontier shipment of waste for recycling depended on the classification of the waste on an OECD green, amber or red list. This terminology has survived and in the actual Regulation 1013/2006/E a green list and an amber lists are still included, although the codes included in these lists are replaced by other codes.

The green list is included in annex III of the waste shipment regulation. It contains:

- The entire Basel B list;
- Except for entries B1100 (slag for copper processing), B1110 (electrical and electronic assemblies) and B2050 (coal-fired power plant fly-ash, not included on list A);

- With a modified definition for Basel entries B1020 and B3010;
- 13 additional codes taken over from the OECD green list.

The amber list is included in annex IV of the waste shipment regulation. It contains:

- The entire Basel A list;
- Except for entries A1180 (Waste electrical and electronic assemblies or scrap containing specific components) and A2060 (Coal-fired power plant fly-ash containing hazardous substances);
- With a modified definition for Basel entries A1010 and A4050;
- 21 additional codes taken over from the OECD amber list and 1 taken over from the OECD red list.

The prior notification procedure (i.e. red tape) only exists for shipments of amber-listed waste, for waste not listed, for waste destined for disposal and for certain shipments of green-listed waste to non-OECD countries. For green-listed waste for recovery a limited administrative procedure is applied – i.e. an identification form and a signed agreement between sender and receiver.

Prior notification procedure for export and import of waste

The export and import procedures depend on the kind of foreseen treatment of the waste, the treaty status of the countries of origin and destination, and the classification of the waste as green- or amber- listed. As already touched upon above, these are the following basic concepts applied by this Regulation:

- Green listed (annex III, IIIa, IIIb ~non hazardous) waste for recycling needs to be identified but benefits from a relatively free market.
- Amber listed (annex IV, IVa ~ Hazardous + mixed municipal) waste and all waste for disposal is submitted to a stringent follow-up system, based on a prior consent regime and reporting on each individual shipment.
- Waste shipments to non-OECD countries can be submitted to more stringent procedures on request of the partner country and is banned for disposal or for amber-listed waste.
- Member States can object to a shipment for recovery or for disposal using a limited list of elements, among which non-compliance with their own waste management plan.
- All shipped waste should be treated using environmentally sound management (ESM), which is broadly comparable to the EU acquis.

The selection of the correct procedure is rather complex. Only the procedure for waste shipped intra-EU is illustrated in the figure below.

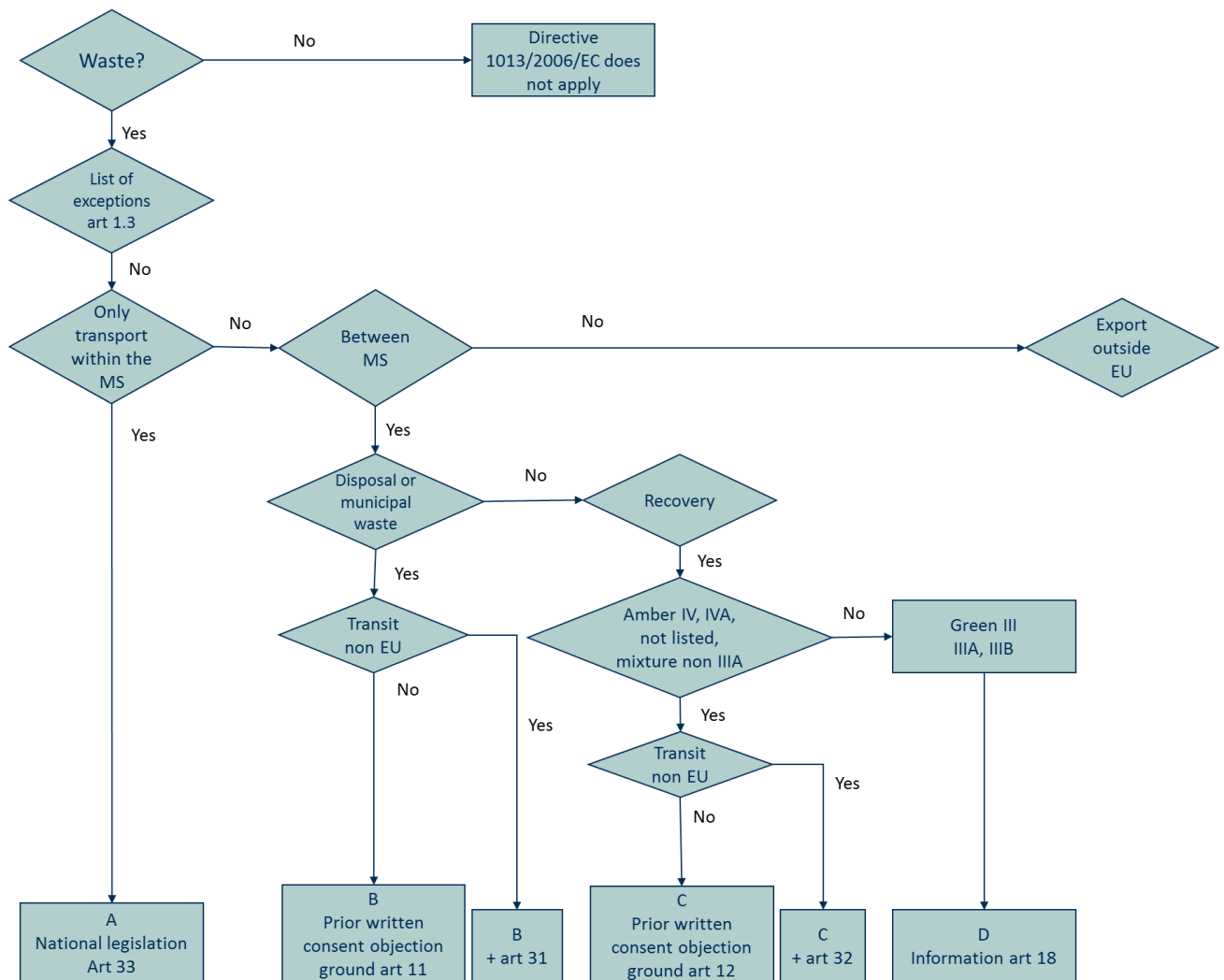


Figure 11-14: Decision tree to select the correct procedure under Regulation (EC) No 1013/2006 for intra-EU shipments (own interpretation)

For most steps in the decision tree, the distinction between green-listed waste and amber-listed waste suffices, with following remarks:

- Export for disposal is submitted to a prior consent procedure, independent of the nature and the classification of the waste;
- Mixtures of green-listed waste included in annex IIIA of the Waste Shipment Regulation are treated as green-listed waste;
- Two waiting lists, annexes IIIB and IVA exist for wastes, which the Commission intends to request entry on the Basel green or amber list, and which are meanwhile already submitted to green- or amber-list waste procedures. Until now annex IVA remained empty;
- Mixed household waste is always submitted to the procedure for disposal of waste.

Environmentally Sound Management of Waste

Environmentally Sound Management (ESM) of waste refers to the quality of the treatment to be guaranteed in its country of destination. Article 49 of the Waste Shipment Regulation specifies that there will be:

- No shipment if waste is not treated in an “environmentally sound manner”;

- No shipment in case of doubt or 'reason to believe...';
- Broadly equivalence with European acquis.

Evidence on intra-EU waste shipments

The main EU level body collecting evidence on the implementation and enforcement of environmental law in the EU is the IMPEL (The EU Network for the Implementation and Enforcement of Environmental Law). The Enforcement Actions III Project of IMPEL (which is the seventh inspection project under the umbrella of IMPEL – TFS strand) has carried out around 11 800 administrative and more than 10 000 physical transport inspections at exit points (roads and ports) during two years. It has also conducted more than 400 company inspections. A report has been published on the outcomes of this study, the Enforcement of the European Waste Shipment Regulation (2013).¹⁰¹ The results show that on average more than 20% of these inspections were inspections of waste shipments, out of which around 28-35% were in violation of the WSR. 30 countries participated in the project.

Among the countries that score highest in terms of number of waste inspections are Croatia, Norway, and the UK. As for the level of violations, the countries that have a higher percentage of violations detected from inspections are France, Norway, and Sweden.¹⁰²

The report also shows that the enforcement of the EU waste shipment regulation remains a priority in many Member States and substantial efforts are needed to move towards a level playing field in that respect.¹⁰³

ALLEGATION

Description

The issue of distortions generated by the Waste Shipment Regulation's (WSR) procedure with prior written notification and consent for intra-EU shipments has been already widely discussed among many stakeholders. The Waste Shipment Regulation is frequently mentioned as blocking the effective functioning of the waste market, due to its perceived unnecessary red tape. For example, according to some stakeholders (e.g. FEAD), the administrative procedures for amber-listed waste could be used to close country's borders for presumed protectionist reasons. This is the case if article 12.b of the WSR is used which allows the Member States to stop the waste shipment recovery, when a planned shipment or recovery would not be in accordance with national legislation relating to environmental protection, public order, public safety or health protection concerning actions taking place in the objecting country.¹⁰⁴ According to these stakeholders (usually the waste management industry), the provisions on export of waste between Member States has an influence on the possibilities to set up businesses in other Member States with similar solutions as in the home market. Moreover, these stakeholders also claim that transfrontier shipment for recycling to third countries, when not sufficiently inspected or enforced, can compete with European recycling infrastructure. Due to trading, waste for recycling can end up at the cheapest solution in third countries and it can distort the targets for

¹⁰¹ IMPEL (2013). Enforcement of the European Waste Shipment Regulation

¹⁰² *ibid*

¹⁰³ *ibid*

¹⁰⁴ According to Katie Olley from SEPA, this happens rarely, e.g. the English Environment Agency has done this twice since 2007. SEPA has never done this, but they have not accepted notifications for disposal in the past on the basis of the UK Plan for Waste Shipments.

recycling within Member States. Both MWE and FEAD argue that due to differences in interpretation of the waste shipment regulation, administrative burden can be different in different Member States. According to them, this burden can prohibit movements of waste for sorting, for recycling or for energy recovery, where these treatment methods are either not available or when there is insufficient local or national capacity.

The main complaints regarding the red tape include:

- The size and relative complexity of the file (notification form and its annexes);
- The length of the regular administrative procedure;
- The unequal way in which Member States use the administrative procedures (e.g. asking for more proof before declaring a file as complete, perusing the maximal administrative periods, unequal usage of the possibilities of pre-authorised facilities);
- The need to have a bank guarantee, and to provide evidence before it can be lifted;
- The need to notify each individual transport three times: once 3 days before shipment, once 3 days after reception, once within 360 days to prove final disposal/recovery;
- The timelap between submitting the file and receiving the permit;
- The rigidity of the permit: no other destinations, no other waste streams, which disturbs waste traders;
- The unequal use of waste codes, with the principle that the opinion of the stricter partner counts: on waste or non-waste, on green or amber, on recovery or disposal, etc. This is in relation to Article 28 of the Waste Shipment Regulation, which states that if the competent authorities cannot agree on the classification as waste or non-waste, as hazardous or non-hazardous waste, or as recovery or disposal, the strongest provisions (for waste, hazardous waste, disposal) with the most administration have to be followed. This prevents market distortions by Member States offering more lenient environmental conditions to attract a market, but it could lead to the risk of inappropriate application of the more stringent provisions for protectionist reasons.

Response to the allegation by IMPEL

To discuss this allegation, we have interviewed Ms. Katie Olley, a Senior Environment Protection Officer, within the Producer Compliance and Waste Shipment Unit at the Scottish Environment Protection Agency (SEPA). She is a lead on waste shipment issues, in particular notification procedure, having worked in the field at both the national and European level since 2000. In the past she worked as a lobbyist with the Dutch Waste Processing Association and was a member of FEAD's working groups. Katie is also the Project Manager for IMPEL's (European Union Network for the Implementation and Enforcement of Environmental Law) Enforcement Actions, briefly described above.

She has made the following observations about this case:

- In general she does not agree with the arguments put forward by the waste management industry outlined above that the notification procedure under the WSR significantly impedes the efficient functioning of the European waste markets. According to her, this notification procedure and pre-consent for waste shipments inside (and outside) Europe are currently necessary in order to protect the environment. The reasons for this are:

- There is a lot of 'shopping around for the best deal', which often results in sub-optimal recovery. To avoid this, you need to have proper checks and balances in place.
- Europe is still very far from harmonisation of the Environmentally Sound Management systems. Waste in Europe moves a lot to places where the ESM is the lowest, as it is the cheapest. Before the ESM in the EU Member States is improved, proper checks and balances are needed.
- There is actually no real evidence on distortions generated by the notification procedure of the WSR. In the vast majority of the cases, the responsible authorities in the Member States are not creating any unnecessary administrative burden to verify the shipment, but have reasonable requests to provide these checks and balances. It is true that some Member States can be more lenient than others (sometimes even pushed by the waste management industry to accept the shipment), but in general her inspections experience shows that even if the company says it is complying, in many cases it is not.
- According to her, the benefits of having such a strict control procedure in place more than outweighs the cost of it as the environment would not otherwise be protected.
- She does agree that some parts of the notification procedure could be improved to reduce the red tape, even though she thinks the notification procedure for intra-EU shipment is not that difficult compared to the one for non-EU shipments. The main improvements could be:
 - To make the procedure faster → for example by digitalisation of the procedure and introduction of an online system to register and track shipments as well as to see previous submissions (without the need to go back to the public authorities of the country of origin or destination). This would be of great benefit for everyone. The main bottleneck here is to find finance for implementing such a system as not all Member States could find such finance. Here the European Commission could be of a great help. Another main issue to solve would be data protection and security of the system.
 - With regard to the use of pre-consented facilities to speed up the process, she thinks guidelines from the Commission would be very useful here. However, enforcement is also very important in this case. Some competent authorities require a copy of the receiving plant's permit and a detailed description of the treatment process to form part of the notification package; these requirements could be dispensed with, and some other small parts of the notification procedure could be scrapped in this case.
 - Another aspect of the WSR that could be revised to reduce the red tape is the maximum allowed size of waste samples shipped for trials, which is now set at 25kg. This seems to be too low and limiting certain shipments that could otherwise go without the notification procedure. However, this is a small issue.
 - In addition, some new processes could be tried and implemented, such as for example, notifiers requesting a smaller shipment window in their applications. This would mean that the financial guarantee can be lifted faster. There is currently a tendency for notifiers to ask for the maximum permissible time in their applications.
 - Currently, the tacit consent period is 30 days, this could be shortened to for example two weeks. Competent authorities could publish their method of processing notifications for transit through their territories on

- their websites, or the Commission could collect this information and place it on the Europa site.
- Most Member States (MS) are co-operating well with the written notification consent procedures. There are some regional variations and inconsistencies in the implementation of the WSR where a MS has more than one competent authority for example, some of which are dictated by local policies - which can sometimes be against the provisions of the WSR. Having a common understanding of how to interpret and apply the WSR is vital to its effective and consistent implementation. The national authority could support the regional consent authorities in order to improve coordination and consistency and as such speed up the process a bit.
 - Cooperation between the Member States is generally high. There is also a high level of co-operation with other regulators such as the Police and Customs (most IMPEL inspections are carried out jointly with either or both of these bodies) but for some countries it is non-existent. These countries should promote such cooperation through e.g. service level agreements, memoranda of understanding, etc.
- The parts that are absolutely necessary in the notification procedure are the financial guarantee. If the financial guarantee would be considered too high, notifiers should pay close attention to , for example, only covering the number of actual shipments 'in play', rather than the total number of shipments to be made.
 - With regard to creating a 'waste Schengen', her view is that some bilateral agreements between Member States already exist if the authorities agree that both (or more) countries have the same level of ESM, and the environmental impact would not be reduced. An example of this is the lifting of the ban for shipments for disposal in to and out of the UK, for shipments for disposal between Ireland and Northern Ireland. However, since the waste treatment operations vary greatly between the Member States, there is still a long way to go. In addition, even with intra-EU shipments, the waste is sometimes ultimately going outside the EU. In this case, a waste Schengen would put pressure on the exit points of such a zone.

CASE DESCRIPTION – ANALYSIS OF THE ALLEGATIONS

Evaluation

Based on the information collected and analysed, it could be concluded that the prior notification procedure and consent for intra-EU waste shipments, as required by the Waste Shipment Regulation do create to some extent waste market distortions as outlined above. However, the strict procedure is still much needed in order to protect the environment as there is a great variation among the EU Member States with respect to their ESM of waste. If the countries have the same (high) level of environmental performance, borders could be opened for waste shipments, and markets could benefit from adequate price settings and from removing market inefficiencies. But this is still far from the reality, as can be seen from the inspections studies.

It is important to balance the administrative burden against the effectiveness of the system, and as such some new processes and in particular digitalisation could decrease the red tape and improve the timeliness of the procedures.

Since waste is not merely a commodity or a product but can have significant environmental risks, a stricter control seems to be justified. This procedure also helps

to avoid that 'shopping' between the Member States is happening where waste is being shipped to more 'lenient' countries.

In sum, a waste-Schengen zone without administrative burden between specific Member States could overcome the problem of red tape, if combined with a guaranteed high level of environmental performance on waste treatment within these Member States and thus no leakage towards the lowest performing and cheapest solution. However, at this moment, this seems to be rather a dream than a reality.

Impacts

The impacts of having the notification procedure in place are the following:

- **Economic impacts** – there is an administrative burden for the company as well as for the public authorities of both, exporting and importing countries with respect to the notification procedure. This can mean that smaller companies cannot easily switch commercial partners to another when market conditions suddenly change. Digitalisation of the system would be of great benefit as it would speed up the process and decrease the administrative burden resulting from the paper work. There are also notification costs for the companies, however, these are only a mere fraction of the profits these costs generated and should not be seen as the main hampering impact.¹⁰⁵ In some Member States it is the tax payer who funds the competent authorities' notification service.
- **Environmental impacts** – in general the notification procedures provides checks and balances on shipped waste in order to guarantee the protection of the environment. Opening border can cause situations where recyclable waste leaves a Member State freely to be incinerated elsewhere, which could distort the high recycling ambitions of that Member State.

POLICY ADVICE

Is the case a real and an important distortion of the efficient functioning of the waste market?

Based on the information collected and analysed in this case study, the notification procedure and pre-consent for intra-EU shipments as required by the WSR are not a real and important distortion of the efficient functioning of the waste market but rather a necessary procedure in order to safeguard that shipped waste is being treated in an environmentally sound manner. However, certain aspects of the procedure could be improved to decrease the red tape generated by this procedure while maintaining the environmental protection it provides.

¹⁰⁵ Interview with Katie Olley, she gave an example from the UK where the notification application costs are around 12 pence/ tonne of waste shipped, while the profits are in the range of 100 pounds per tonne.

What (legal, administrative, economic, cultural, ...) factors are influencing the occurrence and the impact of the distortion?

The main factor influencing the impact of the notification procedure is the large divergence of ESM systems across the EU. If the ESMs in the different Member States were more harmonised than currently are, leading to a high ESM performance, then borders for the waste shipments could be opened. In addition, if there was sufficient evidence that companies are not shopping only for the 'best deal' money-wise but rather for the best deal from an environmental perspective, then border for waste movement could be opened.

What are the lessons from this case?

The main lessons learned from this case are that there are several views on whether the notification procedure distorts the EU waste markets or not. The standard view of the industry stakeholders is that this procedure creates too much unnecessary burden, which goes at the expense of treating waste by treatment which is higher up the waste hierarchy. On the other hand, the inspections/ enforcement point of view is that this procedure is still much needed to make sure shipped waste is treated in an environmentally sound manner.

There are still many improvements to be made on the side of the industry as well as regulators to have an efficiently functioning waste markets.

Is the case or its lessons learned transferable to other Member States and contexts?

Yes, this case applies to all the Member States.

How could the problem be solved?

There have been several solutions identified:

- Making (part of) the procedure digital in order to speed up the process and set up an online registration and tracking system. This would require financial assistance from the European Commission.
- The EU could provide guidelines on the standards for pre-consented waste facilities. Legally binding standards for waste facilities, like included in the BREF reference documents under the IPPC Directive have been introduced for several treatment options, setting minimum requirements. They could be used to create the lists of pre-authorised/ pre-consented recovery facilities which would obtain a simplified/ faster approval process. In this case, good enforcement/ monitoring is needed. Using pre-authorised facilities as a mechanism to decrease the administrative burden (for pre-authorised facilities) has been advocated by several stakeholders. These facilities could be used to indicate the quality of the destination treatment facility – to enable customs to be confident that the waste will be competently dealt with. This would need a global agreement on standards of waste recycling / treatment and a regional cooperation strategy could help laggards comply with the rules.
- Create a "waste Schengen" however, under very strict conditions of real-world equal ESM. That is, if the intention of the companies is to reach treatment higher up in the hierarchy, i.e. if there are no appropriate recycling or reuse facilities for recovery in the home Member State, and the waste practices are at the same ESM (environmentally sound management) level of performance in the Member State of destination, a facilitating administration might be appropriate. However, these conditions are not met in all regions/ cases currently.
- Create a more detailed hierarchy in recovery and recycling activities to distinguish between high level recycling and downcycling or low quality recycling.

- If the ESM level of performance needs to be improved, some legislative changes/ harmonisation is necessary. Improved enforcement and compliance of laws is also needed in Member States that are lagging behind.
- The aim would be to make sure the environmental impact of treatment of shipped waste is the same or better than in the Member State of origin.

Who is able to remediate? (subsidiarity level)

The solutions can be set up at both EU and Member State level. At the EU level, (financial) support for digitalisation and creation of an online system for registering and monitoring waste shipments would improve the situation considerably. Some Member States do not have the financial means to implement such systems, and hence EU funding would be necessary. The EU could also provide guidelines for setting up standards for pre-consented waste facilities as the system is currently rather open and more rigid guidelines at the EU level are necessary.

At the Member States, further cooperation between Member States and between different regulatory bodies, such as the Police and Customs, within Member States that are lagging behind in this respect is needed. Also the coordination between several notification authorities in one Member State (where applicable) could be improved.

11.1.5 Annex V.5 Case 7: Restrictions of waste shipments between regions in one Member State

11.1.5.1 Headline report

Restrictions on cross-regional shipment of waste in Italy

Influence on waste exports, currently intended actions by the National Government and related risks to diverge from the waste hierarchy

Regulatory background

In order to fulfill the proximity principle, the national Italian regulatory framework has long stipulated the principle of Regional self-sufficiency, as follows: *It is forbidden to dispose of non-hazardous MSW in different Regions than those where such waste was produced, unless the case of regional or international agreements, if the territorial factors and technical/economic possibilities to achieve optimized levels of served population so require.*

It's worth noting that this provision narrowly applies to mixed (i.e. residual) municipal waste to disposal. Legal discussion occurs on its applicability on pretreated waste (classified as "special" waste) or on waste incineration classified as R1. Court rulings often contradict each other and do not providing final clarification for operators and decision-makers. In daily practice, pretreated waste falls out of the scope of the provision, but incinerators classified as R1 or D10 do, when they are subject to regional or provincial planning.

The Government has adopted in 2014 a specific Decree to establish a "national network of incinerators" for those sites classified as "R1". Such incinerators can be used for national and not only regional needs. This legal provision is factually overrunning the restrictions on cross-regional shipment of MSW and makes the overcapacity of some Regions (e.g. Lombardy) available to other Regions with insufficient treatment capacity

Analysis

The possibility to deviate from the principle of regional self-sufficiency is specifically linked to "territorial, economic, technical" factors, which makes it relatively complicated to justify. Whatever transfer of waste always embeds the risk for the Government of the receiving Region to be politically blamed for "*turning their Region into the trash can of Italy*". Northern Regions politically use the argument "*we accomplished our duties, we cannot be used for disposal from other Regions which are simply lagging behind*". Therefore, the possibility of cross-regional shipment has rarely been used for MSW. In some cases however, the combined effect of local under-capacities and the need to comply with the Landfill Directive has led to shipment of waste abroad to northern European Member States with low gate fees.

The Decree establishing the national network looks weak or biased in its intended workplan, which made it disputed at various levels (NGOs, stakeholders, and also at Institutional level by almost all the Regions). The major complaints are that the Decree leads to divergence from the waste treatment hierarchy and/or incurs financial and operational risks in the longer run. They can be summarised as follows:

- I. The Decree assumes that the only suitable treatment method to deliver the requested capacities for residual waste is thermal treatment (incineration).
- II. Possible alternative approaches like biological stabilisation of waste before landfilling or before further recovery of materials, show some advantages over incineration like faster implementation and lower capital expenditures.

- The intrinsic flexibility of such installations entail that they can be turned into composting sites with the stepwise growth of separate collection; no financial risk incurred and no lock-in effect.
- III. One of the key assumptions in the Decree, is to meet the national separate collection target (65%) with no consideration for a further possible increase of recycling rates in the mid- and long-term.
 - IV. Regions are allowed to deviate, based on existing waste plans, but these are usually old and less ambitious towards recycling targets.
 - V. The Decree and its network plan is re-attributing part of the planning authority back to the national level, without a Strategic Impact Assessment, that should also consider its various alternatives and related benefits/shortcomings/downsides etc.
 - VI. The Decree implies that old incinerators e.g. in Lombardy should be kept operational and be revamped. This clashes with plans for decommissioning which the owners of incinerators (often local municipalities) have already adopted. Municipalities and Districts often consider shutting their incinerators down at the end of their planned operational/financial life and either use other regional incinerators or build different treatment systems like MBT/MRF sites. The conflict between the Governmental plans and Regional/local decisions is causing friction at the Institutional interface.

Summary of critical issues and policy advice

- The intended overarching goal by the national Government to overcome current critical situations in various areas around Italy is in line with a better functioning waste market.
- Provisions in the Decree have been assessed as heavily biased towards incineration, to the detriment of recycling, and leading to institutional friction.
- Regions lose possibilities to plan different treatment systems higher on the waste treatment hierarchy, like composting of material recovery.
- The foreseen issues relate to the possibility to incur financial risks for the financial plans backing the construction of incinerators, or the risk of causing a lock-in effect

For these reasons the Decree can be considered as a waste market distortion.

Policy advice is to

- keep the principle to enlarge and complete the needed treatment capacity
- at the same time, repeal the fundamental assumption embedded in the current Decree, that this should be accomplished only by means of incineration, and sticking to the general definition of "treatment" included in the Landfill Directive.

Stakeholder interview

Mr Massimo Centemero, MD of CIC (Consorzio Italiano Compostatori, the Italian Composting Association), represents the sectoral industry with the fastest growth in recovery of materials, and with some 5 Mtpa of separately collected organics processed annually at their compost/AD sites, representing by far the largest contributor to total recycling rates in Italy. He is also the current vice-chair of ECN, European Compost Network.

During the interview, Centemero stressed that cross-regional shipment of waste is possible and practiced for organic waste (both food and garden waste) – as it is for other recyclables sent to recovery (paper, glass, plastics, metals, etc.). Such a mechanism exerted a positive impact to trigger and consolidate a

recycling/composting industry, in that in last two decades it made possible to balance the temporary temporal discrepancies between roll-out of collection schemes and construction of processing sites. Hence the use of the unused processing capacities in those Regions where processing sites were built before implementing separate collection, or in excess of the then existing amounts of separately collected materials (typically Veneto, Puglia, Sicily), was able to make up for the excess amounts of separately collected materials in Regions...

- where collection schemes for organics were implemented and diffused in a particularly fast way (typically, Lombardy around the mid/late 90's) or
- where construction of sites was delayed for whatever the reason (planning constraints in densely populated areas, as again Lombardy, or lack of financial resources as the case of Campania)

Therefore, bans on shipment are not affecting the recycling/composting sector.

Regulatory constraints on shipment of waste to other regions have typically regarded treatment/disposal of residual waste (mixed MSW to incinerators, MBT sites, landfills).

In principle, a National Network may well overcome the currently unbalanced capacity for treatment of residual waste across different Regions. The plan intends to accomplish this goal by means of 2 strategies:

- making the overcapacity of some Northern Regions available for residual waste from other Regions
- in the mid-term, building new incinerators in other Regions

In Centemero's opinion, one should consider the foregoing carefully, on account of the Cap.Ex. needed to build new capacities, or to provide for the revamping of old sites. In the case of new incinerators, this implies the well known "lock-in effect", i.e. the need to ensure the amounts of waste the site was designed for, for a comparatively long time frame (typically, 20 years). In the case of the old ones, which often were planned to be dismissed with regard to the dwindling amounts of residual waste, this implies investing money for revamping, whose payback may only be guaranteed for a short to medium time frame, hence the cost of revamping incurs financial risk.

Conclusion

It's not the regulatory principle (be it the prohibition of cross-regional shipments, be it its contrary, i.e. the promotion of it) that causes constraints and distorted effects with regard to the waste hierarchy. What really matters is the overall strategy such constraints/permissions apply to: with regard to management of residuals, one should always carefully consider the mid-term evolution of strategies and amounts (hence, local plans and strategies must address the mid-term effect of EU Directives and policy, e.g. the Circular Economy package) so as to avoid overcapacities of systems/technologies that may only deal with mixed waste (as it is the case with incineration, unlike what may happen e.g. with MBT sites, which in many sites in Italy have been turned stepwise into compost sites in parallel to the roll out of separate collection).

The application of the self sufficiency principle for disposal and recover through incineration at regional level in Italy distorts the market and makes incineration capacity inaccessible in a way leading to landfill. But the establishment of a national incineration grid, overcoming this regional self sufficiency principle, on its turn causes a market distortion though its sole focus on incineration.

11.1.5.2 Full case study report

1. Regulatory Background and consequences

In order to fulfill the Proximity Principle, The National Italian regulatory framework has long stipulated the principle of Regional self-sufficiency. Already embedded in previous Acts, such principle is thus worded at article 182 of the current Environmental Act (Decree 152/06, as amended by Decree 205/10), as follows:

It is forbidden to dispose of non-hazardous MSW¹⁰⁶ in different Regions than those where such waste was produced (...)

It's worth noting that this provision narrowly applies to mixed (i.e. residual) Municipal waste to disposal. A long-lasting and somewhat tangled regulatory debate is going on, as to whether

- This applies – or not – also to pretreated waste (that gets classified as “special” waste) flowing from pretreatment of MSW (including simplified pretreatment, e.g. screening/shredding)
- This applies – or not – also to incinerators classified as R1 (hence, as recovery operations, and not as disposal sites)

Rulings (e.g. by the State Council, and various Regional Courts) are not heading the same direction and often contradict each other, which is not providing final clarification amongst operators and decision-makers.

Anyway, so far, the prevailing interpretation, and certainly the one adopted in daily practice, is that:

- Pretreated waste may fall out of the scope of the provision – see further on for ongoing shipment of waste from e.g. the area around Rome
- The provision applies to all sites (including incinerators classified as R1 or D10) that are subject to Regional planning (or Provincial, as often is the case with regions “devolving” planning to Provinces)

Remarkably, in order to address the latter and supersede the principle of regional self-sufficiency, the Government adopted a specific Decree that establishes a “national network of incinerators” for those sites classified as “R1”. Consequently such incinerators can be used for National and not only Regional needs. The Decree is comprehensively addressed in Section 2, including the critical issues therewith related that might cause divergence from the waste hierarchy.

Coming back to recital of article 182, the rest of it stipulates that one may deviate from the principle, upon specific cross-regional or international agreements: (...) *unless the case of regional or international agreements, if the territorial factors and technical/economic possibilities to achieve optimized levels of served population so require*

As such, the possibility of relaxations from the principle is specifically linked to “territorial, economic, technical” factors, which makes it relatively complicated to justify it. Also, the wide-ranging cultural, historical, economic differences among various regions often turn into politically divergent visions and interests across different Regions, and this in turn causes political sensitivity of any decision related to shipment of waste to another Region. More explicitly, whatever transfer of waste always embeds the risk for the Government of the Region receiving the waste to be

¹⁰⁶ i.e. mixed garbage/residual waste from households and household-like waste

politically blamed for “*turning their Region into the trash can of Italy*”. Such a problem is often exacerbated by the remarkably different recycling rates across different Regions, hence the public opinion in those Regions achieving highest recycling rates¹⁰⁷ use the argument “*we accomplished our duties, we cannot be used for disposal from other Regions which are simply lagging behind*”.

Therefore, the possibility of cross-regional shipment has rarely been used for MSW (while it is typically adopted for “special”, i.e. industrial, waste, which is not subject to strict planning of capacities, although this typically is not highlighted on the media and the political debate).

Typically, such Regional agreements were used only for particularly complicated waste emergencies and with no solution on sight in the short-run (e.g. Milan around 1995, Naples in the 2000’s, Liguria lately), although their validity has typically been kept down to a few weeks or months “pending adoption of other measures”

Also, one should consider that restrictions apply to Municipal Waste only. Often, since pretreated MSW (with pretreatment made compulsory by the Landfill Directive 99/31 and its enforcing Decree 36/03) gets coded as “special waste” (EWC: 19 and specifications thereof) this may circumvent the restriction. This is the case, e.g. of split waste amounts coming from shredding/screening around Rome, currently going to further treatment to other Regions simply based on a public procurement procedure with no legal/institutional implication to our current knowledge.

In some cases, the combined effect of local undercapacities, and the need to abide by the obligation on pretreatment (stipulated by the Landfill Directive 99/31, whose lack of compliance was sanctioned by various infringement procedures) has led to shipment of waste abroad – typically Northern European countries, where local incinerators are heavily affected by overcapacities. This is the case of waste originating from Naples in the last few years. To our knowledge, the effect is caused by the remarkably cheaper gate fees (despite shipment costs) which is in turn caused by overcapacities in the receiving countries.

2. Current Governmental plans to increase treatment capacities and make them available across the Country

With the aim to increase treatment capacities for residual waste across Italy and make the Country self-sufficient on waste treatment, the Italian Government issued Decree 133/14 in 2014. The Decree, called “Sblocca-Italia” (“unblock Italy”) includes various provisions about waste infrastructure and related economic activities.

Article 35 of the Decree is specifically focused on incineration, the need to increase related capacities and the possibility to use the existing ones in the frame of a “National Network of Incinerators”. This legal provision is factually overruling the restrictions on cross-regional shipment of residual (mixed) Municipal waste and making overcapacities of some Regions (e.g. Lombardy) available to other Regions with insufficient treatment capacity.

Key assumptions and provisions of article 35 may be summarised as follows:

- The need to overcome the critical situation in many districts around Italy, which have led to infringements for the missing pretreatment of residual waste before landfilling.

¹⁰⁷ typically, Northern Regions – e.g. Veneto already around 70% - but increasingly also some from Central-South Italy, e.g. Marche and Sardinia currently around 55 to 60% Regional average

- In the short run, the use of existing (over)capacities in some Regions, reclassified as “recovery” operations to provide for treatment of waste from other Regions (which is made possible on the basis of the recently adopted Climatic Correction Factor at EU level¹⁰⁸).
- In the mid term, construction of new sites/capacities in those Regions with insufficient capacity.

The general principles as listed above are agreeable. However, the Decree looks weak (many say “biased”) in the intended workplan (included in a supplementary Decree currently on draft), which made it disputed at various levels (NGOs, stakeholders, and also at Institutional level by almost all the Regions). Many issues highlighted in the heat of the debate are worthwhile, and highlight the risk of diverging from the waste hierarchy and/or incur financial and operational risk in the longer run.

As a matter of fact, the following assumptions and calculations have been criticised as “misconceived”, “wrongly based” or simply “biased” by Institutions:

- I. First and foremost, the Decree assumes that the only suitable treatment to fulfill the needed capacities for residual waste is thermal treatment (incineration). This makes the Decree “blind” on possible alternative approaches, which are currently considered, planned and even already adopted by various Italian Regions/Districts as e.g. MBT/MRFs with biological stabilisation of waste before landfilling and further recovery of materials from residual waste – such options imply a few benefits over incineration, as the faster implementation, the remarkably lower Cap.Ex. (which does not divert funds from the need to support separate collection) and (above all) the intrinsic flexibility, i.e. the possibility to be turned into composting sites with the implementation and stepwise growth of separate collection (hence, no financial risk incurred, and no lock-in effect, as proved by e.g. the high and still increasing recycling rates across Region Veneto where such systems are well diffused)
- II. One of the key assumptions in the decree is the goal to meet the National separate collection target (65%). This target is perceived as being less ambitious, missing aspects on Circular Economy and the way it will further boost reduction, reuse, recycling and composting.
- III. The Decree did not undergo a Strategic Impact Assessment, that should consider the various alternatives and related benefits/shortcomings/downsides etc. This is perceived as one of the weakest sides in the current Governmental initiative.
- IV. Coming to the use of current overcapacities in some Regions (with specific regard to Lombardy) the Decree implies that old incinerators should be kept and revamped, in order to operate for a further time window. This clashes with the already planned “decommissioning” , as e.g. the one adopted unanimously by the regional Council of Lombardy upon provisions of the new Waste Management Plan (adopted in 2014); frequently, the owners of incinerators (often, local Municipalities are shareholders of the site management public companies) have already adopted plans for decommissioning, first and foremost to avoid incurring any financial risk related to new investments into infrastructure which will hardly be used in the mid term (for the increasing local levels of separate collection, and plans to build treatment capacity in next few years in other Regions); hence Municipalities and Districts often consider shutting their incinerators down at

¹⁰⁸ Directive 2015/1127 of the Commission, amending Annex II of Directive 2008/98 (Waste Framework Directive)

the end of their planned operational/financial life and either i) using other Regional incinerators or b) building different treatment systems as the MBT/MRF sites mentioned at point II. The conflict between the Governmental plans and Regional/local decisions is causing friction at the Institutional interface: it's worth mentioning that Region Lombardy submitted the case to the Supreme Court as contravening the mandate to Regions to make decisions on waste planning.

3. Summary of critical issues/points, and possible measures to work around them

From the combined consideration of the points listed at previous section, one might draw the following general conclusions:

- The intended overarching goal by the Ministry/National Government (i.e.: overcoming current critical situations in various areas around Italy) is agreeable
- However, provisions in the Decree (and ancillary ones in the supplementary Decree) have been assessed as heavily biased towards incineration
- This leads to Institutional friction, with Regions claiming their rights to plan different treatment systems (more scalable, less resource-intensive and more flexibly adaptable to increasing levels of separate collection)
- Also, this implies a general contradiction in the longer run with the aim to maximize reduction, reuse and recycling/composting. The foreseen issues relate to the possibility to incur financial risks for the financial plans backing the construction of incinerators, or the risk of causing a lock-in effect.

With due consideration for the foregoing, the solution would ideally be based on

- I. keeping the principle to enlarge and complete the needed treatment capacity,
- II. at the same time, repeal the fundamental assumption, embedded in the current Decree, that point I. be accomplished only by means of incineration, and sticking to the general definition of "treatment" included in the Landfill Directive.

4. Interview with a stakeholder – Massimo Centemero, MD of the Italian Composting Association

With the aim to pick the opinion of some prominent stakeholders in the Italian waste management scene, we have interviewed Massimo Centemero, MD of CIC (Consorzio Italiano Compostatori, the Italian Composting Association), as a representative of the sectoral industry with the fastest growth in recovery of materials, and, with some 5 Mtpa of separately collected organics processed annually at their compost/anaerobic digestion sites, representing by far the largest contributor to total recycling rates in Italy.

During the interview, Centemero stressed that cross-regional shipment of waste is possible and practiced for organic waste (both food and garden waste) and for other recyclables sent to recovery (paper, glass, plastics, metals, etc.). Such a mechanism exerted a positive impact to trigger and consolidate a recycling/composting industry, in that in last 2 decades it made possible to balance the temporary temporal discrepancies between roll-out of collection schemes and construction of processing sites; hence the use of the unused processing capacities in those Regions where processing sites were built before implementing separate collection, or in excess of the then existing amounts of separately collected materials (typically Veneto, Puglia, Sicily), was able to make up for the excess amounts of separately collected materials in Regions

- where collection schemes for organics were implemented and diffused in a particularly fast way (typically, Lombardy around the mid/late 90's) or
- construction of sites was delayed for whatever the reason (planning constraints in densely populated areas, as again Lombardy, or lack of financial resources as the case of Campania)

Therefore, bans on shipment are not affecting the recycling/composting sector. Regulatory constraints on shipment of waste to other regions have typically regarded treatment/disposal of residual waste (mixed MSW to incinerators, MBT sites, landfills).

In this respect, Centemero also disclosed his thoughts re. the latest proposals by the Italian MoE about the possibility to enlarge and consolidate a "National Network of Incinerators", as stipulated in art. 35 of the so-called "Sblocca-Italia" Decree.

In principle, a National Network may well overcome the currently unbalanced capacity for treatment of residual waste across different Regions. The MoE plans to accomplish this goal by means of 2 strategies:

- making the overcapacity of some Northern Regions available for residual waste from other Regions
- in the mid term, building new incinerators in other Regions

In Centemero's opinion, one should consider the foregoing carefully, on account of the Cap.Ex. needed to build new capacities, or to provide for the revamping of old sites. In the case of new incinerators, this implies the well known "lock-in effect", i.e. the need to ensure the amounts of waste the site was designed for, for a comparatively long time frame (typically, 20 years). In the case of the old ones, which often were planned to be dismissed with regard to the dwindling amounts of residual waste, this implies investing money for revamping, whose payback may only be guaranteed for a short to medium time frame, hence the cost of revamping incurs financial risk.

In Centemero's opinion, it is not the regulatory principle (be it the promotion or prohibition of cross-regional shipments) that causes constraints and distorted effects with regard to the waste hierarchy. What really matters is the overall strategy to which such constraints/permissions apply to. With regard to management of residual fractions, one should always carefully consider the mid-term evolution of strategies and amounts (hence, local plans and strategies must address the mid-term effect of EU Directives and policy, e.g. the Circular Economy package) so as to avoid overcapacities of systems/technologies that may only deal with mixed waste (as it is the case with incineration, unlike what may happen e.g. with MBT sites, which in many sites in Italy have been turned stepwise into compost sites in parallel to the roll out of separate collection).

11.1.6 Annex V.6 Case 3: Administrative issues on waste shipments through transit countries

11.1.6.1 Headline report

Legal context for transit countries

According to article 2 point 32 of the Waste Shipment Regulation 'transit' means a shipment of waste or a planned shipment of waste through one or more countries other than the country of dispatch or destination. The scope of the exercise is limited to the intra-EU market, which means that following transit contexts are to be considered:

A	MS dispatch	MS transit country	MS destination
B	MS dispatch	Non EU transit country	MS destination
C	MS dispatch	MS transit country	Non EU destination
D	Non EU dispatch	MS transit country	MS destination
E	non EU dispatch	MS transit country	Non EU destination

The following context also occurs and is regulated by specific provision, but falls outside the scope of the analysis:

F	MS dispatch	Non EU transit country	Non EU destination
G	Non EU dispatch	Non EU transit country	MS destination

The more important aspects of the procedures, regarding transit, include:

Case	Administrative period for consent or objection	Administrative period for consent or objection in case of pre-authorised facilities	Possibility for tacit consent	Specific provisions as regards customs
A	30 days	7 days	Yes	No
B	60 days for disposal 30 days for recovery	60 days for disposal 30 days for recovery	No for disposal Yes for recovery	No
C	30 days	n.a.	No	Yes
D	30 days	7 days	No	Yes
E	30 days	7 days	No	Yes

Market context

A rising trend in transit operations is observed. In Belgium, data from the competent authority for transit show how the number of files raised by more than 50% the last 5 years. About 20% of all notified shipments in the EU may involve transit countries different from the country of dispatch or of destination. This represents about 3.7 million tonnes on a total of 18 million tonnes. Of shipments involving transit, type A is the most occurring, while type B is unexpectedly highly represented. Type D represents about 7% of the cases while type C occurs only very occasionally. On type E, no reports and thus no data are available in the dataset.

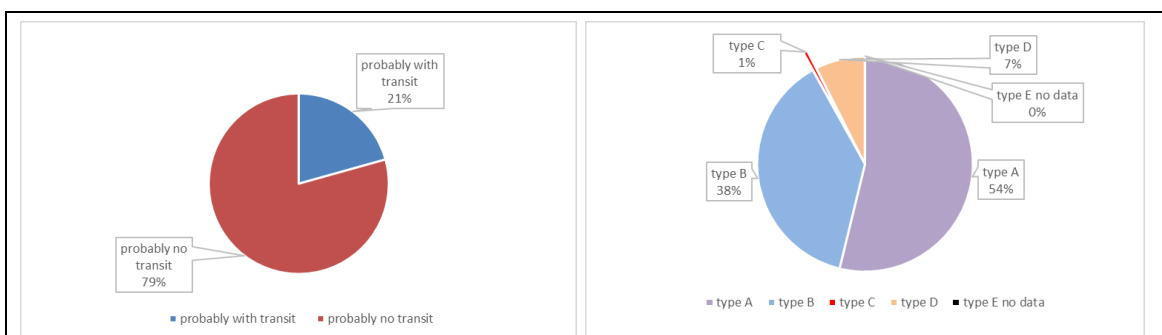


Figure 11-15: Occurrence of different types of transit shipment

Sources: Eurostat; 2015c

Potential market distortion

Competent authorities of transit Member States have a limited but existing role in the administrative deployment of shipments under notification procedure. They can evaluate the completeness of the notification file, they can raise specific conditions or objections, they can deliver written or tacit consents, and they have an inspection role limited to their territory. Furthermore national or regional authorisations, subscription in registries or reporting duties can occur. "Application by national authorities of the provisions concerning waste shipments through transit countries" ended up in the yourvoice questionnaire as the fourth most important obstacle, and the first most important topic related directly to the waste shipment regulation. The topic also was cited frequently in the open questions on which problems needed to be tackled by priority.

Evaluation

Administrative delays

When administrative delays would lead to a lower ranking of waste on the waste hierarchy or hinder resource efficiency or the circular economy, it may be considered a distortion. The impact of transit countries on the delays of the procedure is twofold:

- Competent authorities for transit have the right to request additional information and can in this way delay the reception of the completed notification file. Information can be requested on type and duration of the authorisation of recovery or disposal facility, copy of their permit, measures to ensure transport safety, transport distance, intermodal transport transfer places, costs of transport, registration of the carrier(s), chemical analysis of the composition of the waste, production process of the waste and treatment process. Such a request for information blocks the further administrative procedure until the authority has received sufficient information or sufficiently documented guarantee on the environmentally sound management of the waste and its shipment.
- When competent authorities of transit do not prepare their written consent, conditional consent or objection before 30 days, the procedure is blocked until these 30 days are passed, waiting for the timeline of tacit consent.

The interviewed responsible for transit waste shipment in Belgium sees the main explanation for administrative delay in the incompleteness of transport documents, received from the country of dispatch. Notification procedures can be time consuming, often depending on the quality of the notification file or on the

interaction between Member States, but the theoretical delaying impact of a transit country in a regular procedure is only minimal.

Neither via stakeholder consultation nor via literature search could elements be detected proving that the choice of waste treatment method is influenced by the administrative procedure. To the allegation of administrative delays by transit authorities, it can be concluded that the waste hierarchy is not distorted.

When transit countries request additional information due to incomplete files, the delaying impact of a transit country can lead to considerable financial losses for the notifier¹⁰⁹, but the distorting factor is not the action of the transit country but the quality of the notification file and thus the responsibility of the notifier.

Modifications of transport features

Extra administrative effort is requested to document each modification of transport features (e.g. change of transport routes). Administrative burden is among others caused by the non-automated way, using letters and faxes, to report on non-essential changes in the notification.

Non harmonised application of the procedure

Authorities from different Member States may use non-harmonized administrative procedures with non-harmonized paper work, or apply different interpretation/implementation of legislation.

- Article 28 of the Waste Shipment Regulation regulates disagreement on the classification of the waste (waste/ no waste, amber/green or recovery/disposal). The article however only refers to disagreements between authorities of dispatch and destination, not mentioning authorities of transit.
- Transit countries may freely choose between written or tacit consent. This choice is not regulated and EU-level guidance is missing on when to use the tacit or written approach.
- The real impact of transit authorities is often not within the consent or objection decisions, for which they are bound by the limited options in articles 11 and 12, but in the analysis of completeness of a notification file in accordance with article 4.3 and annex II part 3 of the Waste Shipment Regulation. This analysis on completeness is not regulated in the sense of articles 11 or 12, and can be used freely to guide a notifier towards a fully transparent and complete file sufficiently assuring environmentally sound management and transport of the waste. The Belgian authority for transit witnesses on such use of article 4.3.

Specific provisions by transit countries

- Differing national or regional waste transport permits or registrations in line with articles 25 and/or 26 of the Waste Framework Directive can make the preparation of a notification file burdensome.
- Some countries do not legally accept the principle of 'tacit consent' by the transit countries, e.g. METI, the Japanese Ministry of Economy, Trade and Industry always need a written consent from the competent authorities of the transit countries. This specific provision is distorting the waste market, as many competent authorities in Europe like ILENT (the Netherlands) and the Environment Agency (U.K.) never give explicit written consent for waste transiting via one of its ports. This situation refers to cases C and D.

¹⁰⁹ A respondent calculated a pre-financing burden of financing USD \$30.0 - \$45.0 million in the case of a delayed shipment of thermally treated, dry powdered material containing platinum, palladium nickel & rhodium from the USA to Germany

When specific provisions by transit countries are duly motivated and are not inspired by e.g. protectionism, they are not to be seen in general as a market distortion. In individual cases the policy or administrative approach of a Member State may still be a cause of distortion that has to be tackled at individual basis.

Impacts

The case is not regarded as a distortion of the efficient functioning of the waste market, due to the minimal impact on the length of the administrative procedure and specific provisions in transit countries on the choice of waste treatment method (and thus the waste hierarchy).

An extended long administrative procedure is mainly caused by incomplete notifications (responsibility of the notifier), or caused by the functioning of the national administration in the country of dispatch (responsibility of the competent authority of dispatch). None of these aspects are caused by the competent authority of transit. The above mentioned incomplete notifications are not caused by a policy or legislative act and fall out of the scope of the definition of a market distortion for this project. Nevertheless optimisation is possible.

Policy advice

- The number of days for the transiting country to provide the acknowledgement of a written consent, conditional consent or objection could be diminished, to 20 instead of 30 days. Also tacit consent could be reduced to 20 days. This will however have only a limited effect in the total administrative delay.
- The notification from countries of departure is in many cases not complete, which adds administrative effort (and delays) in the transit Member State. Support and guidance to increase notification file quality and transparency can be offered.
- Harmonisation of national or regional procedures for registering or permitting waste transport may simplify the procedure, as well as mutual acceptance of a Member State's registration by other Member States.
- The practical application of notification requirements would be significantly enhanced by an electronic system. Waste shipments should be tracked electronically. Every container should be identifiable, whether shipped by railway, ship or truck. There is urgency for a common/interoperable system before Member States develop many incompatible systems. A top down approach, patronized by the European Commission, could be effective.
- To reduce administrative burden, it can be argued that not every involved Member State should always be required to register all administrative shipment data after consent has been given, and especially for waste types that do not pose any particular risk. The interview with the Belgian competent authority for transit suggested however that transit countries can play an important role in quality assurance of the notification file, and are therefore an added value for environmental sound management of the shipped waste.
- The application of art 13.2 and art 17 could be harmonized by developing an enhancing ICT automated message exchange to facilitate minor adaptations to approved shipments.

The implementation of the mentioned articles of the WSR falls within the subsidiarity principle. Member States are the most appropriate actors to deal with the problem. National authorities could optimize the quality and completeness of transport documents, before transferring them to transit countries. In this way, back and forth exchanging of documents can be decreased. The European Commission can contribute to a better administrative procedure by enhancing the quality of

notifications through more detailed and harmonized guidelines. The Commission could also facilitate the co-operation between competent authorities of the Member States, and facilitate interoperability of ICT systems for administrative data exchange. Finally the Commission could harmonise the nationally or regionally registration or permitting of waste transport companies, and arrange for EU-wide recognition of registrations made by any Member State.

11.1.6.2 Full case study report

The Waste Shipment Regulation's requirements that waste shipment notifications have to be transmitted through transit countries result in delays for companies having to await the decisions of transit countries. This is acclaimed to distort waste market functioning.

The following sources have been consulted to analyse this case:

- Waste Market Distortions interim report including literature research,
- interviews with 15 stakeholders,
- outcomes of the stakeholder workshop on 21/5,
- EUROSTAT and Basel Convention statistics
- Expert interview (Ms. Ann van Poucke, official responsible for transit waste shipment in Belgium within the national and later the interregional competent authority in Belgium).

CONTEXT

Legal context for transit countries

According to article 2 point 32 of the Waste Shipment Regulation 'transit' means a shipment of waste or a planned shipment of waste through one or more countries other than the country of dispatch or destination.

The scope of the exercise is limited to the intra-EU market, which means that following transit contexts are to be considered:

A	MS dispatch	MS transit country	MS destination
B	MS dispatch	Non EU transit country	MS destination
C	MS dispatch	MS transit country	Non EU destination
D	Non EU dispatch	MS transit country	MS destination
E	non EU dispatch	MS transit country	Non EU destination

The following context also occurs and is regulated by specific provision, but falls outside the scope of the analysis:

F	MS dispatch	Non EU transit country	Non EU destination
G	Non EU dispatch	Non EU transit country	MS destination

Case A

In case A a notification procedure is requested for all transfrontier shipment for disposal, independent of the nature of the waste, and for all amber listed of non-listed wastes, independent of its waste treatment method. When green listed waste is

shipped for recovery or recycling a general information requirement with contract and identification form is applicable.

Member States of transit have the following role in the procedure:

- Transit Member States will receive from the competent authority of dispatch within three working days copies of the notification (art 7.1)
- They can request within three working days information or documentation to be added to the notification file (art 4.3 and art 8.1)
- Unlike the competent authority of reception, the competent authorities of transit do not have to acknowledge reception of the completed notification. (art 8.1)
- Transit Member States will receive acknowledgement of reception from the competent authority of destination. (art 8.2)
- They can provide within 30 days of the acknowledgement a written consent, conditional consent or objection regarding the intended shipments. (art 9.1). For shipments to preconsented facilities this period is limited to 7 days (art 14.4)
- Tacit consent is assumed if competent authorities of transit do not react within 30 days. Tacit consent expires after a year (art 9.1, art 9.5). In case of shipments to preconsented facilities, it will exhaust after 3 years (art 14.2).
- Shipments can only start after reception of all consents from transit Member States or after expiry of the 30 days period for tacit consent. (art 9.6). For shipments to preconsented facilities this period is limited to 7 days (art 14.4)
- Consents, including tacit consents, can be withdrawn if defined irregularities occur (art 9.8)
- Conditions may be imposed in writing by transit Member States in line with articles 11 and 12, or in line with existing internal waste transport conditions within their jurisdiction. These latter conditions may not be more stringent than for internal shipments. (art 10.1 and 10.2)
- Specific objections may be imposed against shipments for disposal according to article 11. Transit Member States can only refer to a limited set of objections:
 - The planned shipment or disposal would not be in accordance with national legislation relating to environmental protection, public order, public safety or health protection concerning actions taking place in the objecting country.
 - The notifier or the consignee has previously been convicted of illegal shipment or some other illegal act in relation to environmental protection.
 - The notifier or the facility has repeatedly failed to comply with Articles 15 and 16 in connection with past shipments.
 - The planned shipment or disposal conflicts with obligations resulting from international conventions concluded by the Member State(s) concerned or the Community.
- Specific objections may be imposed against shipments for recovery according to article 12. Transit Member States can only refer to a limited set of objections:
 - The planned shipment or recovery would not be in accordance with national legislation relating to environmental protection, public order, public safety or health protection concerning actions taking place in the objecting country.

- The notifier or the consignee has previously been convicted of illegal shipment or some other illegal act in relation to environmental protection.
 - The notifier or the facility has repeatedly failed to comply with Articles 15 and 16 in connection with past shipments.
 - The planned shipment or recovery conflicts with obligations resulting from international conventions concluded by the Member State(s) concerned or the Community.
- If due to unforeseen circumstances the intended route of the shipments under a general notification cannot be followed, the transit Member States have to be informed. Inclusion of a supplementary transit Member State is not possible and will lead to a separate notification. (art 13.2). Also if other essential changes occur, a new notification may be necessary (art 17)
 - In case of interim recovery or disposal operations in a transit Member State, the competent authority will receive confirmations of reception and of interim treatment of the waste from the involved facility and through this facility conformation of treatment in the subsequent final step will be forwarded to the transit authority. (art 15)
 - In case of interim recovery or disposal operations in a transit Member State, a new notification is needed for the subsequent transport to the final Member State of destination. (art 15 f)
 - At least three days before a shipment takes place, the transit Member State will receive a copy of the partially completed movement document, indicating a.o. the exact date and quantity of the shipment (art 16 b).
 - Maximum three days after a shipment took place, the transit Member State will receive a copy of the completed movement document, indicating a.o. the exact date and quantity of reception of the shipment (art 16 d).
 - Maximum one year after the shipment and 30 days after completion of the recovery or disposal, the transit Member State will receive a copy of the certificate of recovery or disposal (art 16 e).
 - In case of shipments with general information requirements instead of notification procedures, the competent authority of the transit Member State is entitled to request a copy of the contract from the person who arranges the shipment (art 18.2)
 - For inspection, enforcement, planning and statistical purposes, Member States may in accordance with national legislation require information on shipments covered by general information requirements, also in case of transit (art 18.3).
 - The competent authority of the transit Member State has to archive all exchanged documents for at least three year (art 20).
 - The competent authority of transit has to advice the competent authority of dispatch in writing if a consented shipment of waste cannot be completed. (art 22.2) or if it is illegal (art 24.1). The authority may reach an agreement on recovery or disposal of the waste in an alternative way in the country of destination or elsewhere. (art 22.3). Arrangements are to be made for the safe storage of the waste pending its return or recovery or disposal in an alternative way. (art 22.9, 24.7)
 - In particular cases where responsibility for an illegal shipment cannot be imputed to either the notifier or the consignee, the competent authorities of transit where the waste shipment is found shall cooperate to ensure that the waste in question is recovered or disposed of. (art 24.5).
 - In exceptional cases, and if the specific geographical or demographical situation warrants such a step, Member States may conclude bilateral agreements making

the notification procedure for shipments of specific flows of waste less stringent where waste is shipped from and treated in the country of dispatch but transits another Member State. (art 30)

Case B

All above mentioned provisions are applicable, except:

- For shipments for disposal a country of transit cannot give a tacit consent, but it has a period of 60 days to provide a written consent, provisional consent or objection. (art 31)
- For shipments for recovery through transit countries for which the OECD Decision does not apply, the same provision applies as for disposal (art 32)
- For shipments for recovery through transit countries for which the OECD Decision does apply a tacit consent can be assumed after 30 days. (art 32)

Case C

Export for disposal to non EFTA countries are forbidden. The same provisions as in case A are applicable for export for disposal to EFTA countries, except:

- The competent authority of transit in the Community needs to acknowledge the receipt of the notification to the notifier and send a stamped copy of their decisions to consent to the shipment to the customs office of export and to the customs office of exit from the Community. (art 35.3)
- If a customs office discovers an illegal shipment, it shall inform the competent authority in the country of the customs office which shall inform the competent authority of dispatch and ensure detention of the waste. (art 35.6)

Export of hazardous waste for recovery to countries for which the OECD Decision does not apply is banned. Green listed waste from annexes III and IIIA can be exported for recovery in these countries in accordance with the procedures defined in Regulation EC N° 1418/2007. If a notification procedure is requested, the same provisions as for export for disposal in EFTA countries are applicable. (art 37)

Export of hazardous waste for recovery to countries for which the OECD Decision does apply, the same provisions as for export for disposal in EFTA countries are applicable. (art 38.3)

Case D

Imports for disposal are prohibited except from a country Party to the Basel Convention or with an agreement in place or from other areas during situations of crisis or war (art 41).

If not prohibited, the same provisions as in case A are applicable for import, except:

- The competent authority of transit in the Community needs to acknowledge the receipt of the notification to the notifier and to the other competent authorities (art 42.3 a) and it shall send a written and stamped copy of their decision to consent to the shipment to the customs office of entry into the Community (art 42.3 b).
- The customs office of entry into the Community shall send a stamped copy of the movement document to the competent authorities of transit in the Community, stating that the waste has entered the Community (art 42.3 d)
- If a customs office discovers an illegal shipment, it shall inform the competent authority in the country of the customs office which shall inform the competent authority of dispatch and ensure detention of the waste. (art 42.5)

Imports for recovery are prohibited except from an OECD Decision country or a country Party to the Basel Convention or with an agreement in place or from other areas during situations of crisis or war (art 43). For imports for recovery from an OECD decision or crisis/war country, the same provisions as for import for disposal as described above are applicable (art 44), as well as for imports for recovery from a non OECD decision country party of the Convention of Basel (art 45).

Case E

In case of transit through the European Union of a shipment, the same provisions apply as for import from a country party of the Basel convention for disposal in the Union (art 47, 48), except:

- The first and last competent authority of transit in the Community shall send a stamped copy of the decisions to consent to the shipment or, if they have provided tacit consent, a copy of the acknowledgement to the customs offices of entry into and exit from the Community respectively (art 47).
- As soon as the waste has left the Community, the customs office of exit from the Community shall send a stamped copy of the movement document to the competent authorities of transit in the Community, stating that the waste has left the Community (art 47).

Summary of the more important aspects

Case	Administrative period for consent or objection	Administrative period for consent or objection in case of pre-authorised facilities	Possibility for tacit consent	Specific provisions as regards customs
A	30 days	7 days	Yes	No
B	60 days for disposal 30 days for recovery	60 days for disposal 30 days for recovery	No for disposal Yes for recovery	No
C	30 days	n.a.	No	Yes
D	30 days	7 days	No	Yes
E	30 days	7 days	No	Yes

Market context

Direct and available statistics on transit at EU level are not available. We use the non-validated data from the reporting in the frame of the Basel Convention, as taken over and disseminated by EUROSTAT in accordance with article 51 of the Waste shipment Regulation. Data for 2012 are used, based on reported import of waste via notification procedure, completed with export data for export ex EU for which no importing reporter is included in the dataset. Overseas shipments through harbours are considered as having no EU transit Member State for those sea-boarding Member States that have available harbours. Probable overland shipments are evaluated based on its geography whether transit through third transit member States would be necessary, or whether transport through mainly Switzerland would be logical. Of course such secondary data can have large confidence intervals and need to be handled with care, but the quantity of available raw data may guarantee reliable indications.

About 20% of all notified shipments in the EU may involve transit countries different from the country of dispatch or of destination. This represents about 3,7 million tonnes on a total of 18 million tonnes.

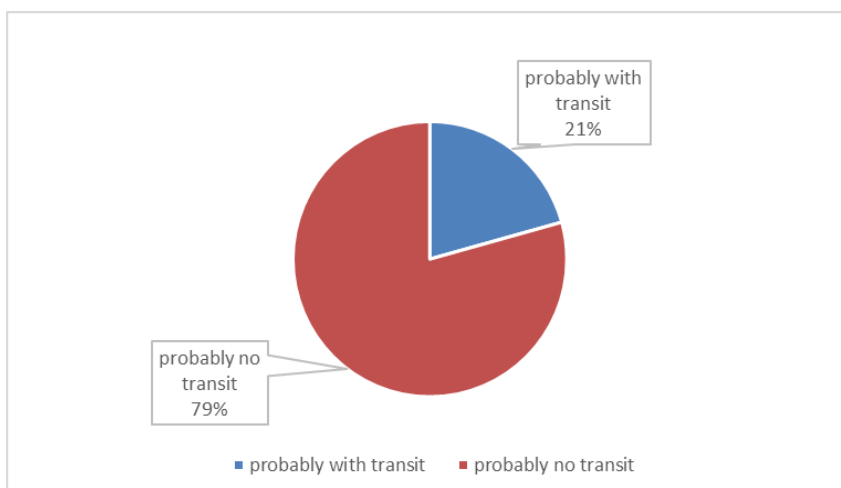


Figure 11-16 : Waste shipment reported by MS to Basel Convention secretariat, in 2012 (source: Eurostat, 2015c)

Of shipments involving transit, type A is the most occurring, while type B is unexpectedly highly represented. Type D represents about 7% of the cases while type C occurs only very occasionally. On type E, no reports and thus no data are available in the dataset.

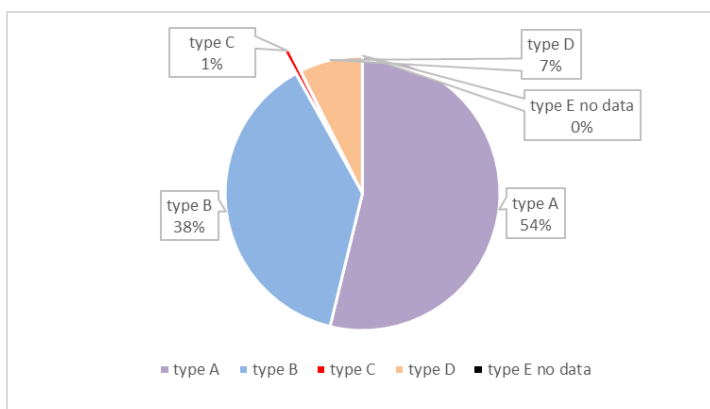


Figure 11-17 : Transit waste shipment reported by MS to Basel Convention secretariat, in 2012 (source: Eurostat, 2015c)

A rising trend in transit operations is observed. In Belgium, for example, the number of files raised by more than 50% the last 5 years.

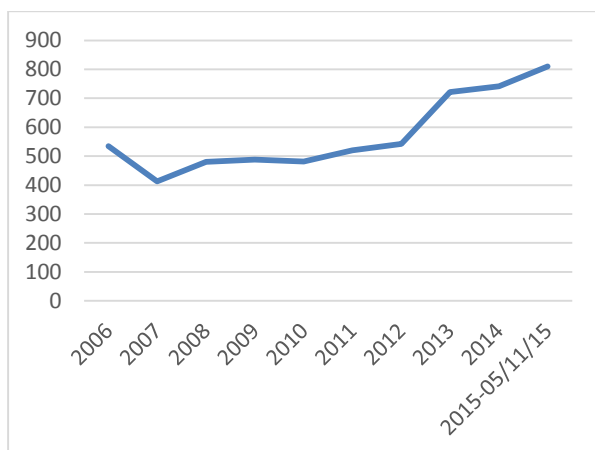


Figure 11-18 : Overview of number of treated files of waste transit for Belgium (source: IVC, 2015)

ALLEGATION ON POTENTIAL MARKET DISTORTION

Description

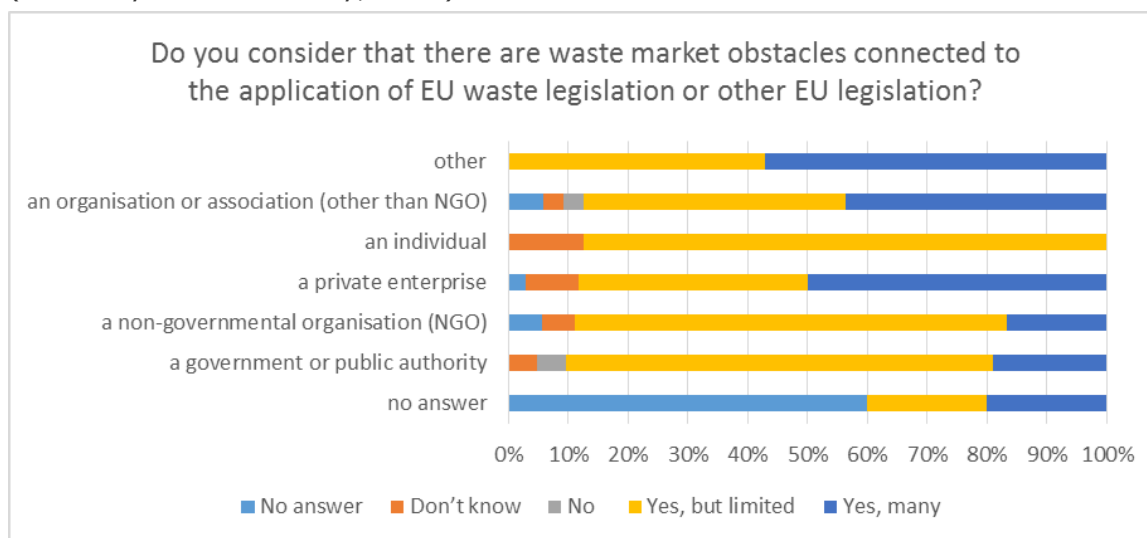
Competent authorities of transit Member States have a limited but existing role in the administrative deployment of shipments under notification procedure.

- Transit countries have the possibilities to raise specific conditions or objections, which are binding but which are limited to a much smaller range of possibilities than Member States of dispatch or destination.
- Because they have to deliver written or tacit consents for each shipment, they can have impact on the speed of the notification procedure. When they opt for tacit consent, the notification can be approved no sooner than 30 days (or in exceptional case 60 days) after submission.
- Transit countries have to be provided, for information purpose, with documents prior to and during the shipments.
- Transit countries have an inspection role limited to their territory, but can impose national or regional provisions on waste transport equal to provisions for internal transports. This can include authorisations, subscription in registries or local reporting duties.

The claim for waste market distortion comprehends both the administrative delays by the authorities of the transit countries as their specific transport provisions (e.g. authorisations).

In the yourvoice survey a large majority of respondents indicated that there are obstacles to the functioning of waste markets connected to the application of EU waste legislation or other EU legislation. Companies and trade associations felt that there were many problems, whereas public authorities and NGOs felt that there were few problems.

Table 11-6: General evaluation of waste market obstacles by different stakeholders (source: yourvoice survey, 2015)



When asked for the drivers or causes of these regulatory failures or obstacles to the efficient functioning of waste markets, a ranking of possible causes was made up. "Application by national authorities of the provisions concerning waste shipments through transit countries" ended up as the fourth most important obstacle, and the first most important topic related directly to the waste shipment regulation (WSR).

Table 11-7: Ranking of regulatory failures/obstacles to the efficient functioning of waste markets (source: yourvoice survey; 2015)

Driver/ cause ranking	Score
d. Different interpretations of the definition of 'waste' according to the WFD	723
e. Diverging classifications of waste as 'hazardous' or 'non-hazardous' (WFD)	616
i. Application of national end-of-waste criteria established in accordance with the WFD, see further Article 6(4) of the directive.	589
b. Application by national authorities of the provisions concerning waste shipments through transit countries (WSR).	535
a. Application of the system of notification- and consent requirements (WSR)	509
g. Application of the 'proximity principle' resulting in an outcome which is inconsistent with the waste hierarchy (WFD and WSR).	482
f. The distinction between 'recovery' and 'disposal' (WFD)	473
h. Divergent application of the so-called 'R-codes', i.e. the recovery operations listed in Annex II to the WFD	457
c. Other controls imposed on waste or waste shipments by application of EU waste legislation	388
j. Application of the grounds for reasoned objections to shipments of waste for recovery, or the requirements for ESM	325

The topic also was cited frequently in the open questions on which problems needed to be tackled by priority.

EVALUATION

Administrative delays

The mere administrative burden is not a criterion to define a distortion, and falls outside the scope of this project (see introduction chapter in the inception report).

Only when administrative constraints would lead to a lower ranking of waste on the waste hierarchy or hinder resource efficiency or the circular economy, it may be considered a distortion. Specifically with regards to waste shipment, the markets can be distorted in case these treatment methods are either not available or if there is insufficient capacity locally or national.

Many respondents to the yourvoice survey include the burdensome and time consuming procedure of waste transit as a general complaint. Repeated remarks refer to "Too heavy administrative burden linked to notification and transit procedures under the WSR" or to the "effort and duration of the notification procedure, which depends very strongly on the competent authorities." The impact of transit countries on the timeliness of the procedure is twofold:

- Each of the involved competent authorities has the right to request additional information and can in this way delay the reception of the completed notification file. Competent authorities can request supplementary information or documentation within three working days of receipt of the notification (art 4.3 and art 8.1 of the Waste Shipment Regulation). Although the time to request additional information is very limited, the competent authority for transit in Belgium acknowledges that it uses this possibility frequently, and even uses it as they major instrument to control shipments, above the application of articles 11 and 12 of the Waste Shipment Regulation. Such a request for information blocks the further administrative procedure until the authority has received sufficient information or sufficiently documented guarantee on the environmentally sound management of the waste and its shipment.
- When competent authorities of transit do not prepare their written consent, conditional consent or objection before 30 days, the procedure is blocked until these 30 days are passed, waiting for the timeline of tacit consent. In theory a country of transit can in this way delay the administrative procedure and thus distort the market functioning. However this period administratively overlaps with the period in which Member States of dispatch and destination have to prepare their consent or objection, and they often need this full period of 30 days to evaluate sometimes complicated files. The theoretical distorting impact transit countries can have is therefore limited.

Three scenarios are possible with regards to administrative delays.

- One in which transit countries do react in a timely manner to notification files, in case of pre-consented facilities before 7 days, in other cases before 30 (or 60¹¹⁰) days.
- One in which transit countries are not actively following up (part of) the waste shipments and apply more or less systematically the system of tacit content, which leads to the full use of the available 30 or 7 days, and
- One in which transit countries actively discourage transit waste shipments through their territory. One respondent claims "The transit through Hungary is almost impossible", a statement we could however not confirm or disprove. Although the possibility exists for transit countries to use the legislation in such a distortive way, insufficient evidence occurs to evaluate such a claim.

The interviewed responsible for transit waste shipment in Belgium sees the main explanation for administrative delay in the incompleteness of transport documents, received from the country of dispatch. Notification files can and will only be approved when they are complete and correct. In this sense, the transit procedure can be

¹¹⁰ Art. 31 of the Waste Shipment Regulation

regarded as a “quality check” of the transport documents (and broadly the transport activity itself, by detecting fraud for example). In some cases, Member States repeatedly omitted to send notifications to Belgium as a country of transit.

During the interview it was made clear that extra administrative effort is requested to document each modification of transport features (e.g. change of transport routes). If due to unforeseen circumstances the intended route of the shipments under a general notification cannot be followed, the transit Member States have to be informed. Inclusion of a supplementary transit Member State is not possible and will lead to a separate notification. (art 13.2). Also if other essential changes occur, a new notification may be necessary (art 17). These specific provisions are of relevance, as a lack of information on the transit route diminishes the possibilities of targeted inspection. Administrative burden is among others caused by the non-automated way, using letters and faxes, to report on non-essential changes in the notification.

Conclusion:

Notification procedures can be time consuming, often depending on the quality of the notification file or on the interaction between Member States, but the theoretical delaying impact of a transit country in a regular procedure is only minimal. Neither via stakeholder consultation nor via literature search could elements be detected proving that the choice of waste treatment method is influenced by the administrative procedure. To the allegation of administrative delays by transit authorities, it can be concluded that the waste hierarchy is not distorted. When transit countries request additional information due to incomplete files, the delaying impact of a transit country can be considerable, but the distorting factor is not the action of the transit country but the quality of the notification file and thus the responsibility of the notifier.

Non harmonised application of the procedure

Respondents of the yourvoice survey indicate how “authorities from different Member States use non-harmonized administrative procedures with non-harmonized paper work.”

“We often notice a difference in interpretation/implementation of legislation by several Member States or by the different regions in the Member States, which often hinders transport if a material has to transit through a certain country. According to respondents, differences between UK, Germany, the Netherlands, Belgium and France are considered small. Big differences occur between Greece, Portugal, Spain and the above.

Some specify the issue:

- “Consequences of a non-harmonized status of waste and by-products across Member States complicates and delays the transport of waste for potential recycling and by-products in countries of transit”.
- “Today, the process on pre-consented facilities (Article 14, No 1013/2006) reduces the period for objection of waste shipments from the competent authorities from 30 to 7 days, and if there is no objection within the 7 days period, tacit consent applies. /.../ However, in practice this is challenging as authorities have already problems in meeting the deadline of 7 days (even with the ordinary 30 days period procedure) with many exhaustive delays in some cases.”

Article 28 of the Waste Shipment Regulation regulates disagreement on the classification of the waste (waste/ no waste, amber/green or recovery/disposal). The article however only refers to disagreements between authorities of dispatch and

destination, not mentioning authorities of transit. This means that transit countries in principle cannot block shipment of by-products because they disagree with the classification as by-product instead of waste. They can only block such shipments legally if referring to conditions imposed as for internal waste transport within their jurisdiction (art 10.2). This national interpretation may increase complexity for the notifier and increase the time and effort needed for of the waste transport procedure.

Transit countries may freely choose between written or tacit consent. The interviewed responsible for transit waste shipment in Belgium commented on the disadvantages of the tacit consent provision, as several Member States systematically apply tacit consent, for each notification.

This choice is not regulated and EU-level guidance is missing on when to use the tacit or written approach. A possible different approach between transit Member States on when to give a consent, a conditional consent or an objection refers to the subsidiarity principle and the ability of Member States to develop their own environmental policy. For example in Belgium, in more than 99% of the cases, consent is given. In case of an objection, mainly illegal transport or other types of irregularities have been detected (e.g. a case in which waste was transported from FR to NL via sea-containers, although no transport via waterways is notified).

The real impact of the Belgian transit authority is not within the consent or objection decisions, for which they are bound by the limited options in articles 11 and 12, but in the analysis of completeness of a notification file in accordance with article 4.3 and annex II part 3 of the Waste Shipment Regulation¹¹¹. This analysis on completeness is not regulated in the sense of articles 11 or 12, and can be used freely to guide a notifier towards a fully transparent and complete file sufficiently assuring environmentally sound management and transport of the waste.

Conclusion:

Different regimes in different Member States generate administrative complexity which hinders actors active in a crossborder waste market. Market distortions through non harmonised application may refer to non-correct interpretation or implementation of the provisions of the Regulation, and could lead to court actions or infringements. No such situations have been identified in this case.

To the allegation of non harmonised implementation of legislation by transit authorities, it can be concluded that the waste hierarchy is not distorted.

Specific provisions by transit countries

Extra transport provisions

Member States require specific waste transport permits or registrations in line with articles 25 and/or 26 of the Waste Framework Directive. All Member States apply nationally or regionally defined systems. Even between regions of the same Member State different transport provision can apply (e.g. required transfer permit in Walloon region, but a simple registration in the Flemish region of Belgium). This extra administrative provision is burdensome but does not seem to have an impact on the choice of the waste treatment option.

^tTransit countries can request within three working days information or documentation to be added to the notification file. The annex foresees a long list of items on which competent authorities, including transit countries, can request additional information: type and duration of the authorisation of recovery or disposal facility, copy of their permit, measures to ensure transport safety, transport distance, intermodal transport transfer places, costs of transport, registration of the carrier(s), chemical analysis of the composition of the waste, production process of the waste, treatment process.

Non acceptance of tacit consents

Some countries do not accept the principle of 'tacit consent' by the transit countries; a respondent of the yourvoice survey explains: "METI, the Japanese Ministry of Economy, Trade and Industry always need a written consent from the competent authorities of the transit countries. This specific provision is distorting the waste market, as many competent authorities in Europe like ILENT¹¹² (the Netherlands) and the Environment Agency (U.K.) never give explicit written consent for waste transiting via one of its ports. This situation refers to cases C and D (see paragraph 0.). Delivering a tacit consent is allowed according to the European law and even according to the OECD Decision C(2001)107/FINAL concerning the Control of Transboundary Movements of Wastes Destined for Recovery Operations. Japan apparently applies a different strategy, by requesting always a written consent. This generates a market distortion when shipments between Japan and EU Member States are necessary to obtain high level treatment on the waste treatment hierarchy, resource efficiency on the recycled materials and a transition towards a circular economy.

Conclusion:

When specific provisions by transit countries are duly motivated and are not be inspired by e.g. protectionism, they are not to be seen in general as a market distortion. In individual cases the policy or administrative approach of a Member State may still be a cause of distortion that has to be tackled at individual basis (e.g. the case of Japan where written consent is obliged for each transport).

IMPACTS

Is the case a real and an important distortion of the efficient functioning of the waste market?

The case is not regarded as a distortion of the efficient functioning of the waste market, due to the minimal impact on the length of the administrative procedure and specific provisions in transit countries on the choice of waste treatment method (and thus the waste hierarchy). An extended long administrative procedure is mainly caused by incomplete notifications (responsibility of the notifier), or caused by the functioning of the national administration in the country of dispatch (responsibility of the competent authority of dispatch). None of these aspects are caused by the competent authority of transit. The above mentioned incomplete notifications are not caused by a policy or legislative act and fall out of the scope of the definition of a market distortion for this project. Nevertheless optimisation is possible.

What (legal, administrative, economic, cultural ...) factors are influencing the occurrence and the impact of the distortion?

Legal:

The modality of tacit consent in Art. 9 of the WSR extends the administrative procedure with 30 days¹¹³. Shipments can only start after reception of all consents from transit Member States or after expiry of the 30 days period for tacit consent. The provision of tacit consent may cause delays and distort the administrative procedure. The extent to which decisions on the waste treatment option are influenced by the application of Art. 9 on tacit consents is expected to be minimal. The same counts for Art 13.2 and art 17 on the strict notification requirements in case of transport modifications.

¹¹² Inspectie Leefomgeving en Transport

¹¹³ For shipments to preconsented facilities this period is limited to 7 days.

Economic:

Administrative delays have economic effects, both for the expeditor as the receiving party. If transit countries do not answer in a timely manner to waste transfer notifications, it causes long delays and costly waste interim storage. One respondent to the yourvoice survey illustrated this in a quantitative way:

Shipping of thermally treated, dry powdered material containing platinum, palladium nickel & rhodium from the USA to Germany.

This material, a sludge from various catalyst production operations, was thermally treated in the US operation to remove all volatiles & moisture. The only 'hazardous' element contained was nickel. Every other week or more a container was shipped, containing approximately USD \$2.5 million of platinum group metals. The customer who generated the material had been paid for the precious metals content of their secondary scrap catalyst by the refining company in the US. So on average, USD \$5.0 million was being 'fronted' or financed by the US refinery operation. The US refinery had to send the thermally treated material to their 'sister' plant in Germany for final metals recovery. The normal transit time from the eastern region of the US to central Germany was a total of 4 weeks, door-to-door. The normal processing time once the material arrived in the German plant facility was another 8-10 weeks. Meaning that the company had financed USD \$5.0 million for 90 days/3months. However, the "prior notification & approval" process meant that an additional 3-4 or more months were inserted into this time line. Resulting in the financing costs for the USD \$5.0 million now being lengthened to 6-9 months, or more. Considering that the material was constantly flowing through the system, this meant that at any point in time, the company (US plant & sister plant in Germany) were financing USD \$30.0 - \$45.0 million or more at any one time.

Although the cited case contains some inconsistencies¹¹⁴, the case illustrates how loss of time equals loss of money and might create an incentive not to ship waste to the technically best treatment or recycling option but to search for less optimised solutions in ones homeland. Delays are clearly causing market distortions, but it has to be considered that these delays are in general not generated by the administrative process as described in the Regulation with its fixed deadlines of 3, 7 or 30 calendar days, or by other factors like preparatory time, time for national waste transport permits/registrations or by incomplete notification files which depend on the quality of the file.

POLICY ADVICE

The following lessons learned are applicable to the EU Member States:

- The notification from countries of departure is in many cases not complete, which adds administrative effort (and delays) in the transit Member State. Support and guidance to increase notification file quality and transparency can be offered.
- The possibility of tacit consent may extend the administrative procedure, but this has only a limited effect.
- Some specific national or regional provisions by transit countries complicate the transport procedure and may distort markets. Harmonisation of procedures for

¹¹⁴ The "prior notification & approval" process meant that an additional 3-4 or more months were inserted into this time line: this is correct if also counting for preparatory work of the notifier, and for delays caused by incomplete files, as the legal time of obtaining consent or objection is fixed at 60 days.

registering or permitting waste transport may solve this issue, as well as mutual acceptance of a Member State's registration by other Member States.

Although the allegation is not directly regarded/evaluated as a waste market distortion, it identifies some indirect distorting aspects linked to non-harmonized national legislation or administration. The following solutions can be envisaged in order to remove administrative burden:

- The practical application of notification requirements would be significantly enhanced by an electronic system. Waste shipments should be tracked electronically (e.g. RFID, GPS or similar technology). Every container should be identifiable, whether shipped by railway, ship or truck. There is urgency for a common/interoperable system before Member States develop many incompatible systems. The slow kickoff of the bottom-up EUDIN system¹¹⁵ for data exchange on notifications and transports between Belgium, Netherlands, Germany and Austria was caused by lengthy discussions on technical standards and ICT investments. A top down approach, patronized by the European Commission, would be much more effective.
- By adapting art 9.1 the number of days for the transiting country to provide the acknowledgement of a written consent, conditional consent or objection could be diminished, to 20 instead of 30 days for example.
- To reduce administrative burden, it can be argued that not every involved Member State should always be required to register all administrative shipment data after consent has been given, and especially for waste types that do not pose any particular risk¹¹⁶. The interview with the Belgian competent authority for transit suggested however that transit countries can play an important role in quality assurance of the notification file, and are therefore an added value for environmental sound management of the shipped waste.
- The application of art 13.2 and art 17 could be harmonized by developing an enhancing ICT automated message exchange to facilitate minor adaptations to approved shipments.

The implementation of the mentioned articles of the WSR falls within the subsidiarity principle, so Member States are the most appropriate actors to deal with the problem. National authorities could optimize the quality and completeness of transport documents, before transferring them to transit countries. In this way, back and forth exchanging of documents can be decreased.

The European Commission can contribute to a better administrative procedure by enhancing the quality of notifications through more detailed and harmonized guidelines. The Commission could also facilitate the co-operation between competent authorities of the Member States to help learn from (especially electronic) systems already in place or under development and help to ensure inter-operability of these systems. Finally the Commission could harmonise the nationally or regionally registration or permitting of waste transport companies, and arrange for EU-wide recognition of registrations made by any Member State.

¹¹⁵ <http://www.eudin.org/>

¹¹⁶ IEEP. (2011). Practicability and Enforceability of the Waste Shipment Regulation <http://www.ieep.eu/assets/959/Final-WSR-report.pdf>

11.2 Wider distortions of the EU's waste markets

11.2.1 Annex V.7 Case 5: Failure to implement the polluter pays principle in extended producer responsibility schemes

11.2.2 Headline report

The failure to implement the polluter pays principle in extended producer responsibility schemes in France, (in France producers cover only 75% of these costs.)

Legal context and basic principles, situating the problem

EPR is an environmental policy approach in which a producer's responsibility for a product is extended to the financial responsibility over the post-consumer stage of a product's life cycle. PPP or the polluter pays principle attributes this financial responsibility to the polluter. This apparent paradox is covered because EPR is a market mechanism: when producers partially redistribute their costs to the consumers, by including it in the final price for their products, EPR is able to respect the polluter-pays principle (PPP). Both producers and consumers have a responsibility in the waste generated, and both producers and consumers bear the costs for the waste management because producers add part of the costs for EPR to the overall price of their products.

The economic reasoning behind the EPR concept is to have producers internalising treatment and disposal costs so that they have an incentive to design products which last longer and are more easily and at lower costs recycled after use.

The EPR scheme for packaging in France was installed by its Waste Law 75-663 amended by Décret 92-377 of 1st April. Requirements for packaging PROs in France are defined by the Law 2009-967 of August 2009 relative to the implementation of the Grenelle environmental objectives. Permits for the PROs also include an objective of covering 80% of the net costs that is paid by local authorities for collection and treatment of packaging waste, which means that 20% still has to be carried by general public funds. In the French legislation, producers and consumers do not bear mutually the total end-of-life cost, but leave a part of this cost to general public funds.

Market context

Most of 7 screened packaging schemes studied in the recent EPR study (BIOIS; 2014a) reveal that 100% of net costs for separately collected waste are covered. This statement is valid with the exception of France (where 75% of the costs related to the management of separately and non-separately collected waste are estimated to be covered), and the UK (where there is no cost-coverage obligation, and where around 10% of the net costs are estimated to be covered by the EPR scheme).

In France a collective EPR scheme for household packaging waste is in use, via the PRO's Eco-Emballages and Adelphe. Local authorities are responsible for collection and sorting of household packaging waste, being reimbursed by the collective schemes. The household packaging recycling rate was 67,1% in 2014.

Taking into account the costs for collection, sorting, recycling and treatment, the system has a cost coverage of 74,8%, which is 5% below the legal objective of 80% cost coverage.

For each packaging unit, the contribution of producers to in the French EPR scheme is calculated by adding the contribution by weight to the contribution per unit. A 50% to 100% increase on the calculated contribution is applied when the packaging

is considered to be not easily recyclable.

Is non full cost coverage causing waste market distortions?

The French producers of packaging are confronted with 75% to 80% of cost coverage in the EPR system, while in most other Member States apart from the UK they have to cover 100% of the costs. The design and implementation of an EPR scheme should there at least ensure the coverage of the full net costs related to the separate collection and treatment of the end-of-life products. If the principle of full or 100% cost coverage is not respected, market distortions may occur due to a non-level cross border playing field. Moreover, by covering only 75% of these net costs, France may fail to implement the polluter pays principle. It is analysed beneath whether the French approach really leads to effective market distortions or not.

Analysis

Four key elements need to be taken into account:

- Although no full cost coverage of its packaging EPR scheme is attained, France is **not in breach** with any legal provision from the Waste Framework Directive. The Directive leaves space for Member States to organise EPR in the sense they think appropriate.
- France however appears to be not fully in line with the key philosophy of the polluter pay principle as part of the costs are to be covered by **general public funds**. The society, by means of the local collectivities, has to bear a part of the cost when a consumer disposes of an empty packaging or when a producer selects a non-sustainable packaging strategy. This can be perceived as an issue of social injustice.
- The limited cost coverage of 75% does **not lead automatically to** lower performance on the waste treatment hierarchy. Reaching recycling targets requests investments, but it does not matter who makes these investments. No apparent lower recycling performance can be observed in France that might be caused by its EPR system.
- The limited cost coverage can however be regarded as **non-compliant** with the principles of **PPP**, although local collectivities don't oppose against it according to a stakeholder interview. Ademe confirms that the cost sharing system with general public funds in France gives more impact to the collectivities to co-decide and manage the waste collection and treatment according their own policy views. EXPRA argues that this co-decision opportunities for collectivities does lead to lower recycling performances.

Extended producer responsibility has proven to be a key instrument in supporting the implementation of the waste hierarchy, because it can inspire companies to develop better and cheaper recyclable products, and because it sets up effective financing of separate collection and recycling of waste. When French companies only have to cover 80% of the costs, the incentive generated by EPR is relatively lower than with systems covering 100%. There is however no documentary evidence or statistical assumption that the French system would weaken the incentive for eco-design. Apart from the non-full cost coverage, France also applies in parallel a performing system of true-cost attribution or eco-modulation. This latter system strengthens the incentive for individual ecodesign and may compensate for the former system of non full cost coverage that might theoretically lower the incentive for individual eco-design.

France is not the only Member State of which the sum of the fees does not cover full waste management costs. In the UK, where also no cost coverage obligation is in

force, only around 10% of the net costs are by estimation covered by the EPR scheme. In Denmark no EPR is established and industry does not participate in a cost sharing system. Cost coverage and cost distribution are only one aspect contributing to an efficient and environmentally effective EPR scheme (next to the problem of freeriding, recycling targets, true-cost, ...)

Policy advice

Although the non full cost coverage is not leading to a waste market distortion, the following advice can be formulated to enhance cost efficiency and to harmonise EPR schemes across all EU Member States.

- Impose general rules and guiding principles for Member States to follow when implementing EPR-systems.
- Make a uniform cost coverage calculation system in the EU as all PRO's now use different criteria.
- Increase the objective to covering 100% of the net costs by adapting the French law 2009-967 of August 2009 relative to the implementation of the Grenelle environmental objectives
- Adapt the roles and responsibilities of the industry and local collectivities in order to increase efficiency and environmental performance.
- Define market-based reference costs for public infrastructure in order to avoid that PRO's divert a part of their costs to public services and do not take up the 100% cost coverage.
- Harmonise EPR schemes by setting minimum requirements. This could be
 - the attribution of a percentage of the fees going to Communication/awareness campaigns
 - making the PRO responsible for collection and treatment of all its waste, (incl. residual fraction)
 - Enhancing the effectiveness of the fight against free-riders through enforcement, data exchange, increased transparency ...

11.2.3 Full case study report

The failure to implement the polluter pays principle in extended producer responsibility schemes in France, (in France producers cover only 75% of these costs.)

The following sources have contributed to the analysis of this case:

- Waste Market Distortions interim report (from 30 04 2015),
- interviews with 15 stakeholders,
- outcomes of the stakeholder workshop on 21/5,
- statistics from Eurostat,
- specific studies on household waste management in France and the EU.
- Expert interview (officer from the Products and material efficiency service of ADEME, the French national environmental agency)

CONTEXT

Legal context and basic principles, situating the problem

EPR is an environmental policy approach in which a producer's responsibility for a product is extended to the financial responsibility over the post-consumer stage of a product's life cycle. According to the OECD definition, there are two related features of EPR policy:

- the shifting of responsibility (physically and/or economically; fully or partially) upstream toward the producer and away from municipalities, and
- the provision of incentives to producers to incorporate environmental considerations in the design of their products.

While other policy instruments tend to target a single point in the chain, EPR seeks to integrate signals related to the environmental characteristics of products and production processes throughout the product chain (OECD; 2001).

EPR, as a principle of product policy, was introduced in legislative acts in the early 1990s to address the life-cycle issues of products. Compared to the traditional solid waste management approach, EPR involves a shift in responsibility from governments or municipalities to the entities which make and market the products that are destined to become waste. PPP or the polluter pays principle attributes this financial responsibility to the polluter. This apparent paradox is covered because EPR is a market mechanism: when producers partially redistribute their costs to the consumers, by including it in the final price for their products, EPR is able to respect the polluter-pays principle (PPP). Both producers and consumers have a responsibility in the waste generated, and both producers and consumers will bear the costs for the waste management because producers add part of the costs for EPR to the overall price of their products. It also reflects the idea that not only the consumer is the polluter but that the producer also bears responsibility regarding the polluting aspects of its product or packaging. The economic reasoning behind the EPR concept is to have producers internalising treatment and disposal costs so that they have an incentive to design products which last longer and are more easily and at lower costs recycled after use.

The Waste Framework Directive (2008/98/EC) sets the general framework for waste management in the European Union. It enables Member States to set up Extended Producer Responsibility schemes. Article 8 introduces EPR in the following terms:

In order to strengthen the re-use and the prevention, recycling and other recovery of waste, Member States may take legislative or non-legislative measures to ensure that any natural or legal person who professionally develops, manufactures, processes, treats, sells or imports products (producer of the product) has extended producer responsibility.

The EPR scheme for packaging in France was installed by its Waste Law 75-663 amended by Décret 92-377 of 1st April: producers, importers and all those responsible for putting household packaging on the market are required to contribute to or implement the management of all their packaging waste.

Requirements for packaging PROs in France are defined by the Law 2009-967 of August 2009 relative to the implementation of the Grenelle environmental objectives. It stipulates that PROs are:

- submitted to a state controller ("censeur d'Etat")
- required to be non-profit organisations, and
- they are to undertake a mission of general interest.

Permits for the PROs also include an objective of covering 80% of the net costs that is paid by local authorities for collection and treatment of packaging waste, which means

that 20% still has to be carried by general public funds. In the French legislation, producers and consumers do not bear mutually the total end-of-life cost, but leave a part of this cost to general public funds.

Market context

Most of 7 screened packaging schemes studied in the recent EPR study (Bio Intelligence; 2014) reveal that 100% of net costs for separately collected waste are covered. This statement is valid with the exception of France (where 75% of the costs related to the management of separately and non-separately collected waste are estimated to be covered), and the UK (where there is no cost-coverage obligation, and where around 10% of the net costs are estimated to be covered by the EPR scheme).

In France a collective scheme for household packaging waste is in use, via the PRO's Eco-Emballages and Adelphe. Local authorities are responsible for collection and sorting of household packaging waste, being reimbursed by collective schemes. The household packaging recycling rate was 67.1% in 2014. Industrial packaging is not subject to an EPR scheme.

Taking into account the costs for collection, sorting, recycling and treatment, the system has a cost coverage of 74.8%, which is 5% below the legal objective of 80% cost coverage. In 2014, the total cost for the collection and the sorting process was 804 million €, of which 601 million € were transferred from the collective schemes to the local authorities. With 4.79 million tonnes collected, the average contribution per tonne collected is 168 €/tonnes or 8.8 €/inhabitant (Ademe; 2015). In an interview with a representative of Ademe, the French national environmental agency, it was mentioned that the 80% cost coverage will be reached within +/- 3 years (by 2018).

For each packaging unit, the contribution of producers to in the French EPR scheme is calculated by adding the contribution by weight to the contribution per unit.

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- A contribution depending on the weight of the product (depending on the type of material, ranging from 0.0121 €/kg for glass to 0.28 €/kg for 'other' plastic packaging). See table below.
- A contribution per packaging (0.00010 € - 0.00077€ depending on the weight)

A 50% to 100% increase on the calculated contribution is applied when the packaging is considered to be not easily recyclable (Eco-Emballages; 2015).

In this way the French system aims at applying the 'true cost' principle in which the fee in the EPR system reflects the real treatment cost for the individual packaging.

Table 11-8: Contribution by weight of material of the French packaging EPR system (Source: Eco-Emballages; 2015)

Material	Contribution (€/kg)
Steel	0.0315
Aluminium	0.0928
Paper & Cardboard	
Cardboard	0.1633
Brick pack	0.1704
Plastics	
Clear PET bottles and jars	0.2422
Other bottles and jars	0.2447
Other plastic packaging	0.2806
Glass	0.0121

Is non full cost coverage causing waste market distortions?

The French EPR scheme for packaging has a cost coverage of 75% and a cost coverage target of 80%. In order to be cost efficient, the design and implementation of an EPR scheme should at least ensure the coverage of the full net costs related to the separate collection and treatment of the end-of-life products. If this principle is not taken into account, it may lead to a market distortion.

The allegation of waste market distortions by not applying to the principle of full costs coverage is checked against the definition of market distortion:

Each national, regional or local policy or legislative act which distorts the European Union's ambition to reach high levels of prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy.

During the workshop on waste market distortions (21/05/2015) it was pointed that some Member States schemes do not cover the full costs of collection and treatment. France was cited as an example, with a cost coverage of 75% and a cost coverage target of 80%, according to the recent 'rapport d'activité' of Eco-emballages and Adelphe (Eco-emballages; 2014). This target is the result of a mutual agreement between the local collectivities taking care of the local waste collection, and the packaging producing industry, represented by Eco-emballages and Adelphe. The local collectivities are willing to partly finance collection and treatment of waste, giving them more freedom to organize the scheme according to their expertise and local practicalities. .

This situation in France doesn't reflect the polluter pays principle, as part of the costs are not carried by the producer nor the consumer of a specific product, but by society as a whole. The concept of extended producer responsibility (EPR) is to make producers/importers of products as initial polluters responsible for the end-of-life phase of their products, and allow them to distribute these costs partly to their clients (the final polluters). France is not in breach with any legal provision from the Waste Framework Directive, which leaves space for Member States to organise EPR in the sense they think appropriate. France however appears to be not fully in line with the key philosophy the polluter pay principle as part of the costs are to be covered by general public funds. The society, by means of the local collectivities, has to bear a part of the cost when a consumer disposes of an empty packaging or when a producer selects a non-sustainable packaging strategy. This can be perceived as an issue of social injustice.

Despite the relatively lower fees paid by producers/importers compared to fees in other Member States, the performance of the EPR system in terms of achieved recycling rate, nor the cost effectiveness in terms of accession fee for the producers are optimal, as can be remarked in the graph below:

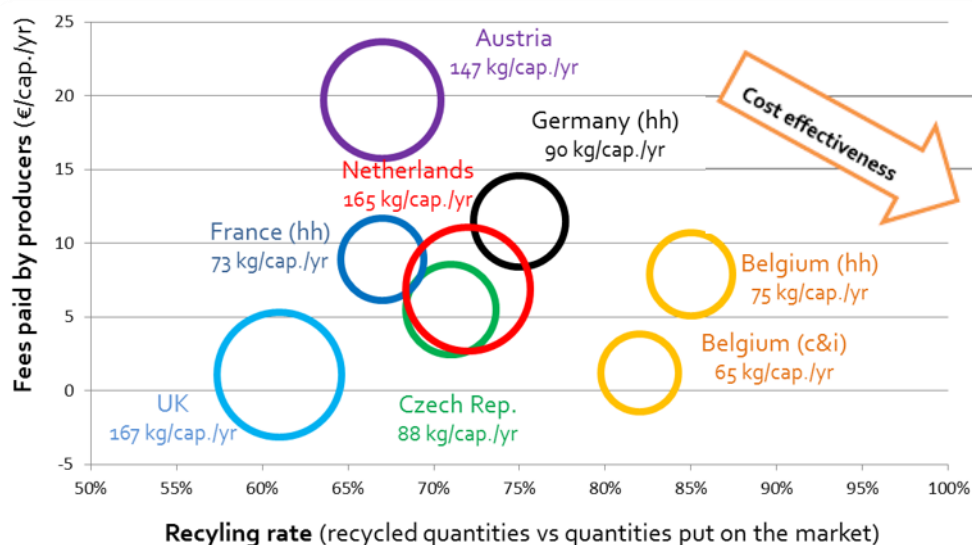


Figure 11-19 : Cost effectiveness of EPR schemes on packaging (2010 or 2011) (Source: BIOIS; 2014a)

The alleged market distortion consists of waste treatment costs covered by EPR that are diverted to society. The industry (producers) enjoy a benefit compared to the same waste in neighbouring countries where 100% of the costs have to be carried, or compared to different wastes not covered by EPR where the holder has to carry 100% of the costs (e.g. for bio waste). The French industry is submitted to a financially lower incentive to apply ecodesign to avoid costs. Moreover the responsibility to organize effective source sorted waste collection is dispersed over the PRO and the independent municipalities organised in collectivities, which makes the implementation of a unified and performant system more difficult than in other Member States where the PRO is for 100% responsible. This might lead not only to competitive disadvantages for the industry, but also to loss of efficiency and to lower recycling rates.

Expr.¹¹⁷ states how one of the big problems in France is the total freedom of local authorities how to organize separate collection and sorting. They are hesitating to introduce separate collection and stay with co-mingled collection. They are refusing to build new modern sorting plants and prefer to continue their small sorting centers with many hand sorting.

France is not the only Member State of which the sum of the fees does not cover full waste management costs. In the UK, where also no cost coverage obligation is in force, only around 10% of the net costs are by estimation covered by the EPR scheme. Cost coverage and cost distribution are only one aspect contributing to an efficient and environmentally effective EPR scheme (next to the problem of freeriding, recycling targets, true-cost, ...)

¹¹⁷ Personnel communication Expra Joachim Quoden (2015)

CASE DESCRIPTION - ANALYSIS OF THE ALLEGATION

Impacts of the distortion

Economic impacts,

Typically, the concept of full costs includes the costs of waste management (collection, treatment, recycling) as well as a range of other costs depending on the scheme, such as the costs for public information and awareness campaigns, waste prevention actions, and the monitoring and surveillance of schemes. In line with the polluter pays principle (PPP), it is generally agreed that producers should at least bear the net costs of waste management for their products, i.e. costs for collection and recycling minus revenues from recovered materials¹¹⁸. In certain schemes, producers do also bear other aspects of the full costs. In Austria, for example, ARA is paying in addition the costs for packaging remaining in the residual waste and its treatment plus communication costs (explaining the high fees in Figure 11-19).

Because the French producers only calculate for 75% of the waste management costs in their selling price, it could be argued that producers from neighbouring countries could have a competitive disadvantage in their home market. This argument needs to be seen in the light of the real world packaging fees. For a PET bottle of 1.5 liter, the packaging fee in France amounts 0.0085 € (0.2422€/kg x 32g per bottle net weight + fixed fee 0.00077 €). With a full cost coverage, the fee would be 0.0114 €, resulting in a difference of 0.0028 € with the current situation. The advantage of the same bottle in France and for example in Belgium (where 100% of full cost coverage is prevailing) is less than a third of a eurocent. This difference does not lead to cross border purchasing movements, as it is not perceived as relevant for individual consumers. Based on this calculated example, it can be concluded that the economic impacts of the 75% cost coverage are negligible.

It is also relevant to point out that the economic necessity of cost coverage is not applicable in every other EPR scheme. For ELV, waste oils and graphic paper, the sales of recycling materials fully cover the costs for collection, transport and treatment, making the schemes mainly self-financing.

Environmental, sustainability & resource efficiency impacts

With a cost coverage of 75%, France is not in line with the polluter pays principle (PPP). Specific to producers, the financial stimulus to perform ecodesign is lowered, although this can be alleviated by the eco-modulation obligation. This bonus/malus system is based on the recycling performances and the producers' prevention efforts. It is accompanied by technical adaptation propositions. By increasing the fees for non-recyclable packaging with 50% up to 100%, a signal to the producers is given for adaptations/innovations in packaging material.

Moreover Eco-emballages and Adelphe conceived a support system in order to incentivize the local collectivities in enhancing their recycling performance, via:

- A differentiated tariff integrating improvements of the recycling performance
- A support for raising awareness among citizens (communication and action towards the citizens)
- A support for sustainable development via the selective collection performance

A differentiated tariff integrates improvements of the recycling performance via a specific coefficient (coefficient de majoration à la performance de recyclage)

In the recent activity report (Eco-emballages; 2014) it was indicated that the French EPR system participates in communication costs for municipalities, R&D, ecodesign

¹¹⁸ Although not legally enshrined

and prevention. In 2014 Eco-emballages and Adelphe transferred 34 million € to the collectivities for sensitization and support on sustainable development. The support for sustainable development applies to any local collectivity where the implementation of selective collection of household packaging conforms to certain predefined targets. These targets take into consideration economic, social and environmental components. It rewards sustainable performance and encourages progress in this area (Adelphe; 2013).

Legal and social impacts

The remaining 25% of costs not covered by the EPR scheme can be interpreted as in breach with the article 14.1 of the Waste Framework Directive.

In accordance with the polluter-pays principle, the costs of waste management shall be borne by the original waste producer or by the current or previous waste holders.

It is also interpreted as an unjustified transfer from tax-payers to companies submitted to a producer responsibility duty. When part of the expensed are carried by public funding, companies and end users have a benefit at the expense of society. Ademe argues that local collectivities agreed to pay for the remaining 25% of costs. By partly self-financing waste management, their freedom to operate enhances, which they consider a precondition for gains in efficiency and quality of service. Several collectivities reduced operating costs in such a way that no input from local fiscality is needed and a full cost coverage via PRO support is reached. As a result, Ademe claims that the cost coverage gap acts as an incentive for more efficient waste collection and treatment.

It needs however to be proven that disperse local systems of collectivities are more or less effective and efficient than centralized and unified imposed systems of PRO's. Such unified systems can enhance equality between citizens of different municipalities and they can benefit from advantages of scale e.g. in the development of recipients and adapted collection methods. Furthermore an imposed system could avoid that municipalities or collectivities reduce costs when this would be at the detriment of the collection or recycling performance or the environmental impact.

Conclusion

Is the case a real and an important distortion of the efficient functioning of the waste market?

Extended producer responsibility (EPR) has proven to be a key instrument in supporting the implementation of the waste hierarchy, because it can inspire companies to develop better and cheaper recyclable products, and because it sets up effective financing of separate collection and recycling of waste.

A large chronology can be observed between the moment EPR was installed and the increase of recycling performances on Member States markets. Non full cost coverage can weaken the installed EPR system. When French companies only have to cover 80% of the costs, the incentive generated by EPR is relatively lower than with systems covering 100%. There is however no documentary evidence or statistical assumption that the French system would weaken the incentive for eco-design. Apart from the non-full cost coverage, France also applies a performing system of true-cost attribution or eco-modulation. This latter system strengthens the incentive for individual ecodesign and may compensate for the former system of non full cost coverage that might lower the incentive for individual eco-design.

The French system does not fully implement the polluter-pays principle, which is mainly a legal problem and an issue of social justice more than an effectivity problem. It does not lead automatically to lower performance on the waste treatment hierarchy. Only if the cost sharing with regional and local authorities hinders the installation of

harmonized and performing collection systems or if it hampers the benefits of advantages of scale, it could lead to lower performance in the field, especially if the local authorities keep the possibility to choose for the cheapest possible approach. Ademe confirms that the cost sharing system in France leaves more inherent freedom to the collectivities.

The limited cost coverage of 75% does not lead automatically to lower performance on the waste treatment hierarchy, as the attainment of the recycling targets is not dependent on the party paying the costs. The limited cost coverage can be regarded as non compliant with the principles of EPR and PPP, although local collectivities don't oppose against it according to a stakeholder interview. Ademe confirms that the cost sharing system with general public funds in France gives more impact to the collectivities to co-decide and manage the waste collection and treatment according to their own policy views. EXPRA argues that this co-decision opportunities for collectivities does lead to lower recycling performances¹¹⁹.

POLICY ADVICE

Influencing factors

- Legal:

The objective of covering 80% of the packaging waste management costs, included in the law 2009-967 of August 2009 relative to the implementation of the Grenelle environmental objectives forms the basis for this distortion.

- Socio-economic:

The relation between public funding and private producer responsibility duties.

Lessons learned from this case?

- Cost distribution between private and public actors may lead to unjustified transfers to the benefit of some actors and the detriment of others. Although the situation in France is not compliant with the polluter pays principle, it does not necessarily lead to lower performance in the fields of waste treatment hierarchy, resource efficiency or circular economy.
- Cost coverage and cost distribution are only one aspect contributing to an efficient and environmentally effective EPR scheme (next to the problem of freeriding, recycling targets, true-cost, ...)
- Even in Member States with 100% cost coverage, there is no evidence of any empiric strong positive impact on ecodesign. This indicates a more structural and general problem with EPR as it is now implemented with usually no or low true-cost corrections at individual level. In order to climb up the waste hierarchy, quantitative targets or indicators on ecodesign and waste prevention should be developed within EPR schemes. Nowadays, only main objectives on waste collection and recycling are targeted. In France, the bonus malus or eco-modulation system is incentivising individual efforts for ecodesign.
- Connected to the financing issue is the issue of shared or distributed responsibilities. Local responsibility can lead to collection schemes adapted to local conditions, and thus an efficiency gain. On the other side, it can also lead to a loss of advantages of scale or it can lead to cheaper and lower performing approaches than a general unified system imposed by a PRO. When a PRO covers 100% of the costs it can more easily impose such a system. The French system as indicated in Figure 11-19 performs lower than other systems although it is not sure if there is a causality with the role of dispersed collectivities in this system.

¹¹⁹ personal communication Joachim Quoden, 2015

Transferability to other Member States and contexts

- EPR policies have been designed and implemented in a very heterogeneous manner across Europe. These differences result in large performance differences between the different schemes.
- The French strategy of non 100% coverage of costs is no stand-alone case in the EU. In the UK, for example, only 10% cost coverage is reached.
- The problem on applying polluter-pays principles in the frame of producer responsibility schemes is a problem occurring in many Member States, sometimes due to an official cost coverage of less than 100%, sometimes due to preferential or non market-based low prices for PRO's to use public infrastructure and services.
- Under most EPR schemes, PROs cover the general net costs of waste management i.e. costs for collection, transport and treatment of waste minus revenues from recovered materials. These net costs are not always easy to calculate as they depend on a range of factors including the infrastructure and technology level, the quality of public services and price fluctuations of secondary materials.
- Different understandings of full cost recovery is also worth regarding transferability. There is no consensus on what these costs shall cover and on what an efficient allocation of costs between producers and municipalities would be. In addition to 'net costs of waste management', the concept of "full-cost" could also refer to a range of additional expenses, such as the costs for public communication and awareness campaigns, the costs for waste prevention measures, and the costs for enforcement and monitoring of the scheme. Although France is only covering 75% of the costs related to packaging waste, is also funds a part of communication, R&D & preventive actions. Other Member States with a claimed full cost coverage might not cover these costs and use public funds for it.

How could the problem be solved?

Although the non full cost coverage is not leading to a waste market distortion, the following advice can be formulated to enhance cost efficiency and to harmonise EPR schemes across all EU Member States.

- General rules for EPR systems imposed at EU level

Impose general rules and guiding principles for Member States to follow when implementing EPR-systems. The study 'Development of Guidance on Extended Producer Responsibility' (BIOIS; 2014a) includes the following relevant guidance rules:

- Statement n°1: The definition and objectives of EPR should be clarified
- Statement n°2: The responsibilities and roles of each actor should be clearly defined along the whole product life cycle
- Statement n°3: The design and implementation of an EPR scheme should at least ensure the coverage of the full net costs related to the separate collection and treatment of the end-of-life products.
- Statement n°4: The fees paid by a producer to a collective scheme should reflect the true end-of-life management costs of its specific products.

- Adaptation of the French law

According to the law 2009-967 of August 2009 relative to the implementation of the Grenelle environmental objectives, permits for the PROs include an objective of

covering 80% of the net costs that is paid by local authorities for collection and treatment of packaging waste.

To increase the financial support given to the local authorities by the PROs and to achieve legal compliance with article 14.1 of the Waste Framework Directive, this objective could be increased, gradually up to 100% via an increase in the Green Dot Contributions.

According to Ademe, an adaptation of the cost coverage target should be the result of a mutual agreement between the relevant parties (industry and collectivities). The next renewal of agreements is foreseen in the end of 2016 (ending of the 6 year period 2011-2016). This participative process will lead to the highest chances of reaching the recycling objectives, according to Ademe.

- **Adaptation of roles and responsibilities**

Ademe stated in an interview that industry is not willing to increase the target of cost coverage for the moment, due to the financial burden of an ongoing initiative on more elaborated sorting instructions. Currently an experiment is going on with 4 million French inhabitants, in which difficult to recycle fractions are selectively collected. Packaging which is less straightforward to recycle, such as butter and yoghurt packages are in this way taken aboard. This initiative, which shall be tested in a second phase to 10 million of citizens, will lead to a higher recycling rate but at supplementary costs. Recycling technical or economical suboptimal fractions causes higher waste management costs, which will be borne by the industry.

Collectivities are not willing to give up local collection schemes and methods and use their participation in the costs as an argument to keep this responsibility at local level. It should however be evaluated in which cases a local approach generates environmental benefits and in which case a local approach generated cost reduction at the expense of environmental performance. Certain elements contributing to efficiency and environmental performance could be imposed top down (by law or by service level agreement with the PRO), disregarding the distribution of the financing burden.

- **Define market-based reference costs for public infrastructure**

In Belgium¹²⁰, local authorities are reimbursed for packaging collection based on a certain level of collection services with defined frequency of collection and density of the collection network. In some cases, the reference costs are related to 'optimised net costs' (EIMPack; 2013). France's packaging EPR scheme uses reference costs based on an optimal functioning of the collection and sorting operations. Fully transparent methods to attribute the right market costs for the use of public infrastructure can avoid that PRO's divert a part of their costs to public services and thus tax payers, and do not take up the 100% cost coverage.

- **Minimum requirements for EPR schemes**

Since there is no general framework or a set of rules for the implementation of EPR schemes, all 28 Member States have a different system of organising EPR. The EPR-schemes are not harmonised at all and a lack of transparency is often making it very difficult to find the most optimal and efficient way to collect and process the waste. A suggestion made by CEPI, the Confederation of European Paper Industries, in the context of this lack of harmonisation, is to set minimum requirements for EPR schemes. These could minimise the implementation differences between Member States. Examples proposed by Municipal Waste Europe (MWE) are the attribution of a percentage of the fees going to communication/awareness campaigns, making the

PRO responsible for collection and treatment of ALL its waste, (incl. residual fraction),...

- Enhancing the effectiveness of the fight against free-riders through enforcement, data exchange, increased transparency ...

Who is able to remediate?

- French legislative bodies responsible for the Grenelle environmental objectives, e.g. Ademe: the French national environment agency.
- European Commission, in developing more guidance on the implementation of EPR.

11.2.4 Annex V.8 Case 9: Incineration tax differences for domestic and imported waste

11.2.4.1 Headline report

Waste treatment in the Netherlands – The Dutch waste model

In the Netherlands, responsibility for the policy, law and enforcement of waste lies within the Ministry of Infrastructure and the Environment (I&M). The core of their policy is preventing environmental damage and promoting the recovery of waste. I&M is expected to adopt a National Waste Plan (LAP) once in every 6 years. This plan delegates some of the tasks away from the national government to the 12 provinces and 393 municipalities.

At the national level, the Ministry of Infrastructure and the Environment (I&M) sets up the National Waste Policy Plan, takes care of the implementation of international rules, sets rules for the prevention and recovery of waste, supervises municipalities with respect to the management of municipal waste and waste water, grants permits, keeps track of waste distributors, collectors, traders and facilitators and attempts to ensure enforcement and reporting. At the provincial level, tasks include granting permits and handling inquiries, regulation of installations for processing and storing waste, regulating waste prevention and waste separation, performing activities to stimulate good practice in waste management, and supporting municipalities. Municipalities in turn give permits, collecting (source separated) municipal waste, stimulating waste prevention and sorting, and collecting and transporting waste water.

The Environment and Transport Inspectorate supervises the administration and processing of waste.¹²¹ The waste sector in the Netherlands is very complex - a diverse sector with many branches. The various stages of waste management, such as collecting, sorting, recycling and processing each have their own specific structures and practices, with a mix of private and public parties involved in them.

Potential waste market distortion

The main concern of this case is that differences between Member States in the level and structure of their landfill taxes, incineration taxes, general taxation and subsidies related to energy from waste would be causing waste market distortions.

The Netherlands applies a higher level of incineration tax to national waste than it does to imported waste. This can be considered a distortion in the waste market if it creates incentives for transboundary movement and for more waste incineration. Incineration taxes which are intended to promote waste treatment options higher on the hierarchy, could have a perverse effect in some circumstances, especially when the savings associated with the difference in taxation compensate for the costs of shipment.

Analysis of the waste market distortion

The Dutch open border policy could be causing some transboundary movement of waste. An important principle of the Waste Framework Directive is that waste for recycling and recovery activities shall move freely within the EU without any unjustified restriction imposed by national, regional or local policy and legislation. Within the framework of the Waste Framework Directive, annex II defines R1 as a

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<https://www.ilent.nl/onderwerpen/leefomgeving/afval/producentenverantwoordelijkheid/>

waste recovery operation, where the waste is to be 'used principally as a fuel or other means to generate energy'. This means that waste can be moved between Member States if the facility it is destined for is classified as R1 on the basis that this movement is enabling a treatment option that is higher up the waste hierarchy than incineration without energy recovery or landfill.

The study of this case indicates that from the Dutch perspective the R1 status was not the primary motivation for accepting imports of waste as the Netherlands had operated a policy of open borders for waste since 2007 and the R1 status only became operational from 2010. The aim of this Dutch waste tax policy was in the first place to tax the residual waste to be incinerated *and disposed* of its own citizens and companies and to create for them incentives for more and better sorting and recycling, rather than to tax foreign waste to be incinerated – hence the no import incineration tax policy.¹²² The figure below shows the total number of incinerated waste in the Netherlands and the share of imported incinerated waste.

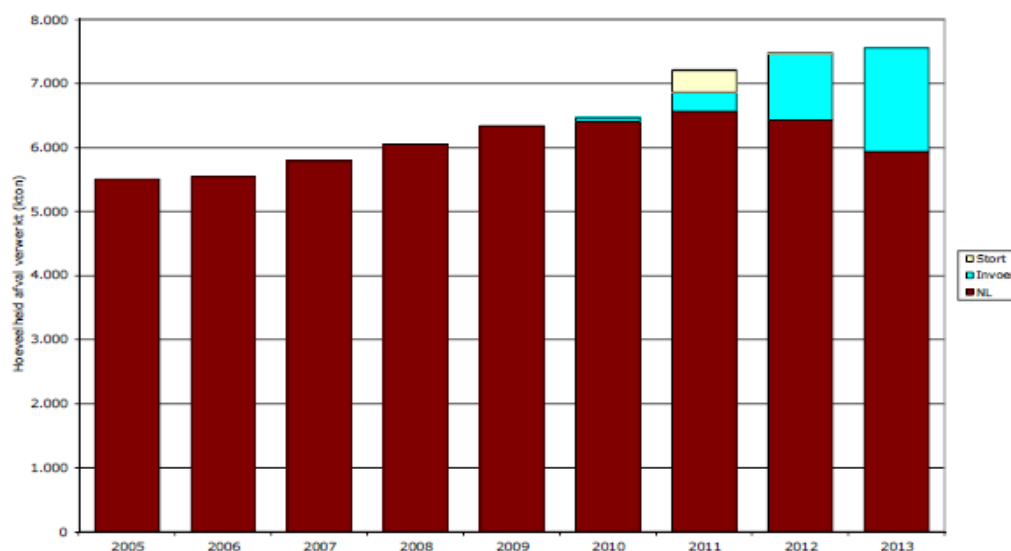


Figure 11-20 The total amount of incinerated waste in the Netherlands, 2005-2013, blue = imported waste, yellow = disposal, red = domestic incinerated waste

Even if the objective was to create incentives for Dutch citizens and companies for better sorting and recycling there was thus a risk that waste would be exported to cheaper treatment options lower down the waste hierarchy in other countries. If exporting waste for incineration remained cheaper than domestic incineration, then this could be seen as not aligning with the proximity and self-sufficiency principles of the Waste Framework Directive, because there are incinerators (with energy recovery) with available capacity within the Netherlands. In July 2015, an export tax on waste to be incinerated in other countries has been introduced (equal to the domestic incineration tax) to mitigate this 'shopping behaviour' risk. The fact that there is no import tax also causes some concerns whether such a policy does not hinder the waste treatment hierarchy in the Member States of origin, since those

¹²² However Since 1 July 2015 a tax on waste to be exported for incineration outside the Netherlands has been adopted. Companies wishing to export waste for incineration need to apply for a permit to the Inspectie Leefomgeving en Transport (ILT) (The Human Environment and Transport Inspectorate) and specify the type and amount of waste to be exported for incineration.¹²² The export 'incineration' tax is set at the same level as the tax for incineration and landfilling in the Netherlands itself, i.e. 13 Euros per tonne.

companies are inclined to export to incineration in the Netherlands, rather than send it for recycling in the home country. The evidence shows that 80% of the imports come from the UK (1.6 mt/a), some from Italy, little from Germany, and that the Netherlands exports 300-500 kt to Germany.

Conclusions

- National fiscal policies related to waste taxation can create waste market distortions under certain circumstances. This relates in particular to fiscal policies that stimulate transboundary movement of waste or that attract waste to waste treatment options at the bottom of the waste treatment hierarchy. The Dutch government introduced a domestic tax on incinerated and landfilled waste as well as an export tax on incinerated waste and a ban on export of waste to be landfilled. From this perspective there is no waste market distortion.
- An open borders policy with no import tax on waste to be incinerated as is the case in the Netherlands can create distortions if it competes with the recycling policy in the country of origin. If the foreign waste would have otherwise been landfilled, then the open border policy allows waste to be treated as a higher level of the waste treatment hierarchy.
- Fiscal policies fall under the sovereignty of Member States, hence the EU has a minor role to play here. Convergence of national fiscal systems related to waste management could be steered only through guidelines and recommendations from an EU level, however, how a Member State decides to manage its own waste is up to the Member State itself.
- Whether a specific domestic waste tax policy creates waste market distortion also depends on other countries. As has been the case in the Netherlands, the adoption of export tax for waste to be incinerated offsets possible transboundary movement of waste aimed at incinerating at lower prices rather than recycling. If other exporting countries implemented similar measures for their domestic waste, then the fact that the Netherlands has no import tax on waste to be incinerated would not make much difference.
- Unequal implementation of the proximity principle and the waste treatment hierarchy can be seen as causing distortions. The question of whether or not these are distortions, can only be considered on a case by case basis. If a country exports its waste to its nearest neighbour with available capacity for incineration because it lacks incineration capacity of its own, and the alternative would be to landfill the waste this could be described as respecting both the proximity principle and the waste hierarchy. However, this assumes that the waste being exported could not be recycled (as this would be a higher ranked treatment option on the waste hierarchy) and that the waste is going to the nearest neighbour, and not the lowest cost option. There are also potential concerns that exporting the waste is done to avoid the costs of investing in the infrastructure to become self-sufficient with the highest possible (in terms of waste hierarchy) set of treatment options. In this way the measure can be market distorting in the sense that it prevents the development of a homeland recycling industry.

Policy Advice

Greening the economy via domestic waste tax measures can have influence on cross border movement of waste. The policy makers need to strike a good balance between creating incentives at home to move up the waste treatment hierarchy, while making sure waste is not exported abroad for incineration/ landfilling if it can be treated domestically, and while safeguarding the existing or developing waste recycling markets in Member States of origin.

Incineration overcapacity can also create incentives for open border policy, especially if domestic waste to be incinerated is decreasing as a result of the imposition of higher incineration taxes on domestic waste.

Solutions in terms of fiscal policies will need to be implemented at the Member State level as they concern national legislation. Only guidance and steering can be done at a European level. One potential intervention regards providing guidelines at EU level, specifying the main issues and what the solutions could be, in order to steer towards greater convergence of waste taxation policies towards the higher goal of recycling. There is also a need for better control/ regulation of incineration capacity at the EU level.

11.2.4.2 Full case study report

The following sources have been consulted to analyse this case:

- Waste Market Distortions interim report including literature research,
- interviews with 15 stakeholders,
- outcomes of the stakeholder workshop on 21/5,
- EUROSTAT statistics
- National statistics disseminated by the Ministry of infrastructure and environment
- Supplementary literature research on Dutch legislation and policy
- Expert interview (Mr. Dick Hoogendoorn representative of Vereniging Afvalbedrijven, the Dutch waste management industry federation).

CONTEXT

Dutch Waste Model

In the Netherlands, responsibility for the policy, law and enforcement of waste lies within the Ministry of Infrastructure and the Environment (I&M). The core of their policy is preventing environmental damage and promoting the recovery of waste. I&M is expected to adopt a National Waste Plan (LAP) once in every 6 years. This plan delegates some of the tasks away from the national government to the 12 provinces and 393 municipalities.

Delegation of tasks

National level

At the national level, the Ministry of Infrastructure and the Environment (I&M) sets up the National Waste Policy Plan, takes care of the implementation of international rules, sets rules for the prevention and recovery of waste, supervises municipalities with respect to the management of municipal waste and waste water, grants permits, keeps track of waste distributors, collectors, traders and facilitators and attempts to ensure enforcement and reporting.

Provincial level

At the provincial level, tasks include granting permits and handling inquiries, regulation of installations for processing and storing waste, regulating waste prevention and waste separation, performing activities to stimulate good practice in waste management, and supporting municipalities.

Municipal level

Municipalities have the following tasks: giving permits, collecting (source separated) municipal waste, stimulating waste prevention and sorting, and collecting and transporting waste water.

The Environment and Transport Inspectorate supervises the administration and processing of waste.¹²³ The waste sector in the Netherlands is very complex. It is a diverse sector with many branches. The various stages of waste management, such as collecting, sorting, recycling and processing each have their own specific structures and practices, with a mix of private and public parties involved in them.

Ladder van Lansink (Waste Treatment Hierarchy)

Figure 11-21: 'Ladder van Lansink'



Dutch and European waste policy is influenced by the so-called 'Ladder van Lansink', see figure above. It is named after the Dutch politician Ad Lansink who came up with the idea in the form of a motion in 1979.

This hierarchy of waste treatment starts with prevention and goes down to the least environmentally friendly methods at the bottom. The idea is that you should only step down if the former step cannot be realised.

It was incorporated in Dutch law as the basis of Dutch waste policy in 1993 and has also been used in the EU Waste Framework Directive (WFD) article 4.

Dutch waste statistics

The generated waste in the Netherlands is around 7000 kg per capita. In comparison with the EU-28 average of around 5000 kg per capita, this is a relatively high amount (Eurostat; 2015). Regarding municipal waste, the Netherlands production level is slightly higher than the EU 28 average, reaching 526 kg per capita, compared to the EU27 average of 481 kg per capita in 2013.

¹²³

<https://www.ilent.nl/onderwerpen/leefomgeving/afval/producentenverantwoordelijkheid/>

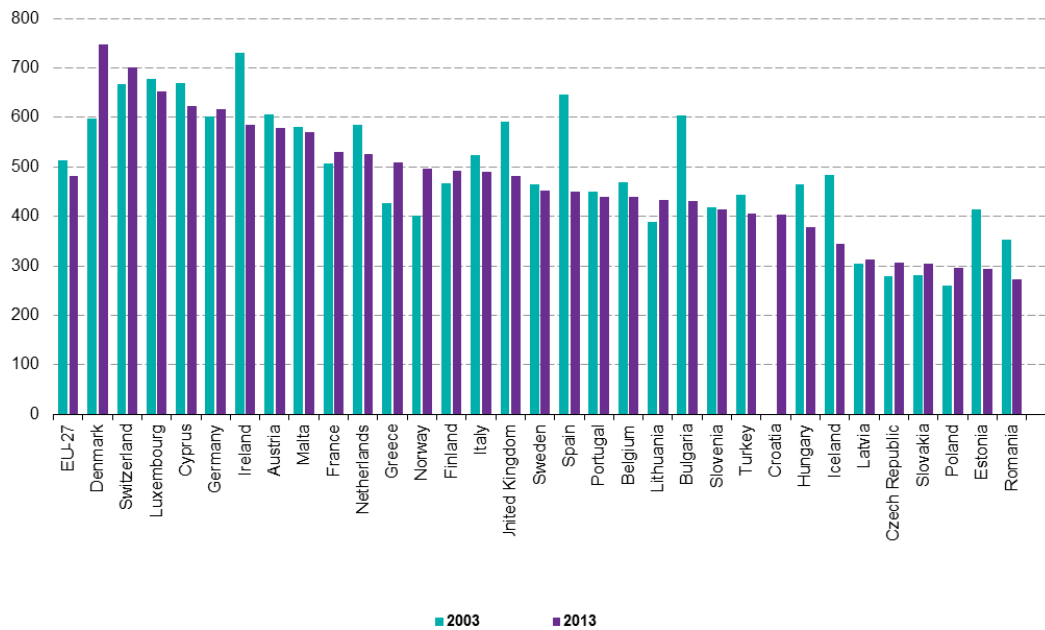


Figure 11-22: Municipal waste generated by country in 2003 and 2013, ranked by 2013 level (kg per capita) (Source: Eurostat; 2015a)

Municipal waste generation in the Netherlands shows a decreasing trend since 2007. The figure below shows the trend over time with regard to municipal waste generation and treatment method.

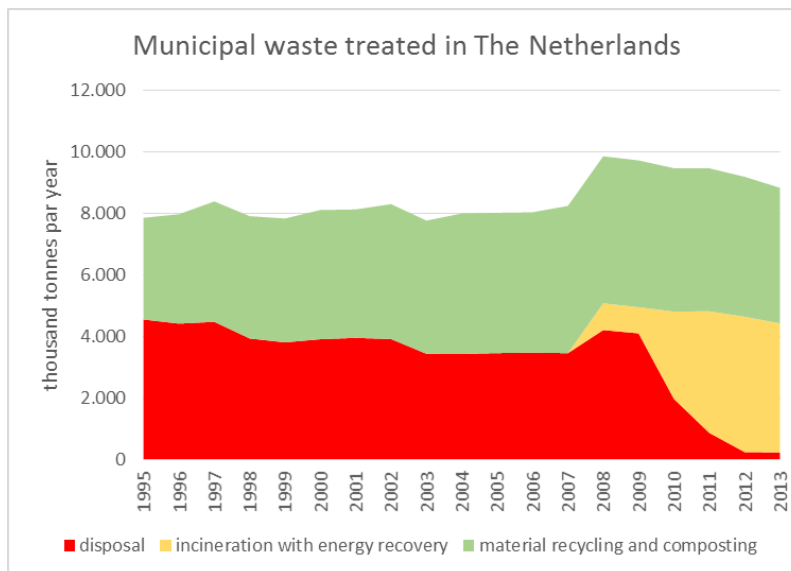
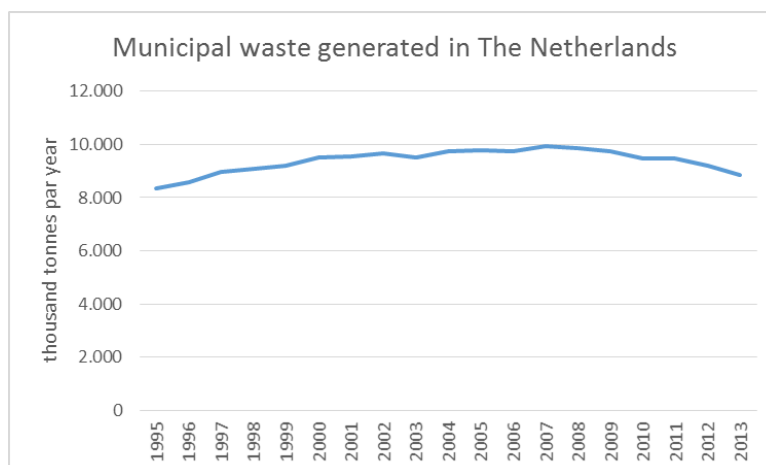


Figure 11-23: Trends in generation and treatment of Municipal waste in the Netherlands between 1995 and 2013, in thousand tonnes (Source: Eurostat; 2015d)



It can be seen that disposal has dropped considerably since 2009 and nearly completely disappeared since 2012. Landfilling nearly disappeared for municipal waste (less than 2 million tonnes per year) while incineration without energy recovery does not exist anymore. Incineration with energy recovery replaced disposal.

The figure above shows that incineration of waste (whether with energy recovery or not) balances with recycling and composting as treatment method for municipal waste in the Netherlands. Overall, the amount of incinerated waste has increased over the years, particularly since 2007. In 2008, it grew to 5 million tonnes although in 2013 it systematically decreased to 4.3 million tonnes in line with total municipal waste generation. The OECD/Eurostat Joint Questionnaire does not take into account the municipal waste data on imported municipal waste.¹²⁴

Figure 11-24 shows that the amount of total Dutch waste incinerated decreased in 2012 and 2013, however, the total amount of waste incinerated increased, due to the import of waste for incineration. In 2013, 1.6 million tonnes of waste was imported for incineration.¹²⁵

¹²⁴ <http://ec.europa.eu/eurostat/documents/342366/351811/Municipal-waste-statistics-guidance.pdf>

¹²⁵ Ministry of infrastructure and environment, Afvalverwerking in Nederland, data 2013. November 2014.

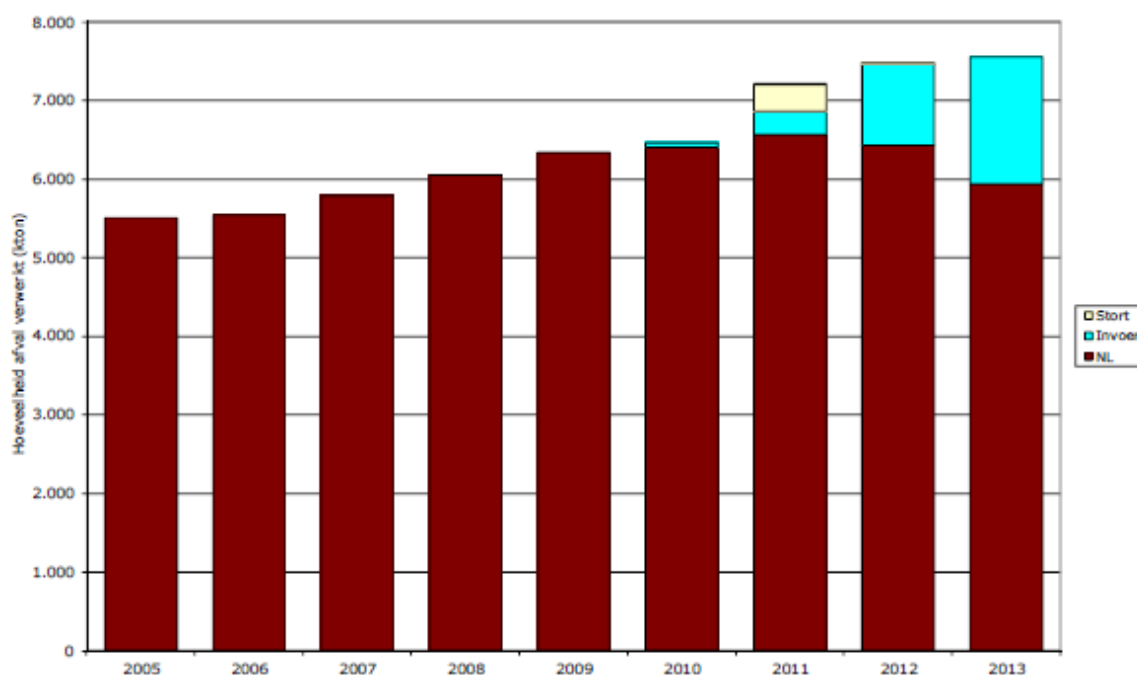


Figure 11-24: Origin of incinerated waste

Source: Dutch Ministry of infrastructure and environment; 2014

The treatment of waste in the Netherlands has changed over time. The increased focus on sustainability, partly driven by pressure on resources for the growing world economy has led towards a growing demand for secondary resources and renewable energy resources. The economic crisis led to a reduction in the amount of waste generated. This reduction in combination with investment in new incineration capacity, led to a surplus of capacity of around 10%¹²⁶ and led to Dutch incineration facilities needing to rely on waste imports in order to utilise the surplus capacity.¹²⁷

In a recent study on incineration overcapacities (Jofra Sora; 2013) the Netherlands is identified as both an exporter and importer of waste notified in application on the Waste Shipment Regulation. Shipments of municipal waste for incineration, even in case this fulfils the criteria to be considered as R1 recovery, are always submitted to a notification procedure, according to article 3.5 of the Waste Shipment Regulation 1013/2006/EC.

¹²⁶ Jofra Sora, M. (2013). Incineration Overcapacity and Waste Shipping in Europe: The End of the Proximity Principle?

¹²⁷ https://www.ing.nl/media/ING_afval-2020-meer-waarde-uit-minder-afval-feb-14_tcm162-70205.pdf

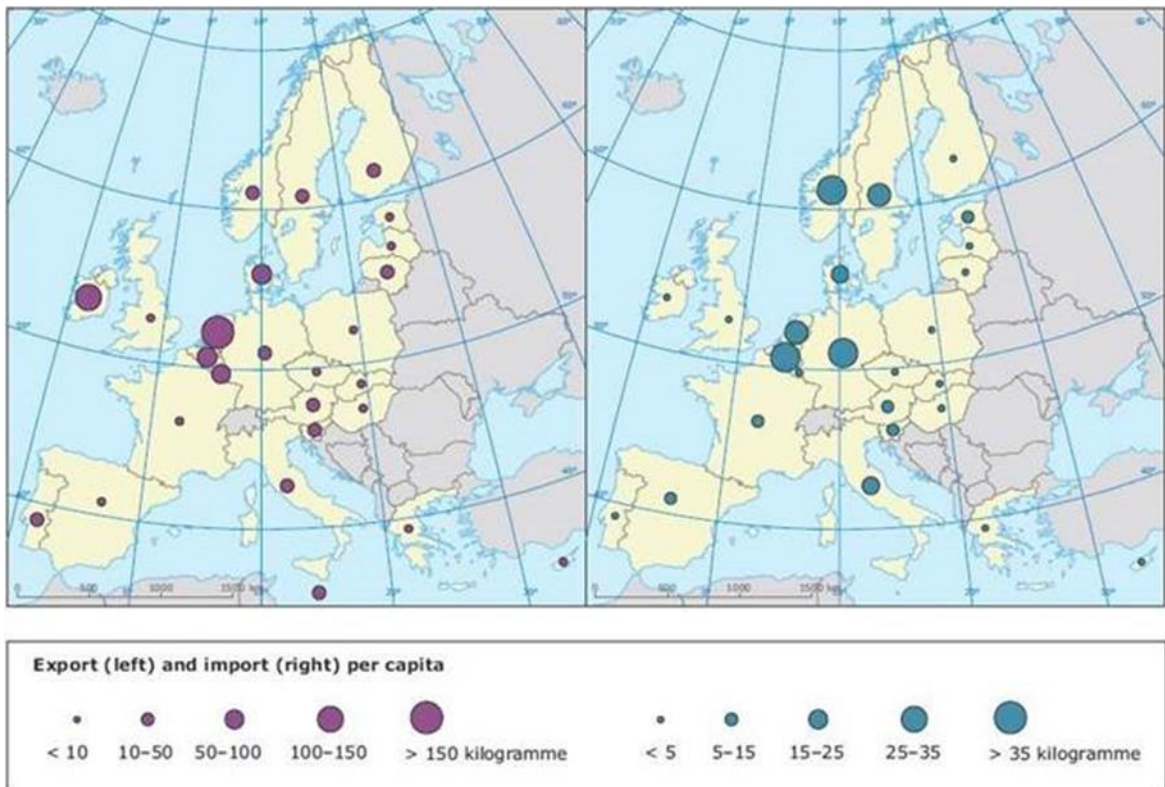


Figure 11-25: Exports and imports of notified waste in 2005 (kg per capita).
Source: Jofra Sora (2013)

Municipal waste for incineration is both imported and exported from and to the Netherlands, with a peak of both around 2004 and a possible peak of export around 2011-2012. In general import tends to be higher than export (except for 2011). The quality of the data as reported to the Basel Convention Secretariat is however poor.

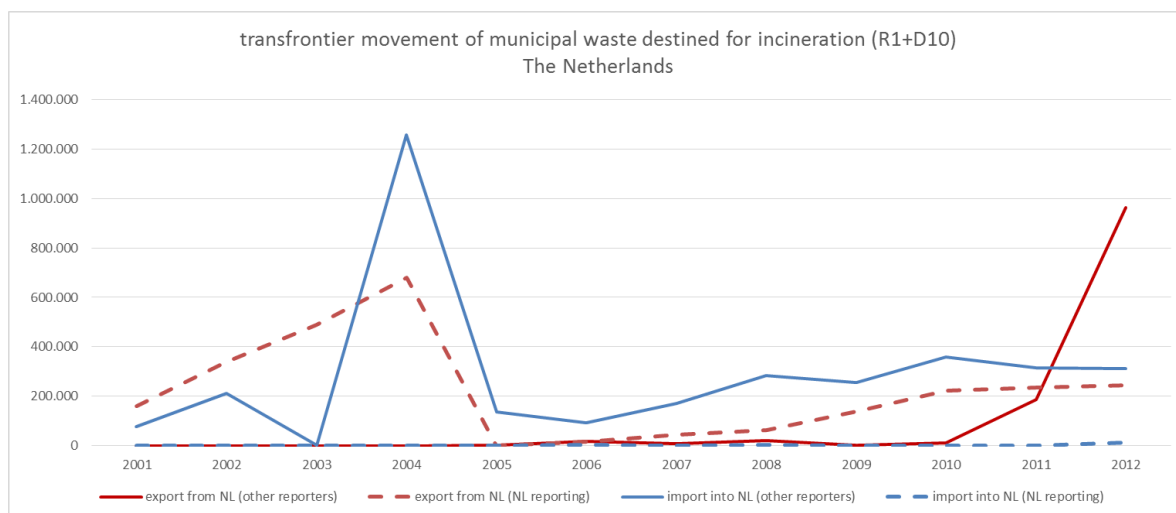


Figure 11-26: Transfrontier movement of municipal waste destined for incineration (R1 + D10), the Netherlands

Source: Own analysis based on the reporting for Basel Convention, as disseminated by Eurostat, non- validated data¹²⁸

Potential Market Distortion

Description

The potential market distortion described in this case study was suggested by the Municipal Waste Europe (MWE) trade association. According to MWE, differences between Member States in the level and structure of their landfill taxes, incineration taxes, general taxation and subsidies related to energy from waste (which will be increase in importance with the new Renewable Energy Directive), cause market distortions.

The specific concern in this case was that the Netherlands applies a different level of incineration tax to national waste than it does to imported waste. The Netherlands has a policy of open borders with regard to municipal waste. They are also seeking to reduce waste generation and incentivise recycling via a tax on the incineration of domestic waste. However, there is no tax on imported waste and if Dutch waste is exported it also escapes the incineration tax. This situation helps explain why the Netherlands is both an importer and exporter of municipal waste for incineration, because Dutch waste producers could avoid the incineration tax by exporting their waste and waste from producers outside the Netherlands could be imported into the country and benefit from sharper prices due to the fact that no incineration tax is imposed. This can be considered a distortion in the waste market if it creates incentives for transboundary movement and for more waste incineration. The incineration taxes which are intended to promote waste treatment options which are higher on the hierarchy can have a perverse effect, especially when the savings associated with the difference in taxation compensate for the costs of shipment.

Evaluation

The first evaluation of the case, indicates that the Dutch open border policy could cause some transboundary movement of waste. The Waste Framework Directive (WFD) establishes the self-sufficiency and proximity principle. According to this, Member States should take appropriate measures to establish a network of installations for the disposal and recovery of their waste in the nearest appropriate

¹²⁸ <http://ec.europa.eu/eurostat/web/waste/transboundary-waste-shipments>

installations. However, Article 16 of the Directive mentions the role of a European waste market, stating that the network 'shall be designed to enable the Community as a whole to become self-sufficient in waste disposal as well as in the recovery of waste'.¹²⁹ This implies that the nearest appropriate installation can be within Europe as a whole rather than just within the Member State where the waste arises.

An important principle of the Waste Framework Directive is that waste for recycling and recovery activities shall move freely within the EU without any unjustified restriction imposed by national, regional or local policy and legislation. In order to help achieve this the R1 status for incinerating municipal waste was clarified to help facilitate its transboundary movement.

R1 status is defined in the Waste Framework Directive. The Directive introduced the waste treatment hierarchy as discussed above. Within this frame, annex II of the Directive defines R1 as a waste recovery operation, where the waste is to be 'Used principally as a fuel or other means to generate energy'. This means that waste can be moved between Member States if the facility it is destined for is classified as R1 on the basis that this movement is enabling a treatment option that is higher up the waste hierarchy than incineration without energy recovery or landfill.

From the Dutch perspective the R1 status was not the primary motivation for accepting imports of waste as the Netherlands had operated a policy of open borders for waste since 2007 and the R1 status only became operational from 2010. As stated above, the R1 status is intended to enable a treatment option which is higher up the waste hierarchy. However, it is not as high up the hierarchy as waste recycling and prevention. If waste is not suitable for recycling, incineration in a plant with the R1 status (i.e. energy recovery) is a better option than incinerating the waste without energy recovery or than landfilling the waste. The Netherlands are complying with the Waste Framework Directive by allowing waste to be imported for incineration with heat recovery, if no treatment option higher on the hierarchy is possible and if the alternative would be a waste treatment option that lower on the hierarchy.¹³⁰

The tax on the incineration or landfill of waste produced in the Netherlands is set by art. 28 (1) a. Wet van de belastingen op milieugrondslag (Wbm), at 13 euro per 1000 kg. According to the 2015 Dutch tax plan, these costs are relatively low. There will be an evaluation in 2018 and if a substantial increase in the amount of waste being exported is apparent, the incineration tax might be reduced, while the tax for landfilling would be increased.¹³¹

Only unmixed imported waste from foreign companies that goes directly to the incineration plant is not taxed. Unmixed means that it is not mixed with Dutch waste. The reason given for the not taxing waste imported for incineration is the aim of the Dutch policy to tax the residual waste of its own citizens and companies, to create for them incentives for more and better sorting and recycling.

According to the Dutch Tax Plan 2015, there was no tax on exported waste, which appears to contradict the position of the Planbureau voor de Leefomgeving (PBL) – the Dutch Environmental Assessment Agency. The reason given in the Tax Plan is that European Law would make an export tax very complex and it would lead to

¹²⁹ Jofra Sora, M. (2013). Incineration Overcapacity and Waste Shipping in Europe: The End of the Proximity Principle?

¹³⁰ From the Dutch perspective, information from interview with Mr. Dick Hoogendoorn

¹³¹ Dutch Tax Plan 2015. <https://www.rijksoverheid.nl/onderwerpen/belastingplan-2015/documenten/kamerstukken/2014/09/16/belastingplan-2015>

enforcement problems because with such a tax, the authorities would need to take into account the waste treatment systems in the destination countries.¹³²

However, there has been a recent change in position from the Netherlands. A tax on waste to be exported for incineration outside the Netherlands is adopted, and it entered into force on 1 July 2015. Companies wishing to export waste for incineration need to apply for a permit to the Inspectie Leefomgeving en Transport (ILT) (The Human Environment and Transport Inspectorate) and specify the type and amount of waste to be exported for incineration.¹³³ The export tax is set at the same level as the tax for incineration and landfilling in The Netherlands itself, i.e. 13 Euros per tonne.

This desk review suggests that this situation could have been seen as a waste market distortion until the tax on exporting waste to be incinerated was recently adopted. However, the fact that there is no import tax also causes some concerns whether such a policy does not hinder the waste treatment hierarchy in the Member States of origin. This tax measure is related to national legislation, which implements EU legislation, in particular the Waste Framework Directive, hence it falls within the scope of this study and the definition adopted.

If exporting waste for incineration remained cheaper than domestic incineration, then this could be seen as not aligning with the proximity and self-sufficiency principles of the Waste Framework Directive, because there are incinerators (with energy recovery) with available capacity within the Netherlands. The lack of a tax on waste that is exported for incineration could also be seen to undermine the objectives of the Dutch incineration tax, that is designed to incentivise treatment options that are higher up the waste hierarchy.

Case description

In order to add depth and context to this case, we interviewed Mr. Dick Hoogendoorn, managing director of Vereniging Afvalbedrijven (Dutch Waste Management Association). The Dutch Waste Management Association (DWMA) represents the national and international interests of waste companies active in the Netherlands. With more than 50 members, the DWMA is an important discussion partner for government departments, regional and local authorities and other organisations. All the Dutch Waste-to-Energy plants are members of this association.

Observations on the case

Mr. Dick Hoogendoorn from DWMA makes following observations on the case of the Dutch incineration taxes:

- There is a slight misunderstanding with regard to what the Dutch tax measure labelled as 'incineration tax' at the European level really means.
- This tax is not a tax on incinerated waste but a tax on residual waste from municipal and commercial origin. It was introduced by the Dutch government as a measure to support the greening of the Dutch tax system, in order to stimulate a decrease in the amount of residual waste to be incinerated or landfilled. Hence, the tax applies equally to both, incineration and landfilling. This was done for practical reasons since taxing each individual citizen and company was considered to be too complex. The origin of this measure was a Dutch budget policy aiming to save 6 billion Euros. The waste tax raising 100 million euros (1.5%) was one of the tax measures in the basket of measures to reach this 6 billion savings.

¹³² *ibid*

¹³³ Brief over afvalstoffenbelasting 23 Juni 2015, <http://www.nvrd.nl/cms/showpage.aspx?id=2945>

- From Mr. Hoogendoorn's perspective, there is no waste market distortion at all because the tax measure is introduced in the framework of greening the economy and should be paid by the waste generators (residents or companies).
- The fact that the Netherlands have open borders, i.e. there is no import tax on waste to be incinerated, is the country's own decision, which is allowed under EU waste legislation. It is up to the Member State to decide how to deal with its domestic waste. The Netherlands have chosen an open border policy combined with domestic tax policy on residual waste. This policy aims to decrease incineration and landfilling of domestic waste. It does not aim at residual waste of another Member State. These Member States have to define their own policy mix.
- The allegation that this open border policy and high domestic tax on residual waste for incineration and landfilling would spur export of domestic residual waste to be incinerated outside the Netherlands does not hold, since there is an export tax for this waste which equals the domestic tax. The height of this tax is also 13 euro/tonne. Hence, exporting waste to be incinerated is not cheaper than incinerating it domestically. This export tax has been adopted recently.
- The allegation that the open border policy aims to keep domestic incineration plants with overcapacity in business, as the domestic incinerated waste decreases due to high 'incineration' taxes does not really hold according to Mr. Hoogendoorn. He claims that the current overcapacity in incineration in the Netherlands is caused by less residual waste generation, while the incineration capacity has stayed more or less the same. Taking this capacity from the market would damage the environment since it would prevent non-recyclable waste from being incinerated with a high energy efficiency. The only remaining treatment option then is landfilling.
- At EU level, there is 80% incineration under-capacity, which results in higher landfilling than if there was sufficient incineration capacity. Closing Dutch capacity not required for the Dutch supply of residual waste results in landfilling of foreign (mainly from the UK) residual waste.
- The Dutch incineration capacity is approximately 7.5 million tonnes per year (2013), and with the energy efficiency measures making the processes more efficient, it has slightly increased to 7.6 million tonnes per year (2014). Some further increase in capacity because of efficiency measures is expected. Imported waste incinerated in the Netherlands covers around 20%, i.e. 1.6 million tonnes. This mainly comes from the UK (80%), some from Italy and little from Germany. The UK exports around 2.5 million tonnes annually in total, of which 1.6 million goes to the Netherlands. Regarding export of Dutch waste, this is rather a small fraction, only around 300-500 thousand tonnes are exported to Germany for incineration under the waste-to-energy plan.

Impacts

The main impacts of this Dutch incineration tax policy are the following:

- The interviewee was asked whether this Dutch measure is good. According to Mr. Hoogendoorn, this measure stimulates recycling as landfilling/ incineration becomes more expensive, domestically. However, this measure is also very complex. According to him, the system is effective but it might not be the most efficient. The problem with this system is that in a number of situations it has proven impossible to charge companies/ citizens for this residual waste. Based on the analysis and the facts of the case it also seems that, even though the measure tries to improve the recycling of Dutch waste (through higher waste taxes), the open borders policy allows companies from other Member States to incinerate their waste at a potentially lower cost (only shipping cost) and escape domestic taxes, if there is no export tax on such waste (e.g. in the UK). This means that the national incentives in the exporting countries to support the waste treatment hierarchy are offset by no

export/ import taxes. On the other hand, each country is charged with dealing with their own waste and has sovereignty over their own fiscal system.

Other impacts that could be implied from this policy based on the analysis by the consultant are:

- Imposing export taxes as has been done in the Netherlands could improve this situation.
- However, if export/ import policies are not sufficiently harmonised across the EU Member States, then cross border shipments of waste to countries where waste can be landfilled or incinerated at a lower cost than domestically will still take place.
- Not imposing taxes on imported municipal waste for incineration could lead to Dutch incineration competing with homeland recycling in the Member State of origin.

Solutions

Potential solutions that have been identified are the following:

- According to Mr. Hoogendoorn, a green stimulus in terms of getting money back for generating less waste could provide better incentives for companies/ citizens to support waste prevention. Another measure would be to improve collection systems and separation techniques at municipality level. Not all municipalities have good separation and collection techniques.
- Based on the analysis done by the consultant: For a Member State considering a tax on residual waste, a solution to overcome such waste market distortions would be to also introduce an export tax on this waste (like the Netherlands government finally did) and an import tax to prevent competition with homeland recycling capacities. If such capacity does not exist, an import tax can however distort the market and the objectives of the waste treatment hierarchy.
- Waste incineration capacity and access to this capacity should be organised at EU level, but Member State can intervene as well by blocking export of Y46 (municipal waste) for incineration if homeland recycling is or could be made available.
- In order to avoid cross border shipments of waste to be landfilled, a solution is to ban export of waste for landfill, as is the policy in the Netherlands.
- With regard to solving the problem of divergent waste taxation systems across the EU, there is no solution from an EU perspective as fiscal measures are determined domestically (subsidiarity). However, guidelines could be prepared at the EU level to inform Member States about the potential impacts of divergent waste tax policies, giving concrete examples.

Conclusions

The main conclusions of this case study are:

- National fiscal policies related to waste taxation can create waste market distortions under certain circumstances. This relates in particular to fiscal policies that stimulate transboundary movement of waste or that attract waste to waste treatment options at the bottom of the waste treatment hierarchy.
- An open borders policy with no import/ export waste taxes can create distortions if the costs of shipment are lower than domestic waste treatment tax.
- Fiscal policies fall under the sovereignty of Member States, hence the EU has a minor role to play here. Convergence of national fiscal systems related to waste management could be steered only through guidelines and recommendations from an EU level, however, how a Member State decides to manage its own waste is up to the Member State itself.
- Whether a specific domestic waste tax policy creates waste a market distortion also depends on other countries. As has been the case in the Netherlands, the adoption

of export tax for waste to be incinerated offsets possible transboundary movement of waste aimed at incinerating at lower prices rather than recycling. If other exporting countries implemented similar measures for their domestic waste, than the fact that the Netherlands has no import tax on waste to be incinerated would not make much difference.

- Unequal implementation of the proximity principle and the waste treatment hierarchy can lead to what appear as distortions. The question of whether or not these are distortions can only be considered on a case by case basis. If a country exports its waste to its nearest neighbour with available capacity for incineration because it lacks incineration capacity of its own, and the alternative would be to landfill the waste this could be described as respecting both the proximity principle and the waste hierarchy. However this assumes that the waste being exported could not be recycled (as this would be a higher ranked treatment option on the waste hierarchy) and that the waste is going to the nearest neighbour, and not the lowest cost option. There are also potential concerns that exporting the waste is done to avoid the costs of investing in the infrastructure to become self-sufficient with the highest possible (in terms of waste hierarchy) set of treatment options. In this way the measure can be market distorting in the sense that it prevents the development of a homeland recycling industry.

Is the case a real and an important distortion of the efficient functioning of the waste market?

Based on the analysis and findings, it does seem that divergent waste taxation across Member States can create a distortion in the efficient functioning of the waste market at the EU level. Different waste taxes affect the costs of different waste treatment methods, making recycling/ incineration/ landfilling more or less costly domestically and abroad. If waste incineration/ landfilling becomes cheaper in another Member State, this can hamper the development of domestic recycling sector.

However, since fiscal measures are set at Member State level and are aimed primarily at management of domestic waste, not the waste of neighboring countries, coordination or convergence of policies to remove such waste taxes obstacles at the EU level between the different Member States is challenging.

What (legal, administrative, economic, cultural, ...) factors are influencing the occurrence and the impact of the distortion.

The legal or policy decision on a Member State level with regard to import/ export of waste do have an influence on the occurrence and the impact of such distortions. As stated already, imposition of an export tax can reduce the shipment of waste outside the country as it becomes more expensive.

The administrative procedures to import/ export waste for incineration/ landfilling also determine the impact of the distortion. The stricter and more burdensome the administrative procedure, the less attractive import/ export of waste becomes. However, there should be some balance with regard to waste that cannot be recycled or recovered domestically and which would benefit from recycling/ recovery options abroad. A too burdensome procedure for such waste would discourage such options from taking place.

What are the lessons learned from this case?

Greening the economy via domestic waste tax measures can have influence on cross border movement of waste. The policy makers need to strike a good balance between creating incentives at home to move up the waste treatment hierarchy, while making sure waste is not exported abroad for incineration/ landfilling if it can be treated

domestically, and while safeguarding the existing or developing waste recycling markets in Member States of origin.

Incineration overcapacity can also create incentives for open border policy, especially if domestic waste to be incinerated is decreasing as a result of the imposition of higher incineration taxes on domestic waste.

Is the case or its lessons learned transferable to other Member States and contexts?

Yes, it applies to all Member States which have:

- A policy of open or closed borders;
- Incineration under- or over-capacity;
- Where a lot of waste is being imported/ exported.

How could the problem be solved? What policy advice would you formulate based on this case? (legal intervention, enforcement, guidance, harmonisation...)

Since fiscal policies are the competence of the Member States, not the EU, potential interventions could be:

- Provide guidelines at EU level, specifying the main issues and what the solutions could be, in order to steer towards greater convergence of waste taxation policies towards the higher goal of recycling.
- Have a better control/ regulation of incineration capacity at the EU level.

Who is able to remediate? (subsidiarity level)

Solutions will need to be implemented at the Member State level as they concern national legislation. Only guidance and steering can be done at a European level.

11.2.5 Annex V.9 Case 6: The impact of failing landfill compliance on the waste market.

11.2.5.1 Headline report

Policy context

Romania has supported the efforts to work toward a unitary waste regulatory framework through enactment of the Law no. 211/2011 (the Waste Law), that transposes the 2008/98/EC Waste Framework Directive/WFD into the national legislation. At regional levels, the Regional Waste Management Plans have been elaborated in order to implement all relevant legislation and support accordingly. The Landfill Directive has been enacted into the national legislation through Government Decision/GD no. 349/2005.

The Romanian Ministry of Environment and Climate Change is the main governmental body responsible for preparing waste management legislation and its enforcement in Romania. The main responsibilities related to the waste management are at the county and local councils.

Market context

In 2012, nearly 97% of the 5.4 million tonnes generated municipal waste has been landfilled. The remaining 3% was recycled. Comparing the waste treatment performance of Romania to other EU MS, it becomes clear that Romania has by far the highest landfill rate, although with the lowest amount of generated waste per capita.

Table 11-9:. Comparison of waste treatment methods among some EU MS

	Generated Kg per person	Treated Kg per person	Municipal waste treated, %			
			recycled	composted	incinerated	landfilled
Romania	272	220	3%	0%	0%	97%
EU-28	481	470	28%	15%	26%	31%
Hungary	378	378	21%	5%	9%	65%
Bulgaria	432	428	25%	3%	2%	70%
Greece	506	506	16%	4%	0%	81%
Slovakia	304	278	55%	7%	1%	38%

Source: Eurostat Newsrelease. Environment in the EU, 26 March 2015

Since 2010 several non compliant landfills have been closed. For the period 2015-2017, 42 landfills are planned to be closed.

Table 11-10: Non-compliant municipal landfills, class "b": non-hazardous waste, leading to ceasing activity (period 2009 2017)

Year of planned ceasing of landfill activities	Number of non-compliant landfills
2010	26
2011	5

2012	21
2013	3
2014	4
2015	7
2016	9
2017	26
total	101
Total 2015-2017	42

Source: Governmental Decision no. 349 of 2005 implementing the Landfill Directive in Romania

Allegation

The allegation formulated in this case is that Romania fails compliance with the Landfill Directive which leads to distortions on the waste market efficiency. During the last decade, Romania is making efforts to establish the legal framework necessary to have an effective policy strategy consistent with the EU. Although several distortive factors are present. Romanian markets still show strong dependency on landfilling and register low shares of recycling, re-use and recovery of waste. Investment in waste management infrastructure proceeds with difficulty. The capability of local and county authorities (municipalities and county councils) is still lacking to fully enforce the waste legislation and waste taxing systems (such as sanitation and landfilling taxes) are suboptimal or even inexistent. Generally, waste markets do not succeed in realising the European Union's ambition to reach high levels of prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy. This situation is caused by failing the full implementation of national and local legislation and administrative practices. This hinders the development of a much sounder waste market. The allegation is related to local and regional levels, with an undisputable impact on the national level.

Analysis

Local practices are identified as hindering the efficient functioning of the waste market through favoring landfill or dump practices. Statistics clearly demonstrate that Romania is lagging behind in the field of waste recycling, and the presence of illegal or not-yet-closed incompliant landfills and dumpsites attract waste as these are cheap solutions, both from private sources as from public waste collection schemes. Romania is realizing a good legal frame at national level, and thanks to multiple funding for investment programs is realising a better waste treatment infrastructure. Although at regional and local level monopolies , low financial capacities of local authorities and lack of enforcement still lead to continued dumping. The emerging and often informal waste sorting sector, recycling market and recycling industry suffers from a lack of material in sufficient quantities, and needs professionalization. The continued dumping at landfills is therefore definitely a distortion hindering the development of a sound recycling and recovery market, the realisation of the waste treatment hierarchy, the achievement of resource efficiency and the evolution towards a circular economy.

Policy advice

The continued availability of dumpsite and landfill capacity and the lack of effective policy measures to reduce landfilling or dumping leads to a failing recycling and recovery market. This can be solved by applying a mixture of policy measures and market interventions. In first instance, the landfill tax should be implemented together with a landfill ban for certain recyclable waste streams, such as biodegradable waste. Secondly, appropriate infrastructure for reuse, separate collection and alternative treatment of municipal solid waste should be established. Subsequently the informal collection and recycling sector should be integrated in the Romanian waste management, by creating conditions in which they can professionalize. Finally knowledge has to be disseminated on waste prevention, sorting and recycling and on resource efficiency and the circular economy in general.

Roles and responsibilities

National and local authorities are able to remediate the malfunctioning of the waste market in Romania (Ministry of Environment, National Environmental Protection Agency and National Environmental Guard, and their county offices, county councils and municipalities). Support from public authorities is needed for amending legislation (e.g. against monopolies) and administrative practices (e.g. enforcement on the use of non compliant landfills).

11.2.5.2 Full case study report

Failing compliance with the Landfill Directive in Romania is assumed to lead to distortions in the waste treatment hierarchy.

CONTEXT

The following sources have been consulted to analyse this case:

- Waste Market Distortions interim report (from 30 04 2015),
- interviews with 15 stakeholders,
- outcomes of the stakeholder workshop on 21/5,
- statistics from Eurostat
- analysis of Romanian waste management strategy
- Expert interview (representatives of the Romanian competent authority and a Romanian PRO¹³⁴).

General context description

The focus of waste management policies in Europe has gradually shifted from simple removal from the streets to planning of reduce, reuse and recovery operations (3R) and controlled disposal, and further on to a more widespread policy aimed at governing material flows through the economy.

¹³⁴ Interviews have been performed in parallel with the EU Survey on waste market functioning. Two entities have been interviewed on the specific Romanian context, one public environmental agency and one private waste packaging management organization acting on behalf of producers and importers of packaging products, committed to achieve all recovery and recycling targets for the packaging waste brought on the Romanian waste market. Those two experts preferred to remain anonymously.

Municipal solid waste management/MSWM has become to represent a service of public and general interest, a basis for civilization, environment control and health protection; the public interest associated with MSWM is not confined anymore to the dimension of urban propriety and public health, but it is concerned on much more far-reaching sustainability issues: materials consumption, availability of disposal sites, pollution from treatment cycles. In Europe, these demanding environmental standards can be summarized to the transition to a new regime ("zero-landfill") focused on prevention, recycling and recovery prior to disposal, increasing convenience of recovery operations (instead of landfilling or incineration); an economic approach, focused on the polluter-pays principle, pay-as-you-throw (PAYT) and extended producer responsibility (EPR), as fundamental pillars of the waste prevention and recycling strategy under sustainable development. Europe needs to take into account that shifting of policy priorities may register major consequences on the organization of MSWM services, the structure of its value chains and the related market failures and governance (central and local) issues.

Driven by European policy, MSWM in Romania is evolving from waste collection and landfilling, to complex inter-dependent activities focused on the post-collection phases (processing, recycling and disposal). Although criticism is expressed that MSWM in Romania is not evolving in a progressive pace. More significant investments, division of labor, expertise and management skills portfolio and technological know-how is required.

Legal instruments at national and local levels

Policy context

The Romanian Ministry of Environment and Climate Change and its central and local structure (National Environmental Protection Agency/NEPA, National Environmental Guard/NEG and their subordinated regional EPAs and NEGs) are the main governmental bodies responsible for preparing waste management legislation and its enforcement in Romania. The main responsibilities related to the waste management are at the county and local councils.

In its preparation for the accession to the EU, Romania implemented the National Waste Management Strategy (NWMS) in 2004 (covering the period 2003-2013) and the National Waste Management Plan (covering the period 2004-2009) that established the legal framework necessary for implementing and transposing the EU waste legislation at a national basis. At regional levels, the Regional Waste Management Plans have been elaborated in order to implement all relevant legislation and support accordingly.

The National Waste Management Strategy for the period of 2014 - 2020 has been revised in accordance with the 2008/98/EC Waste Framework Directive/WFD, with the following priorities:

- Waste prevention and reuse for more efficient use of resources;
- Development and expansion of systems for separate collection of waste;
- Development/implementation of technologies and recycling and/or recovery facilities;
- Support for energy recovery from waste for that waste that cannot be recycled;
- Reduction of the amount of waste disposed of through storage (landfilled).

In concert with other Member States efforts in waste management, Romania has to elaborate and implement the new National Waste Management Plan (covering the

period of 2016 – 2020) after finalizing the national public bid of August 2015. Further collaboration with other MS is through the implementation of the Romanian Green Growth Strategy 2013-2020-2030 (with support from UNDP) focusing on mitigation objectives of waste prevention and minimization, increased recycling practices, reducing the amount of waste materials, increased use of composting of organic waste and energy production from waste (EfW).

Legislation

Romania has supported the efforts to work toward a unitary waste regulatory framework through enactment of the Law no. 211/2011 (the Waste Law), that transposes the 2008/98/EC Waste Framework Directive/WFD into the national legislation. By 2020, this law aims at re-use and recycle at least 50% of the overall weight of municipal non-hazardous solid waste and at least 70% of the weight of non-hazardous waste from construction and demolition activities.

The following Romanian laws have been enacted to include the landfill directive into the national legislation through

- Government Decision/GD no. 349/2005,
- Government Decision/GD no. 621/2005 on waste packaging management,
- Law 215/2001 on local public administration that regulates the functioning of the local public administration authorities, and
- Government Ordinance/GO no. 31/2013 on the National Environment Fund setting the economic and financial tool for funding projects in order to achieve the EU objectives on environment and climate change.

Key data and statistics

In 2012, nearly 97% of the 5,4 million tonnes generated municipal waste has been landfilled. The remaining 3% was recycled. The recycling rate was calculated as the amount (tonnes) of recycled municipal waste divided by the total municipal waste generated. Recycling includes material recycling, composting and anaerobic digestion.

Table 11-11: Municipal waste generation in 2012, in tonnes

Municipal waste generated	5,441,000 t
Municipal waste treated	4,387,000 t
Municipal waste landfilled	4,248,000 t
Recycling rate of municipal waste	3 %
Landfill rate of municipal waste	97 %

Source: Eurostat; 2015a

Comparing the waste treatment performance of Romania to other EU MS, it becomes clear that Romania has by far the highest landfill rate, although with the lowest amount of generated waste per capita.

Table 11-12: Comparison of waste treatment methods among some EU MS

	Generated Kg per person	Treated Kg per person	Municipal waste treated, %			
			recycled	composted	incinerated	landfilled
Romania	272	220	3%	0%	0%	97%
EU-28	481	470	28%	15%	26%	31%
Hungary	378	378	21%	5%	9%	65%
Bulgaria	432	428	25%	3%	2%	70%
Greece	506	506	16%	4%	0%	81%
Slovakia	304	278	55%	7%	1%	38%

Source: Eurostat Newsrelease. Environment in the EU, 26 March 2015

ALLEGATION

The allegation formulated in this case is as follows:

"Romania fails compliance with the Landfill Directive which leads to distortions on the waste market efficiency".

During the last decade, Romania is making efforts to establish the legal framework necessary to have an effective policy strategy consistent with the EU. Although several distortive factors are present. Romanian markets still show strong dependency on landfilling and register low shares of recycling, re-use and recovery of waste. Investment in waste management infrastructure proceeds with difficulty. The capability of local and county authorities (municipalities and county councils) is still lacking to fully enforce the waste legislation and waste taxing systems (such as sanitation and landfilling taxes) are suboptimal or even inexistent. Generally, waste markets do not succeed in realising the European Union's ambition to reach high levels of prevention, reuse, recycling and recovery, resource efficiency and a move towards a circular economy. This situation is caused by failing the full implementation of national and local legislation and administrative practices. This hinders the development of a much sounder waste market. The allegation is related to local and regional levels, with an undisputable impact on the national level.

EVALUATION OF THE ALLEGATION

Local practices are identified as hindering the efficient functioning of the waste market through favoring landfill or dump practices:

Statistics clearly demonstrate that Romania is lagging behind in the field of waste recycling, and the presence of illegal or not-yet-closed incompliant landfills and dumpsites attract waste as these are cheap solutions, both from private sources as from public waste collection schemes. Romania is realizing a good legal frame at national level, and thanks to multiple funding for investment programs is realising a better waste treatment infrastructure. Although at regional and local level monopolies, low financial capacities of local authorities and lack of enforcement still lead to continued dumping. The emerging and often informal waste sorting sector, recycling market and recycling industry suffers from a lack of material in sufficient quantities, and needs professionalization. The continued dumping at landfills is therefore definitely a distortion hindering the development of a sound recycling and recovery market, the realisation of the waste treatment hierarchy, the achievement of resource efficiency and the evolution towards a circular economy.

ANALYSIS OF PROPOSED SOLUTIONS

Informal waste recycling/management in Romania as a part of the solution?

Apart from sanitation companies which still collect large amounts of mixed waste, and from small-scale separate collection set up by local authorities, individual collection of recyclables stays mainly with the informal economy, practiced by informal collectors. Although not valued by the official accountancy system, municipal expenses are considerably reduced when taking into account the activities of the informal waste collecting sector.

By shifting significant amounts of recyclable fractions from landfills and from numerous domestic sources (commercial centers, offices, private companies, households, flat owners) such collectors contribute to a real dynamic of the local waste market, sometimes faster than the involvement of the local authorities.

We may assume that there are two categories of informal collectors, although there is a very few number of studies on this concerning issue:

- Waste pickers who live in rural communities, generally in the vicinity of an old landfill (if still open until the deadline is met) and who are socially marginalized. They are interested in collecting and recovering mainly recyclable waste materials, such as metals (iron, copper, aluminium cans) and plastics (especially bottles made of PET). They also collect used furniture (for wood and other combustible materials), or components of waste electric and electronic equipment (WEEE);



Picture 1: Metal picking on Lupeni closed dumpsite (2013)

- Street/door-to-door informal recyclers who claim the recyclable waste fractions from the mixed waste contained in garbage bags, bins or containers, both at household and street level. They are interested in certain categories of waste with a positive economic value like paper and cardboard, aluminium cans and plastic. They are usually specialized in collecting and recovering one single category of recyclable materials.



Picture 2: Informal recycling in the city of Caransebes (2013)

Some informal street recyclers made arrangements with the waste holders (commercial centres, offices, private companies, households, flat owners), giving them access to recyclable materials separated at the source of generation. Informal street recyclers ensure the transport of the collected waste to the collection points or recovery/recycling centers.

The major challenge is, by far, the professionalization and integration of this informal sector (waste pickers and street/door-to-door recyclers) into the official waste management system.

Romanian local authorities responsible for the official waste management services have to be more creative and need to understand that integration of the informal sector can increase the recycling rates without a call for sophisticated technologies for the collection, transport and 3R procedures. Enhanced and enforced local regulation and support for informal recyclers towards professionalizing and regularisation might finally lead to more efficiently reached targets and faster compliance with the EU waste objectives.

By professionalization of the informal sector, and applying sound and healthy working conditions at fair prices, the waste recycling market would not be distorted any more. Quite important to mention is the social component of the waste management, with an indirect but steady impact on the waste market functioning in Romania.

In addition, raising public awareness on the major role and contribution played by informal recyclers must be included in public waste management policies. This will help both the overall community and the recycling market as the whole process is a circular one.

The role of the private sector

There still exist local or regional barriers for the waste market development that often result from historic local legislation. Sanitation companies are often granted a monopoly on municipal waste management (including household similar waste) by binding long-term contracts for supplying municipal waste to landfills. Sanitation

companies do not have incentives, or simply still fail to respect law obligations on sorting the mixed waste collected, while monopoly rights hinder other specialized private companies to carry out recycling and recovery operations.

Although, various private waste companies and organizations, totally apart from the contracting sanitation companies, perform important activities for implementing household waste separate collection, in close partnerships with local public authorities across the country.

Sorting centre capacities

Failing compliance with the Landfill Directive hinders the application of the waste treatment hierarchy and leads to difficulties for recovery, recycling or reuse markets because a significant amount of recyclable fractions are not sorted in properly equipped centers, although the EU-funded facilities do absorb small recyclable amounts and labor force. The more the sorting center is well designed into the overall scheme of the integrated waste management, the less recyclable matters will be sent to the landfill.

Landfill taxes

The first step and the most powerful tool to proper waste management in the Romanian context is considered to be the due application of landfill taxes, as an economic mechanism to discourage landfilling and to focus on alternative treatment options for recyclable fractions. The Government Emergency Ordinance no. 196/2005 foresaw about 11 EUR/t in 2014 and about 18 EUR/t in 2015 applicable to compliant landfills¹³⁵. In addition, the Government Ordinance no. 31/2013 stipulates a second type of tax of about 22 EUR/t which will be applied to those municipalities that do not comply with the annual target of 15 % reduction of municipal waste landfill (including household waste and similar). This specifically refers to the sanitation companies collecting municipal waste, acting as a public service on behalf of municipalities.

The tax should have been applied to municipal and inert waste landfill operators from 2014, but in December 2013 public authorities have postponed the charge until 2017.

Main actors on the waste market say that postponing the landfill tax until 2017 is a pure political decision, which does not represent the needs of the Romanian society in terms of integrated waste management. Thus the competition between landfill versus separate collection & sorting is still uneven. This situation should have been balanced by introducing realistic and gradually higher landfill taxes sooner, together with closing the old non-compliant municipal landfills due 2017. The years 2014-2015 can be seen as periods of stagnation for a better waste market functioning in Romania.

Current gate fees for access to the landfill by the sanitation companies are currently not designed to incentivize recycling or source separated municipal waste collection. The supplementary landfill tax is expected to balance the situation.

Use of compliant landfills (and closing of non compliant landfills)

Since 2010 several non compliant landfills have been closed. For the period 2015-2017, 42 landfills are planned to be closed.

¹³⁵ The landfill tax in 2016 should be about 27 EUR/t (according to GD no. 31/2013), and it is planned to raise up to about 30 EUR/t in 2017

Table 11-13: Non-compliant municipal landfills, class "b": non-hazardous waste, leading to ceasing activity (period 2009-2017)

Year of planned ceasing of landfill activities	Number of non-compliant landfills
2010	26
2011	5
2012	21
2013	3
2014	4
2015	7
2016	9
2017	26
total	101
Total 2015-2017	42

Source: Governmental Decision no. 349 of 2005 implementing the Landfill Directive in Romania

Sanitation companies should be encouraged to use only compliant engineered landfills which have been constructed from EU funding. Sometimes the distances are considered much too long, having direct impact on the sanitation tax to be paid by the served population. Municipalities may prefer continued use of dumpsites or non-compliant landfill (that already should have been closed), although there is a range of financial penalties for the illegal dumping of waste.

Current compliant engineered landfills accept mixed municipal waste and its waste acceptance policy should consider the landfill diversion targets for biodegradable municipal waste. Nevertheless landfill bans for recyclable wastes are not included in the landfill acceptance criteria or procedures in Romania. The diversion from dumpsites to compliant landfills should therefore have less effect on the availability of recyclable material and the functioning of the recycling markets. It is still difficult to have municipal waste recyclable fractions sorted before landfilling, this is one important aspect which needs to be solved by the sanitation companies and local authorities (municipalities).

Other possible solutions

The Romanian waste management policy could be enhanced via the following measures:

- A deeper involvement of local (county and regional) industry is needed for supporting the resource efficiency, in order to strengthen waste prevention and minimization, higher rates of recycling and use of recycled materials, use of energy-from-waste.

- The collection, recycling and treatment of selective fractions (packaging waste, batteries, waste oils, WEEE, household hazardous waste) needs to be stimulated for environmental, health and safety reasons and to reach all imposed targets and objectives. A priority should be given to recyclables with a positive economic value, such as paper and cardboard, glass and aluminium.

POLICY ADVICE

Recommendations

The continued availability of dumpsite and landfill capacity and the lack of effective policy measures to reduce landfilling or dumping leads to a failing recycling and recovery market. This can be solved by applying a mixture of policy measures and market interventions.

On access to landfills

- Implement and increase landfill tax; earmark revenues from the landfill tax to further develop infrastructure for source separated collection (including home composting), as well as awareness campaigns.
- Restrict, after extensive consultation, landfilling of certain types of waste: implement or introduce landfill bans for certain recyclable waste streams, such as biodegradable waste, paper, glass, metal, wood, textiles, plastic. Bans play a "market-making" role and ensure that valuable waste fractions remain available for recycling or reuse, rather than being incinerated or dumped into a landfill.
- Introduce, after extensive consultation, progressive landfill bans for municipal waste by clearly defining the term "pre-treatment" and by setting stricter limit values on calorific values and total organic carbon/TOC.
- Duly enforce and check the waste acceptance criteria at landfills in accordance with 2003/33/EC Council Decision, pursuant to Article 11 of Landfill Directive 1999/31/EC.
- Enforce illegal dumping and landfilling of recyclable waste via penalties, until the target is accomplished.
- Develop an incentive and subsidy system for those municipalities implementing separate collection at source and transport to collection/sorting centers or recycling companies.

On separate collection, prevention and recycling at local and regional level

- Establish appropriate infrastructure for reuse, separate collection and alternative treatment of municipal solid waste.
- Encourage prevention, reuse and preparation for reuse options. Stimulate good home practices, develop waste prevention toolkits, support charity organizations and workshops, develop free exchange schemes and impose taxation reliefs.
- Develop simple performance indicators for local authorities to evaluate separate collection and waste recycling operations.
- Support public-private partnership (PPP) systems for waste management projects.
- Develop incentives for small pilot projects to operate in parallel with centralized facilities.
- Involve civic amenity sites in "recycling event days" and campaigns.
- Increase synergies and communication between private sector and county councils and municipalities (town and commune-halls).

- Enhance absorption capacity and expertise for local and regional administrations to deal with European investment subsidies for waste collection and management infrastructure.

On the application of economic instruments

- Implement Pay-As-You-Throw (PAYT) schemes as soon as appropriate separate collection and treatment infrastructure are in place, starting with pilot projects.
- Support municipalities that introduce PAYT schemes by providing information on how to set up such systems. Provide guidance, support experience exchange, conferences, buddy systems, awareness on benefits and costs.
- Enforce control of the existing EPR schemes, including use of independent auditors for verification of recycling quotas; intensify control for recovery operations.
- Set in place and improve the performance of deposit refund systems for packaging (glass, plastic, metal, etc.) in combination with the EPR schemes by increasing incentives (e.g., increase deposit and refunds) and improving awareness raising to public.

On biowaste landfill diversion

For the high share of biodegradable fraction of municipal waste which goes to landfill in Romania, a series of measures are to be implemented simultaneously:

- Improve the waste treatment infrastructure by constructing a number of small decentralized composting plants and anaerobic digestion plants at local level.
- Create a compost market, via safe end-product use and by safeguarding the end users through establishing and complying with quality criteria for compost and digestate (e.g., quality classification, limit values for contaminants).
- Provide bins or special recipients for separate collection of biodegradable waste.
- Promote backyard composting in rural areas.

On solid waste management infrastructure

- Continue to finance solid waste management infrastructure upgrades, including composting, anaerobic digestion facilities and recycling programs in towns/cities/counties to ensure compliance with the relevant EU waste directives. A complete and functioning waste management infrastructure is a key issue addressing the Circular Economy which will strongly support an effective waste market.
- Transfer stations and collection centers (or sorting centres) need to be financed because such intermediary facilities fully support both recycling targets and creation of a more sustainable waste market in Romania.

On integration of the informal collection and recycling sector

- Create conditions in which the informal sector can professionalize and become an added value to the recycling market and the recycling policy.
- Create socially acceptable working and fee conditions.
- Generate access to source separated waste and support the formal and informal emerging waste recycling sector.

On dissemination of knowledge on key aspects

- The policy principles of Resource Efficiency and Circular Economy are quite new for Romania. Knowledge has to be disseminated and public and private stakeholders

have to be identified, such as for county/regional government in relation to recyclable waste processors/eco-industrial parks. Roles of the stakeholders are to be defined.

- Public communication is needed and media have to be kept up-to-date on the progress by the public authorities.
- It appears that private environmental companies have already started to look into the Circular Economy (although there is still a long way ahead), but public authorities need to better be involved in this process for insuring a legal framework and communication along with other stakeholders, media and public.
- More consumer education across Romania is necessarily recommended and definitely helpful to make consumers assure that what they buy is effectively needed, minimally or appropriately packaged and fit for repair and reuse if no longer needed.

Transferability

Statistics on recycling rates in other Member States with a comparable economic structure tend to indicate that they also largely depend on landfills. The distinction between waste generated and waste treated may indicate as well the use of illegal dumpsites. Similar problems, e.g. lack of access to separated waste fractions may distort the development of a recycling market, while similar opportunities and similar ways forward can be applicable as well. The analysis and conclusions of this case study can be transferred to a considerable number, mainly eastern or southern Member States.

Roles and responsibilities

National and local authorities are able to remediate the malfunctioning of the waste market in Romania (Ministry of Environment, National Environmental Protection Agency and National Environmental Guard, and their county offices, county councils and municipalities). Support from public authorities is needed for amending legislation (e.g. against monopolies) and administrative practices (e.g. enforcement on the use of non compliant landfills).

Terms of contracts agreed between the local authorities (local councils/municipalities, county councils) and service providers should align closely with the Integrated Waste Management Systems and the Waste Law.

The Waste Law needs improvement with reference at including clear responsibilities on the preoccupation and obligation of all local councils (municipalities) enabling the population (existing generators) and authorized private companies on waste management (existing collectors and processors) to meet each other on special designed areas (civic amenities sites), with the defined scope of handing over used goods and commodities for repair, refurbishment and reuse (e.g., electrical and electronic equipment).

11.2.6 Annex V.10 Case 8: Comingled waste collection and recycling effectivity

11.2.6.1 Headline report

Policy context

In Poland waste management is conducted in accordance with a set of basic legal acts of which the Act on Waste and the Environmental Protection Law are the most important. Further detailed legislation has been established on packaging and packaging waste, recycling of decommissioned vehicles, used electrical and electronic equipment, mining waste, batteries and accumulators, and the international shipment of waste.

Documents organizing waste management in Poland are the National Waste Management Plan 2014 (of which currently an update to this document is being prepared) and 16 Voivodship Waste Management Plans. The National Waste Management Plan takes into consideration the National Environmental Policy for 2009-2012 with perspective to 2016.

In 2013, a new municipal waste management system in Poland came into effect. With the approval of new Voivodship Waste Management Plans, voivodship parliaments passed resolutions on execution of the plans. The resolutions define a.o. regions of municipal waste management and regional installations for municipal waste treatment.

In accordance with the new system of municipal waste management, a range of tasks of municipalities associated with the organization and supervision of waste management in the municipality has been added, including the provision of selective collection and recycling. Currently, in a tender procedure, municipalities are obliged to identify an entrepreneur responsible for municipal waste collection from property owners and / or for the management of this waste. Previously, waste collection took place on the principles of free market. The property owner concluded a voluntary agreement with an entity with an activity related to municipal waste collection. The Act of 13 September 1996 on maintaining cleanliness and order in municipalities, as adapted in 2013, introduces the following changes in the functioning of municipal waste management:

- Municipalities are obliged to accept municipal waste from owners of the properties
- Fees are imposed for the management of the collected municipal waste by the municipality
- A coordinating role for regional authorities on the development of the voivodship waste management plan and on appointing its regions, along with regional installations converting municipal waste.

The act also specifies the levels of recycling, that the municipalities are obliged to achieve by December 31, 2020 and which are in line with the European targets.

Selective collection of municipal waste in the municipality should include at least the following fractions of waste: paper, metal, plastic, glass and multi-material packaging and biodegradable municipal waste, including biodegradable packaging waste. Places for selective collection of municipal waste are created for such municipal waste as expired drugs and chemicals, used batteries and accumulators, used electrical and electronic equipment, furniture and other bulky waste, used tires, green waste and construction and demolition waste being a municipal waste.

Collection systems

The collection of municipal waste is a responsibility of the municipalities. The method of collection is defined in the Regional Waste Management Plan for each region. Thus, the waste is collected considering different systems. In Poland there

are mainly the following municipal waste collection systems:

- A two container system, in which dry (eg. recyclable materials) and wet (eg. biodegradable) waste is collected separately
- A three container system, in which dry waste (eg. recyclable materials), wet waste (eg. biodegradable) and glass is collected separately
- A more than three container system, in which the mixed waste collection is complemented by selective collection of mostly paper, plastic, glass, metal and sometimes biodegradable waste.
- A collection system using bags, in which waste as above is collected in colored plastic bags. Sometimes bags for separate collection are available for citizens free of charge.

For bulky waste collection, WEEE, batteries and accumulators specific systems occur, using a.o. bring systems and collection through e.g. educational and municipal institutions, as well as in stores.

Waste statistics and waste recycling markets

Using data from the Polish Central Statistical Office (CSO), Eurostat and the Voivodship Waste Management Plans information concerning waste management in Poland can be retrieved.

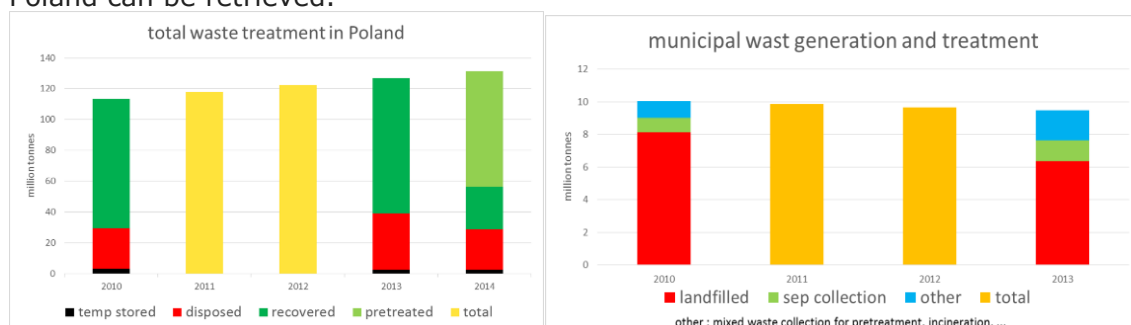


Figure 11-27: Total and municipal waste treatment in Poland

- The total amount of waste generated in 2014 was nearly 16% higher than in 2010.
- The amount of municipal waste collected in 2013 was about 5,6% lower than in 2010, while the level of waste collected selectively increased by about 43%.
- In 2013, there was about 32% less active landfills than in 2010. Around 22% less of collected mixed municipal waste were brought to the landfills.
- The recycling of municipality waste was about 2.8% higher in 2013 than in 2010.
- 100% of the population is included in the waste collection system.
- The treatment of municipal waste is mainly done through mechanical-biological methods (MBT). More than 980 municipal waste treatment plants use MBT technologies.
- It is expected that 6 new installations for thermal treatment of waste will operate in Poland by the end of 2016, with a total capacity of approx. 1 million tonnes.
- In 2013, prices of municipal waste collection have increased by approx. 30% compared to 2012, and decrease in the amount of generated waste of almost 16% in comparison to year 2012 is observed.

Allegation on waste market distortion

New members of the European Union often choose waste collection systems in which the waste is being mixed (eg. a two containers system with a split up

between wet waste and dry waste like paper, cardboard, newspapers, magazines, books, packaging made of glass, plastic packaging, packaging of metal, composite packaging). This results in a much lower capital cost, but eventually lower recycling efficiency due to greater contamination of recyclables. This problem mainly applies to the municipal solid waste generated by residents, since waste generated by enterprises is usually managed in a way consistent with the waste treatment hierarchy, mainly for economic reasons.

Analysis

The choice of a waste collection system limited to a split up in dry waste fraction and wet waste generates relatively low investment costs while the received recyclable materials are significantly polluted. Pollution of collected waste also enhances the lack of awareness of the inhabitants. Dry waste fractions usually go to the mechanical sorting of mixed waste.

Separation of "dry-wet" type causes reduction of the number of waste containers to two. This method shortens the process of separation at source. Dry material is collected in one container, wet in the second. Many people often throw mixed waste into the container for dry fractions. Another element is that waste should be washed and dried before placing it into the container for dry fraction and when this lacks this waste is not properly fit for further treatment. People often trade off the environmental impact of wasting water in order to wash the container after eating yoghurt or to throw the unwashed waste in a regular garbage bin.

The most efficient system for the collection of waste is a separation system of specific waste streams at source. At the same time, it is a system with the highest investment costs. However, through the awareness (education) of residents, the collected recyclable materials are less contaminated and therefore, the cost of cleaning at mechanical or manual sorting plants is relatively low. However, this system is not introduced in Poland yet, mainly due to the limited environmental awareness, inadequate infrastructure, and not appropriate transfer of information.

Although, thanks to educational actions conducted in municipalities the level of knowledge, for instance on hazardous waste, improves. In many public places there are special containers for batteries (schools, kindergartens, offices, supermarkets). In a number of pharmacies, you can return expired drugs.

All residents in Poland ought to collect waste selectively, according to the introduction of the new system in the second half of 2013. But not everybody sorts waste. This is due to the lack of knowledge, of information, lack of time, trouble with the organization of places of separation at home and infrastructural barriers – wrong placed containers for separation and containers not regularly emptied. Some people consider separation of waste as pointless, because they think that the sorted waste will be mixed anyway.

Reducing waste disposal costs via pay as you throw or PAYT systems is feasible for people living in single-family buildings, but is difficult to implement it in multi-family buildings where waste management is a part of rent that dwellers pay.

In Poland, EU law on waste management is transposed but problems occur in the implementation; achieving the targets for recovery and recycling rates remains difficult and practices related to waste management as not always sustainable. Many Member States are facing the problem of collection and disposal of waste. In such Member States as Hungary, Greece, Slovakia, Estonia, the Czech Republic, just like in Poland, the main method of waste disposal is landfilling.

In the largest Polish cities there are serious problems with the increasing amounts of municipal waste. It becomes more difficult to find suitable places for storage of waste, and yet slightly less than 70% of municipal waste is landfilled. According to the conducted research, it can be assumed that in Poland approx. 55% of waste can be recovered as secondary raw materials, 62% is suitable for composting, and 71% for thermal treatment.

According to the analysis above, the hierarchy is disturbed because relatively small amounts of waste can be recovered through the selective collection as the waste contains a significant degree of contamination. The levels of recovery or recycling are not very high while large amounts of waste go to disposal through landfill. Taking the above into consideration, it can be concluded that the amount of recyclable materials that could enter the market is quite limited, so the product life cycle is disrupted. In addition, this system is not profitable.

Due to a system of sorting at source which is not properly working and due to poor quality of waste fractions separated from mixed collection, the Polish recycling industry does not receive sufficient high quality waste material to develop profitable recycling cycles. The municipalities are responsible for the collection system and thus possess the key for the solution, but they lack the financial capacity to build and maintain a more performing collection scheme. This leads to continued low collection rates and recyclable material being disposed of in landfills, which is a waste market distortion. This case is transferable to all Member States suffering from low financial capacities at local or regional level that have delegated municipal waste collection responsibilities to these levels.

Policy advice

- Unify the standards of selective collection of municipal waste throughout the Member State
- Raise the fee for use of the environment in the case of the landfilling.
- Conduct environmental education and awareness on a large-scale for the society, emphasizing the need for proper waste collection and management.
- The fee for municipal waste management incurred by the owners of properties to the municipality should vary widely depending on whether the waste is collected separately or mixed.
- Introduce systems to encourage service providers (responsible for waste collection and management) to collect and receive waste in a selective manner.
- introduce minimum prices for recycled materials
- Establish levels of use of secondary raw materials during production in enterprises,
- Unify the use of returnable packaging across the EU
- Pilote effective systems of selective collection of waste in big cities
- Certify environmental technologies of municipal waste treatment only for technologies that meet BAT requirements, which prove to bring the lowest environmental impacts.
- The European Commission could more effectively and more specifically settle the funds provided for construction of waste treatment plants.

Introduce uniform reporting templates (simple and clear) that would unify and simplify the control method of the actually achieved levels of recycling and preparing for re-use and recovery of municipal waste.

11.2.6.2 Full case study report

CONTEXT

Policy

Waste can be specified as all unutilized products of human activity. The character and volume of generated waste depends on the quality and availability of raw materials, production techniques, technological progress, the standard of living and consumption, and on ecological awareness. The product (raw material, the final product), which is not developed and has no particular purpose, becomes waste. However, waste becomes a raw material or a material at the time of its use or purpose for development. Therefore, any material acquired, processed and moved by human being may be a useful product or waste.

In Poland waste management is conducted in accordance with basic legal acts:

- Act of 14 December 2013 on Waste (Journal of Laws 2013 item 630 as amended),
- Act of 27 April 2007 - Environmental Protection Law (Journal of Laws 2013, item 1232 as amended),
- Act of 11 May 2001 on obligations of entrepreneurs concerning the development of certain waste and product charges (Journal of Laws 2014, item 1413),
- Act of 13 June 2013 on packaging and waste packaging (Journal of Laws, item 888 as amended),
- Act of 20 January 2005 on Recycling decommissioned vehicles (Uniform text, Journal of Laws 2015, item 140 as amended),
- Act of 29 July 2005 on used electrical and electronic equipment (Uniform text, Journal of Laws 2013, item 1155),
- Act of 10 July 2008 on mining waste (Uniform text, Journal of Laws 2013, item 1136)
- Act of 24 April 2009 on batteries and accumulators (Uniform text, Journal of Laws 2015, item 687),
- Act of 29 June 2007 on the international shipment of waste (Uniform text, Journal of Laws 2015, item 1048).

Documents organizing waste management in Poland are: National Waste Management Plan 2014 (currently an update to this document is being prepared) and 16 Voivodship Waste Management Plans.

The National Waste Management Plan takes into consideration the National Environmental Policy for 2009-2012 with perspective to 2016 and assumes the following main objectives:

- Achieving recovery of a minimum of 60% and a recycling rate of at least 55% of packaging waste until 31 December 2014
- Gradual reduction of weight of landfilled biodegradable municipal waste, ranging from 75% in 2010, through 50% in 2013 ending with reaching the level of 35% until 2020 in relation to the weight of the waste generated in 1995,
- Collection in 2012 of 25% of discarded portable batteries and accumulators and in 2016 achieving the level of collecting 45% of this waste,
- Collecting per annum 4 kilograms per capita of the used electrical and electronic equipment (from households)

These objectives are in line with the European target values.

In 2013, a new municipal waste management system in Poland came into effect. With the approval of new voivodship waste management plans, voivodship parliaments passed resolutions on execution of the plans.

The resolutions define:

- Regions of municipal waste management
- Regional installations for municipal waste treatment (RIMWT) in different regions of municipal waste management and installations intended for substitute support of these regions until the time of start-up of regional installations for processing municipal waste, in the case when the installation located in them has failed or when it cannot collect waste for other reasons

Resolutions on the implementation of the voivodship waste management plan may indicate a municipal waste incineration plant as a transregional municipal waste incineration plant, in compliance with the provincial waste management plan.

Resolutions on the implementation of the provincial waste management plan are made as local ordinances.

In accordance with the new system of municipal waste management, a range of tasks of municipalities associated with the organization and supervision of waste management in the municipality has been added, including the provision of selective collection and recycling. Currently, in a tender procedure, municipalities are obliged to identify an entrepreneur responsible for municipal waste collection from property owners and / or for the management of this waste. Previously, waste collection took place on the principles of free market. The property owner concluded a voluntary agreement with an entity with an activity related to municipal waste collection.

According to the Act on waste, municipal waste can be processed in proper installations and devices that provide:

- mechanical-biological treatment of mixed municipal waste (MBT) and sorting of fractions suitable for recovery in whole or in part from the mixed municipal waste;
- processing of separately collected green waste and other bio-waste and the production of fertiliser or soil improver from them;
- storage of waste generated in the mechanical-biological treatment process of mixed municipal waste and storage of residues from the sorting of municipal waste on landfills. Its capacity to receive waste should allow to accept waste for a period of not less than 15 years and in an amount not less than the amount of waste generated in the plant for mechanical-biological treatment of mixed municipal waste (disposal);
- thermal conversion of waste (incineration)

On the basis of Act of 13 June 2013 on packaging and waste packaging (Journal of Laws item 888) , the regulation of the Minister of Environment of 12 March 2014 has been issued, on annual levels of recovery and recycling of waste packaging from households (Journal of Laws item 412) determining the annual levels of recovery (50%) and recycling (50 %) of waste packaging from households that the packaging recovery organization is required to consider until the end of 2020 in the achieved levels of total recovery and recycling of waste packaging.

The Act of 13 September 1996 on maintaining cleanliness and order in municipalities (Uniform text, Journal of Laws 2013, item 1399) introduces the following changes in the functioning of municipal waste management:

- Municipalities are obliged to accept municipal waste from owners of the properties
- Fees are imposed for the management of the collected municipal waste by the municipality
- A coordinating role for regional authorities on the development of the voivodship waste management plan and on appointing its regions, along with regional installations converting municipal waste.

It also specifies the levels of recycling, that the municipalities are obliged to achieve by December 31, 2020:

- 1) the level of recycling or preparing for reuse of the following fractions of municipal waste: paper, metal, plastic and glass at the level of at least 50% by weight;
- 2) the level of recycling, preparing for re-use and recovery of non-hazardous construction and demolition waste at the level of at least 70% by weight.

According to the above mentioned Act, municipalities are obliged to reduce the weight of biodegradable municipal waste transferred for landfill until 16 July 2020 to no more than 35% of the total weight of biodegradable municipal waste produced in 1995, in line with the Landfill Directive.

According to the Act on maintaining cleanliness and order in municipalities, selective collection of municipal waste in the municipality should include at least the following fractions of waste: paper, metal, plastic, glass and multi-material packaging and biodegradable municipal waste, including biodegradable packaging waste. Places for selective collection of municipal waste are created for such municipal waste as: expired drugs and chemicals, used batteries and accumulators, used electrical and electronic equipment, furniture and other bulky waste, used tires, green waste and construction and demolition waste being a municipal waste.

The collection of municipal waste is a responsibility of the municipalities. The method of collection is defined in the Regional Waste Management Plan for each region. Thus, the waste is collected considering different systems. In Poland there are mainly the following municipal waste collection systems:

- A two container system, in which dry (eg. recyclable materials) and wet (eg. biodegradable) waste is collected separately
- A three container system, in which dry waste (eg. recyclable materials), wet waste (eg. biodegradable) and glass is collected separately
- A more than three container system, in which the mixed waste collection is complemented by selective collection of mostly paper, plastic, glass, metal and sometimes biodegradable waste.
- A collection system using bags, in which waste as above is collected in colored plastic bags. Sometimes bags for separate collection are available for citizens free of charge.

Bulky waste collection is often carried out in the form of "shop windows", which means that anyone can deliver such waste free of charge at a specified location. In the municipalities there are places (at least 1 per municipality), where residents can provide electrical waste and electronic equipment free of charge. Under the waste management system, collection of used batteries and accumulators is conducted by providing containers for instance in educational and municipal institutions, as well as in stores.

In order to engage residents to collect waste selectively, environmental education actions are conducted. Such actions as: "Earth Day" or "Clean Up the World" – are organized regularly and they are mainly aimed at school children.

Waste statistics

Using data from the Polish Central Statistical Office (CSO), Eurostat and the Voivodship Waste Management Plans information concerning waste management in Poland can be retrieved.

In 2010 approx. 113.478 million tonnes of total waste was produced, while in 2014 this amount was 131.256 mln tonnes, of which in 2010, 74% of waste was recovered, 23% disposed (including 80% landfill) and approx. 3 % was temporarily stored. In 2013, approx. 69% of waste was recovered, 29% disposed (including 89% landfill),

approx. 2% was temporarily stored. However, in 2014. Approx. 21% of the waste has been recovered, 20% disposed (including 84% landfill), 57% was transferred to another recipient and 2 % were stored temporarily (CSO).

Municipal waste was collected in 2010 in the amount of approx. 10.040 mln tonnes and in 2013 of approx. 9.473 mln tonnes of which in 2010 approx. 0.890 million tonnes was collected separately (which is approx. 8.6%, including 20% paper and cardboard, 25% glass, 14% plastics, 2% metals, 4% textile, 0.1% hazardous, 1% electrical and electronic equipment waste, 12% bulky waste and 21% biodegradable waste) and in 2013 more or less 1,275 million tonnes was collected separately (which is 13.5% including approx. 15.4% paper and cardboard, 24.8% glass, 17.2% plastics, 1.4% metals, 2.9% textiles, 0.1% hazardous waste, 2.1 % waste from electrical and electronic equipment, 10.7% bulky waste, 24.5% biodegradable waste and 0,9% another waste). In 2010, an average of 316 kg municipal waste was generated per capita, however in 2013 this number decreased to 297 kg per capita (CSO).

In 2010, around 81% of the collected mixed municipal waste went to the landfills (633 landfills were active), however in 2013 it decreased (431 landfills were active) to 67% (CSO). This value is close to the average for the European Union.

Nowadays, in Poland, 100% of the population is included in the waste collection system.

The treatment of municipal waste is mainly done through mechanical-biological methods (MBT). Municipal waste is disposed in small quantities in waste incineration plants.

In Poland, at the end of 2013, more than 980 municipal waste treatment plants (regional installations for transforming municipality waste and substitute installations for transforming municipality waste) use technologies associated with mechanical-biological treatment of mixed municipal waste, processing of separately collected green waste and other bio-waste and the disposal of residual waste generated in the process of mechanical-biological treatment of mixed municipal waste. There are more than 700 substitute installations (reserve of regional installations for transforming municipality waste for example in sudden cases).

The situation should significantly change, since it is expected that by the end of 2016 6 new installations for thermal treatment of waste will operate in Poland (in Kraków, Poznań, Bydgoszcz, Szczecin, Konin and Białystok) with a total capacity of approx. 1 million tonnes.

These installations will allow for a better compliance of waste management to the requirements of Polish and EU law. They will contribute to environmental quality improvement as well as to reducing the amount of waste going to landfills.

The municipal waste treatment market is operated in approx. 60% by Polish entities and in approx. 40% by foreign entities.

It is estimated that in 2013 the prices of municipal waste collection have risen by approx. 30% compared to 2012, while a decrease in the amount of generated waste) of almost 16% in comparison to year 2012 is observed. The latter may be a consequence of a change in the method of classifying the waste.

The amount of waste of electrical and electronic equipment (WEEE) collected in 2010 was 2.801 kg per capita whereas in 2013, this level was 4.303 kg per capita (Eurostat).

In 2010, the amount of disposed waste resulting from end-of-life vehicles (ELV) amounted to 23,766 tonnes. In 2013 33,703 tonnes of such waste was disposed of (Eurostat).

In 2010, 4,292,969 tonnes of packaging waste was generated and in 2013 it was 4 826 420 Mg. In 2010, the recovery rate was 53.7% (the EU average is 76.3%) and in 2013, 50.4% (the EU average is approx. 79%), while in 2010 recycling amounted to 38.9% (the EU average is 63.3%) and in 2013 it was 36.1%. (the EU average is approx. 65%) (Eurostat).

In 2013, 11 264 tonnes of portable batteries and accumulators was introduced on the Polish market, however approx. 3 170 tonnes of them were collected as waste, which is approx. 30% (Eurostat).

In 2010, recycling of municipal waste reached the level of 21.4% (the EU average is 38%), while in 2013 it increased to 24.2% (the EU average is 41.8%) (Eurostat).

In 2010 recycling of electrical and electronic waste reached 17.7% and in 2012 it increased to 30.4% (Eurostat).

Summary

- The total amount of waste generated in 2014 was nearly 16% higher than in 2010.
- The amount of municipal waste collected in 2013 was about 5.6% lower than in 2010, while the level of waste collected selectively increased by about 43%.
- In Poland, an average of 300 kg of municipal waste is generated per capita.
- In 2013, there was about 32% less active landfills than in 2010.
- It can be noticed that in 2013, around 22% less of collected mixed municipal waste were brought to the landfills than in 2010. The amount of landfill municipality waste is now close to the average for the European Union.
- Over 12% more packaging waste was generated in 2013 than in 2010. The level of recovery rate was higher by about 3.3% in 2010 than in 2013, while the level of recycling was also higher in 2010 than in 2013 by about 2.8%. The recovery rate and the level of recycling are more than 28% lower in Poland than in EU.
- The recycling of municipality waste was about 2.8% higher in 2013 than in 2010.
- 100% of the population is included in the waste collection system.
- The treatment of municipal waste is mainly done through mechanical-biological methods (MBT).
- In Poland, by the end of 2013, more than 980 municipal waste treatment plants (regional installations for transforming municipality waste and substitute installations for transforming municipality waste) use technologies associated with mechanical-biological treatment.
- It is expected that 6 new installations for thermal treatment of waste will operate in Poland by the end of 2016, with a total capacity of approx. 1 million tonnes.
- In 2013, prices of municipal waste collection have increased by approx. 30% compared to 2012, and decrease in the amount of generated waste of almost 16% in comparison to year 2012 is observed.
- The amount of waste of electrical and electronic equipment (WEEE) is collected on the level of 4.303 kg per capita.
- The amount of disposed waste resulting from end-of-life vehicles (ELV) increased in 2013 by about 42% compared to 2010.
- In 2013, approx. 30% of the portable batteries and accumulators introduced to the Polish market was collected as waste.
- The level of recycling of electrical and electronic waste increased by about 13% in 2012 compared to 2010.

ALLEGATION

New members of the European Union often choose waste collection systems in which the waste is being mixed (eg. two containers systems with a split up between dry waste and wet). This results in a much lower capital cost, but eventually lower recycling efficiency due to greater contamination of recyclables. This problem mainly applies to the municipal solid waste generated by residents, since waste generated by

enterprises is usually managed in a way consistent with the waste treatment hierarchy, mainly for economic reasons.

The literature research, the interviews with selected stakeholders and the first stakeholder meeting indicated following possible distortions:

The Confederation of European Paper Industries (CEPI) indicates:

A provision has been set in the WFD (2008) art 11.1 third sentence to set up separate collection for paper. The goal of this provision is to maintain the quality of the material, to avoid cross contamination resulting in loss of part of the material and thus lower the costs of further sorting or treatment. CEPI argues that some Member States do not interpret this correctly by allowing the comingled collection of "recyclables" and calling it separate collection, but which is less effective in terms of recyclability of the material than sorting at source and may thus cause distortions in terms of the waste treatment hierarchy."

The confederation of European waste to energy plants (CEWEP) indicates

"The Waste Framework Directive sets a target for 2020 that 50% of household waste should be recycled. However there are a number of ways in which this recycling rate can be calculated. It can be based only on some waste streams (plastics, paper, glass, metal) or on the total of municipal waste. And the monitoring can be based on the amount collected for recycling or the much (lower) amount that is actually recycled. These differences in calculation make comparison hard."

Municipal Waste Europe (MWE) indicates:

"Overall, MWE poses that waste will always flow to the cheapest solution and that proper legislation is necessary to primarily ensure safety and health and to protect the environment. Secondary, harmonisation is important to ensure the efficient functioning of the waste market. The more waste is mixed, the more complex it becomes to recycle, the waste recycling costs increase significantly and the risks for market distortions increase correspondingly."

The umbrella organisation of producer responsibility systems engaged in the selective collection and recycling of packaging waste PRO-Europe states:

"The markets are distorted because of the different waste management practices between Member States and lack of enforcement is the main issue. There are countries with a high degree of landfill and there is a lot of variation in how waste is dealt with and treated at the national level as in some countries there is a strong push to increase energy recovery and recycling while in other countries there is still plenty of landfilling going on with prices that are very attractive."

The European Commission states in its 2014 Communication 'Towards a circular economy':

"Europe has made substantial progress in turning waste into a resource and promoting sustainable ways of waste management such as recycling. However, performance varies considerably between Member States. Six have already effectively eliminated the landfilling of municipal waste, reducing it from 90 % to less than 5 % in the past 20 years and reaching recycling rates of 85 % in certain regions. In others over 90 % of waste is still landfilled and less than 5 % is recycled."

The study "Ex-post evaluation of certain waste stream Directives" indicates:

"The cost-efficiency of recycling is increased by the implementation of recycling targets, Extended Producer Responsibility (EPR) schemes and landfill taxes. For EPR schemes in particular, the efficiency and effectiveness of a scheme depend on the proportion of costs covered by producers' contributions to collection, sorting and recycling packaging waste. Currently, these factors vary significantly between Member States. The lack of harmonisation of provisions of the Packaging and Packaging Waste (PPW) Directive Directive contributes to a less cost-effective implementation and imposes distortions in the internal market. Challenges are also imposed by the introduction of new products and materials that affect the efficiency of the waste collection, sorting and treatment."

The Polish economy has lost significant quantities of secondary raw materials, which are found in waste streams. Too much waste is landfilled in relation to how much municipal solid waste is produced. In this way Poland loses significant opportunities to increase the efficiency of resource development or to create a closed-circuit economy, leading to sustainable economic growth and job creation, which would result in reduction of greenhouse gas emissions and economic independence.

CASE DESCRIPTION

The choice of a waste collection system limited to a split up in dry waste fraction (collected in one container, eg. paper, cardboard, newspapers, magazines, books etc., packaging made of glass, plastic packaging, packaging of metal, composite packaging) and wet waste (other municipal waste) generates relatively low investment costs while the received recyclable materials are significantly polluted. This system is used in Poland, for instance in the city of Kraków. Pollution of collected waste also enhances the lack of awareness (education) of the inhabitants. Dry waste fractions usually go to the mechanical sorting of mixed waste. Receiving uncontaminated recyclable materials, fit to continue the production cycle through recovery, recycling, reuse, causes engagement of relatively large financial resources.

Separation of "dry-wet" type causes reduction of the number of waste containers to two. This method shortens the process of separation at source. Dry material is collected in one container, wet in the second. Many people often throw mixed waste into the container for dry fractions. Another element is that waste should be washed and dried before placing it into the container for dry fraction and when this lacks this waste is not properly fit for further treatment. People often trade off the environmental impact of wasting water in order to wash the container after eating yoghurt or to throw the unwashed waste in a regular garbage bin.

The most efficient system for the collection of waste is a separation system of specific waste streams at source. At the same time, it is a system with the highest investment costs. However, through the awareness (education) of residents, the collected recyclable materials are less contaminated and therefore, the cost of cleaning at mechanical or manual sorting plants is relatively low.

Separation at source, limits the amount of the landfilled waste and increases the level of raw material recycling of high quality waste, compared to contamination in mechanically sorted wastes.

However, this system is not introduced in Poland yet, mainly due to the limited environmental awareness, inadequate infrastructure, and not appropriate transfer of information. The awareness for separation of basic fractions of waste (paper, glass, metal and plastic) is fully installed with residents. Nevertheless, there is waste that cannot be easily classified, such as a beverage container. This is a multi-material waste and many residents throw these boxes into the mixed waste bin. Lack of recipients dedicated to these packages becomes a problem. Further problematic waste products are for instance polystyrene or window-pane (treated as ordinary glass so it often goes to the glass container). Post-renovation waste such as rubble, remnants of different materials, paint and packaging also end up in wrong containers polluting potential secondary raw materials.

Although, thanks to educational actions conducted in municipalities the level of knowledge, for instance on hazardous waste, improves. In many public places there are special containers for batteries (schools, kindergartens, offices, supermarkets). In a number of pharmacies, you can return expired drugs. Problems occur with light bulbs. People often do not know what to do with them and they tend to throw them to the container for glass. Bulky waste, for instance old furniture and household items are given away during "shop windows" – these are actions fully in line with circular economy. There is a problem with small electronic equipment. Residents sometimes give it away at yard sales and sometimes leave it in special containers placed in supermarkets or in stores selling such equipment.

All residents in Poland ought to collect waste selectively (according to the introduction of the new system in the second half of 2013.). But not everybody separates waste. This is due to the lack of knowledge, of information, lack of time, trouble with the organization of places of separation at home and infrastructural barriers – wrong

placed containers for separation and containers not regularly emptied. Some people consider separation of waste as pointless, because they think that the sorted waste will be mixed anyway.

A method that could encourage to separate, is financial motivation, namely - reducing waste disposal costs via pay as you throw or PAYT systems. It is clearly visible for people living in single-family buildings, but it is difficult to implement it in multi-family buildings, because waste management is a part of rent that they pay.

In Poland, EU law on waste management is directly transposed so there is no legal distortion connected with the operation of the waste market but problems occur in the implementation in the field : achieving the targets for recovery and recycling rates remains difficult and practices related to waste management as not always sustainable.

Many Member States are facing the problem of collection and disposal of waste. In such Member States as Hungary, Greece, Slovakia, Estonia, the Czech Republic, just like in Poland, the main method of waste disposal is landfilling. This is contrary to the EU regulations, according to which landfill is permitted only when no other methods can be used. One strategy to reduce the landfilled waste stream is the selective collection of waste.

In the largest Polish cities there are serious problems with the increasing amounts of municipal waste. It becomes more difficult to find suitable places for storage of waste, and yet slightly less than 70% of municipal waste is landfilled. According to the conducted research, it can be assumed that in Poland approx. 55% of waste can be recovered as secondary raw materials, 62% is suitable for composting, and 71% for thermal treatment.

In many European countries, special programs were introduced and improved concerning the recovery of raw materials from municipal solid waste, for instance in Germany target for the waste recovery was assumed at 80% and in the UK at 50%. Most Western European countries focused on the thermal treatment of waste as a way of waste disposal. This applies to: Belgium, Switzerland, Germany, Denmark, France, Luxembourg, Norway and the Netherlands. Major achievements in composting are seen in: Austria, Spain, Portugal and France. The best achievements in recycling are seen in: Switzerland, Denmark, Germany, the Netherlands, Sweden, Finland and Spain. While in Polish landfills, data plastic packaging, primarily disposable bottles constitute approx. one quarter of the landfilled material.

Landfilling is necessary after having exhausted all other possibilities of waste treatment. Even when landfills comply with all conditions of complete isolation from the environment, they still occupy unproductively more and more land of certain areas and represent a loss of usable material.

According to the case described above, the hierarchy is disturbed because relatively small amounts of waste can be recovered through the selective collection as the waste contains a significant degree of contamination. The levels of recovery or recycling are not very high while large amount of waste goes to disposal through landfill. Taking the above into consideration, it can be concluded that the amount of recyclable materials that could enter the market is quite limited, so the product life cycle is disrupted. In addition, this system is not profitable.

CONCLUSIONS

The waste Act as well as the EU Waste Directive define the hierarchy of waste procedures as: prevention of waste formation, preparing waste for re-use; recycling; other recovery processes; disposal.

According to the described case, it can be concluded that the hierarchy is disturbed in Poland by obtaining a relatively small amount of waste from selective waste collection, waste which is moreover significantly contaminated, so that the levels of reuse or recycling are not very high.

High-quality recycling requires clean recyclable materials, while those from the stream of mixed waste are of incomparably lower quality than those collected separately at source. Thus, recyclable materials are not properly used. There is no smooth high quality raw material supply from recycled waste, which hinders the development of the real closed circuit economy. Hence, there is a necessity for primary raw material use.

In Poland, EU law on waste management is directly transposed so there is no legal distortion connected with the operation of the waste market but nevertheless achieving targets on recovery and recycling remains difficult and practices related to waste management are not always sustainable.

The main factor contributing to this situation is the lack of funds that are needed to implement performing waste collection and treatment. There are much more finances needed for the development of selective collection of waste at source than for the mixed waste collection system.

Moreover, inadequate public awareness means that part of the population does not act in a way enabling efficient use of recyclable materials contained in waste. People no longer care about proper waste management because they are improperly informed by the municipalities about economic issues related to municipal waste management.

Considering all the information included in this document, it can be stated that the actual waste collection policy hinders optimal waste management. Lack of proper communication causes interference in functioning of the municipal waste market. The financial aspect plays a major role in this issue.

Due to a system of sorting at source which is not properly working and due to poor quality of waste fractions separated from mixed collection, the Polish recycling industry does not receive sufficient high quality waste material to develop profitable recycling cycles. The municipalities are responsible for the collection system and thus possess the key for the solution, but they lack the financial capacity to build and maintain a more performing collection scheme. This leads to continued low collection rates and recyclable material being disposed of in landfills, which is a waste market distortion. This case is transferable to all Member States suffering from low financial capacities at local or regional level that have delegated municipal waste collection responsibilities to these levels.

The following solutions can improve the efficient functioning of the waste market:

- Unify the standards of selective collection of municipal waste throughout the Member State
- Raise the fee for use of the environment in the case of the landfilling.
- Conduct environmental education and awareness on a large-scale for the society, emphasizing the need for proper waste collection and management.
- The fee for municipal waste management incurred by the owners of properties to the municipality should vary widely depending on whether the waste is collected separately or mixed.
- Introduce systems to encourage service providers (responsible for waste collection and management) to collect and receive waste in a selective manner.
- introduce minimum prices for recycled materials
- Establish levels of use of secondary raw materials during production in enterprises,
- Unify the use of returnable packaging across the EU

- Pilote effective systems of selective collection of waste in big cities
- Certify environmental technologies of municipal waste treatment only for technologies that meet BAT requirements, which prove to bring the lowest environmental impacts.
- The European Commission could more effectively and more specifically settle the funds provided for construction of waste treatment plants.
- Introduce uniform reporting templates (simple and clear) that would unify and simplify the control method of the actually achieved levels of recycling and preparing for re-use and recovery of municipal waste.

12 Annex VI Additional conclusions and recommendations

12.1 Annex VI.1 Additional Conclusions

12.1.1 Setting minimum levels of requirements to be applied in all Member States

The second stakeholder meeting indicates how certification of waste facilities within the EU could be implemented to ensure high quality waste treatment. In addition, the yourvoice survey also concluded that some minimum level requirements applied in all Member States could be a potential solution to the waste market distortions. In particular, legally binding standards for waste facilities have been advocated as well as setting minimum requirements for treatment of the waste on the higher levels in the waste hierarchy.

This type of solution can also apply to setting a minimum level of landfill tax to be applied in all Member States. The EC report on the use of economic instruments and waste management performances¹³⁶ states the following: "Whilst recommending the same minimum taxation level for all Member States is not appropriate, a common method for calculating a minimum tax level could be developed, and taxes could be more strongly encouraged in the worst performing Member States". For Member States that have bans that effectively prohibit the landfilling of untreated MSW, it may not be necessary to impose a tax. A way in which this policy option could be implemented could be a revision of the Landfill Directive, a Decision addressed to the Member States, or, if a non-legislative approach is preferred (although this would be more difficult to enforce), guidance issued to the Member States. This is largely in line with the solutions discussed in case 9 on Dutch incineration taxes.

This type of solution can be applied across a variety of waste market distortions in order to induce a certain level of harmonisation between Member States.

12.1.2 Make more use of regulations than directives to avoid differences in transpositions

Another potential solution to limit non-uniform application and implementation of EU law is to enact regulations rather than directives (WEEE Forum). Regulations are self-executing and do not require any implementing measures, while directives leave the means of achieving a particular result up to the Member State. This can create distortions in the markets.

12.1.3 Provide economic incentives

In addition to providing targeted advice, decreasing landfill and incineration rates could be done through use of Structural and Cohesion funding.¹³⁷ Stakeholders within case 8 suggest that the European Commission could more effectively and more specifically settle the funds provided for construction of waste treatment plants. Moreover, landfill, incineration, aggregates and construction waste tax could be

¹³⁶ BIOIS et al. (2012). The use of economic instruments and waste management performances.

¹³⁷ European Commission. (2013). Commission report on the implementation of the EU waste legislation for the period 2007 – 2009, COM(2013) 6 final

increased to a certain level.¹³⁸ This provides incentives to improve waste management performance. A recent study for DG Environment (2012) demonstrated that a relationship exists between higher landfill taxes and lower percentages of municipal waste being sent to landfill.¹³⁹ Case 8 demonstrates a link between higher landfill gate fees and lower municipal waste generation. In addition, the Eunomia (2014) paper states that besides landfill taxes, incineration taxes should be implemented to ensure movement of waste into the upper tiers of the hierarchy.¹⁴⁰ Similar conclusions on using taxes as incentives to take a more circular approach are stated by the House of Commons paper.¹⁴¹ The positive impacts of waste taxes have been also discussed in case 9 on Dutch incineration taxes.

The second workshop indicates how transparency on waste related data and how waste management is funded by the EU should be improved.

12.1.4 Develop the raw materials diplomacy

Via diplomatic means, the Commission and its Member States could promote international regulatory cooperation and convergence. This solution for market distortions has been suggested by the Commission's latest industrial policy communication, applicable to raw materials but indirectly to waste management.¹⁴²

12.1.5 Standardise waste collection system within a country

The UK House of Commons report states that in order to improve recycling, there needs to be a clear and common message about the collection of waste. This could be achieved by moving towards a more common scheme for waste collection, which would simplify things for the consumer.¹⁴³ This is in response to the divergent local waste collection schemes which create confusion. The report also states that recycling needs to be simple and *"that the two main things that can be done to promote recycling behaviours are 'absolute consistency of messaging and clarity of infrastructure', and 'to turn those [recycling] behaviours as soon as possible to habitual behaviours, rather than demanding cognitive effort from people.'"* *"This should include separation systems that enable reliable delivery of compatible sorted waste products to all recyclers, separate food waste collections, and a ban on food waste to landfill."*

Case 8 illustrates how in Poland different systems of municipal waste collection, with a two bin system for dry and wet waste, a three bin system or a more elaborated system of source separated municipal waste collection are in force in the different voivodships. This could lead to a regional differentiation of the quality of the collected recyclates and hinder the development of a market-broad recycling industry.

¹³⁸ Eunomia. (2014). Study on environmental fiscal reform potential in 12 EU Member States

¹³⁹ BIOIS et al. (2012). the use of economic instruments and waste management performances. Final Report to DG Environment.

¹⁴⁰ Eunomia. (2014). Study on environmental fiscal reform potential in 12 EU Member States

¹⁴¹ House of Commons Environmental Audit Committee. (2014). "Growing a circular economy: ending the throwaway society", Third Report of Session 2014-15, London: The Stationery Office Limited

¹⁴² European Commission. (2014). Communication "For a European Industrial Renaissance", COM(2014) 014 final

¹⁴³ House of Commons Environmental Audit Committee. (2014).

12.1.6 Clear communication lines

Case 4 on Danish waste classification and shipment of mixed plastic waste showed that clear communication between the waste management companies and public authorities is crucial. In this case the waste management company did not communicate the composition of the mixed plastic waste stream to the authorities, which resulted the waste stream to be classified as amber-listed waste, and hence subject to the notification procedure, which the waste management company resented.

The House of Commons report also recommended to have a 'one common message' on waste collection for consumers. The Trinomics report on fiscal instruments¹⁴⁴ also concluded that "*(fiscal) incentives need to be clearly communicated to consumers to have an impact on the demand for goods and services (e.g. as has been the case with respect to promoting energy efficiency).*"

12.1.7 Cooperation between authorities

The survey "Your Voice" shed light on the importance of cooperation between authorities at different levels: between Member States and the Commission's different DGs, across Member States, and between authorities in a country. The Commission could take a more proactive role in providing platforms for debate between national/ regional/ local authorities, encourage best practice sharing and foster collaboration between policymakers and industry.

Case 1 on the notification procedure under the WSR also stressed the importance of cooperation between authorities in the different Member States. Cooperation between the Member States and with other regulators, such as the Police and Customs (most IMPEL inspections are carried out jointly with either or both of these bodies) is rather high, but for some countries it is non-existent. These countries should promote such cooperation through e.g. service level agreements, memoranda of understanding, etc. In addition, the national authority could support the regional consent authorities in order to improve coordination and consistency and as such speed up the process a bit.

12.1.8 Innovation pathways on technology and markets

Specific regarding current waste markets, the European Innovation Partnership(EIP) on Raw Materials should be addressed on issues such as the contamination of comingled collection (e.g. glass & paper in the UK). UK organises the comingled collection of paper with glass, which seems to be problematic in terms of cross contamination, according to CEPI. New Member States setting up new collection systems, often choose a comingled collection system, leading to lower amounts being recycled and higher contamination of the materials. Technological innovation on this contamination aspect should be encouraged.

12.1.9 Certification schemes for Environmentally Sound Management (ESM) of waste

A study on 'the Feasibility of Introducing a Certification Scheme/Standard for Recycling Treatment Facilities (ARCADIS & RPA, 2012)¹⁴⁵ indicates certification

¹⁴⁴ Triple E Consulting. (2014). Fiscal instruments to stimulate a more circular economy, forthcoming

¹⁴⁵ ARCADIS & RPA. (2012). The Feasibility of Introducing a Certification Scheme/Standard for Recycling Treatment Facilities

schemes and standards as a tool that allow the demonstration that waste exported from Europe to non-OECD countries is treated in an environmentally sound manner. In this way a major market distortion (ecodumping) can be prevented. *"Under the relevant regulatory provisions, export to non-OECD countries of non-hazardous waste for recovery is either more strictly regulated than exports between Member States (through prohibition, full notification or national provisions). Export between Member States only requires an identification form and a contract. In relation to the treatment of waste, there are no internationally binding resolutions."* But even in case of equivalent regulation, waste shipment always has to comply with the provision to respect the waste treatment hierarchy and to export waste to installations which manage the waste in an environmentally sound manner and in a way broadly equivalent to standards established in Community legislation (art 49 Waste shipment Regulation). In order to avoid market distortions this broad equivalence needs to be certified in a standardised way.

The study indicated sources of market distortion: *"One of the major driving forces behind waste exports is economic. Lower labour costs in developing countries, which may be combined with possibly weaker, poorly enforced or nonexistent environmental and social regulations, translate into reduced costs for the disposal and treatment of waste. Despite the legislative controls in place, waste (particularly metal and e-waste) is frequently exported to developing countries, often in violation of international law."*¹⁴⁶

In these terms, several actions are incorporated in the third pillar of the Raw materials Initiative of European Commission (2008)¹⁴⁷ and the further communications (2011, 2013)¹⁴⁸. To address shortcomings in the implementation and enforcement of the Waste Shipment Regulation, the Commission proposed to:

- Ensure precise and workable inspection standards for waste across the EU. This will allow for further efforts to facilitate the control of shipments by customs authorities;
- Consider using FP7 research funding to help improve technologies for detection, identification, tracking and location of illegal shipments;
- Examine the feasibility of applying a global certification scheme for recycling facilities to the export of waste streams, building on environmentally-sound management criteria;

The study of ARCADIS & RPA (2012) proposes a mandatory certification scheme featuring third-party verification. *"Such a scheme would ensure that waste exported from the European Union would only be treated in waste recycling facilities which meet the requirements for environmentally sound management (ESM). This would also guarantee that treatment facilities are monitored continuously and meet the expected ESM standards. Through the implementation of such a mandatory scheme, harmonisation is ensured across the sector, by ensuring that all operations comply with the applicable rules and regulations."*

¹⁴⁶ Europol. (2011). EU Organised Crime Threat Assessment (OCTA 2011)

¹⁴⁷ European Commission (2008) Communication from the Commission to the European Parliament and the Council - The raw materials initiative : meeting our critical needs for growth and jobs in Europe {SEC(2008) 2741}

¹⁴⁸ European Commission (2011, 2013) Report from the Commission on the implementation of the Raw Materials Initiative.

http://ec.europa.eu/growth/sectors/raw-materials/policy-strategy/index_en.htm

Third-party attestation or verification, on the other hand, involves an independent certifying body and is therefore more likely to deliver consistency and a high level of confidence with regards the data reported. It can also lead to increased predictability in costs, as prices can generally be agreed with certification bodies for up to three year periods. The involvement of certification bodies also ensures that the audit procedure is carried out in an impartial and objective manner and, as such, it is perceived as a more reliable and equitable way of carrying out certification when compared to self-certification."

Several stakeholders (Eurometaux, CEPI) are in favour of setting up a certification system with a minimum of control, not only to improve the quality of recycled products but also to control if (all of) the waste is effectively being recycled

12.1.10 New policy measures enabling the transition towards a circular economy

The Communication 'towards a circular economy'¹⁴⁹ describes the market failures as:

- (1) Existing infrastructure, business models and technology, together with established behaviour keeping economies 'locked-in' to the linear model;
- (2) Companies may lack the information, confidence and capacity to move to circular economy solutions;
- (3) The financial system often fails to provide for investment in efficiency improvements or innovative business models, which are perceived as more risky and complex, deterring many traditional investors.;
- (4) Conventional consumer habits can also hinder new products and services development. Such barriers tend to persist in a context where (4a) prices do not reflect the real costs of resource use to society, and where (4b) policy fails to provide strong and consistent signals for the transition to a circular economy.

The Commission recognises the need "to develop an enabling framework for the circular economy using measures which combine smart regulation, market-based instruments, research and innovation, incentives, information exchange and support for voluntary approaches". It wishes to engage in the establishment of an enabling policy framework for resource efficiency at EU level. Measures at national and regional level are to be taken as well, considering the subsidiarity principle and the different levels of policy autonomy. While the lack of such measurements hamper the development of a circular economy today, the unequal development in Member States of infrastructure and technology, information sharing, financial investment support for innovation, integration of externality costs and policy consistency may lead to counterproductive new market distortions and shopping behavior within the sectors.

The Communication 'towards a circular economy'¹⁵⁰ describes innovation pathways to reach a circular economy. The following approaches are also helpful to phase out market distortions if applied equally in Member States under specific conditions (examples of instruments added):

- *Reducing the quantity of materials required to deliver a particular service (lightweighting)*; e.g. though universally applicable technical standards in the EU market.

¹⁴⁹ European Commission. (2014). Communication "Towards a circular economy: A zero waste programme for Europe".

¹⁵⁰ *ibid*

- *Lengthening products' useful life (durability)*; e.g. through further expanding and standardising the warranty periods until they cover the expected and reasonable useful life of an equipment.
- *Reducing the use of energy and materials in production and use phases (efficiency)*; e.g. through universally applicable technical standards in the EU market.
- *Reducing the use of materials that are hazardous or difficult to recycle in products and production processes (substitution)*; e.g. through expanding product standards in WEEE/RoHS, Packaging essential requirements, REACH use restrictions, ELV, Batteries and other comparable EU-level legal instruments.
- *Creating markets for secondary raw materials (recyclates) (based on standards, public procurement, etc.)*; e.g. through setting targets for green public procurement.
- *Designing products that are easier to maintain, repair, upgrade, remanufacture or recycle (ecodesign)*; e.g. through developing market wide policy measures against programmed obsolescence.
- *Developing the necessary services for consumers in this regard (maintenance/repair services, etc.)*; e.g. at national/regional scale.
- *Incentivising and supporting waste reduction and high-quality separation by consumers*; e.g. creating a level playing field at the level of sustainable consumption.
- *Incentivising separation, collection systems that minimise the costs of recycling, and reuse*; e.g. by professionalising and adapting infrastructure and logistics to the needs of a circular economy, removing technical and organisational barriers in all Member States.
- *Facilitating the clustering of activities to prevent by-products from becoming wastes (industrial symbiosis)*; e.g. removing legal or market obstacles against industrial symbiosis for these cases where industrial symbiosis would lead to treatment higher up into the waste management hierarchy.

Encouraging wider and better consumer choice through renting, lending or sharing services as an alternative to owning products, while safeguarding consumer interests (in terms of costs, protection, information, contract terms, insurance aspects, etc). e.g. removing legal or market obstacles against a sharing economy.

12.2 Annex VI.2 Additional recommendations

The advice also mentioned in the core text is indicated in *italic*.

Policy advice:

12.2.1 Lack of clear and harmonised definitions and recycling rate calculations

At EU level:

- Integrate a clear and useful definition of household and of municipal waste, in a harmonized way, in the Waste Framework Directive, the Waste Statistics Regulation, the Waste Shipment Regulation, the Packaging and Packaging Waste Directive and other relevant legislation. The definition included in the legal proposal accompanying the Circular Economy Communication of 5/12/2015 could serve for this purpose.
- Foresee guiding principles with a binding character, or with sufficiently high moral force, to support Member States in a clear and detailed way to apply the definitions and thresholds of municipal and household waste in a harmonized way.

- Foresee guiding principles with a binding character, or with sufficiently high moral force, to support Member States in a clear and detailed way to apply the definitions of recovery, recycling and disposal, including the use of backfilling.
- Develop transparent and uniform methods, amending Commission Decision 2011/753/EU into uniform reporting templates (simple and clear) that would unify and simplify the control method of the actually achieved levels of recycling and preparing for re-use and recovery of municipal waste.
- Include the hazardous/non hazardous waste criteria from the Waste Framework Directive into the way in which the annexes III and IV of the Waste Shipment Regulation should be read.
- *Develop a guideline, if possible supported by a web tool, to guide stakeholders and Member States in a harmonized way through the analyses for distinguishing between hazardous and non hazardous waste.*
- Guidance on good application of the precautionary principle, especially in case of non-listed but proven non-hazardous waste fractions or mixtures is also needed.
- Harmonise waste statistics by replacing the freedom of choice in art. 3 of the Waste Statistics Regulation¹⁵¹ by more binding methodological prescriptions assuring higher quality of the statistics.
- When amending the Waste Statistics regulation, involve the users of the statistics (policy experts) as well as statisticians (data quality experts) to obtain the right-for-purpose statistics, to avoid that e.g. policy targets are based on concepts not covered by measurable statistics.

At Member State level:

- *Enforce the way in which industry or local authorities or service providers distinguish between municipal and commercial/industrial waste, between recycling, recovery and disposal, between hazardous and non-hazardous (or green and amber) waste.*
- Establish more performing and more harmonized ways to collect and to aggregate waste data and waste statistics. Waste statistic should be fit-for-purpose, reliable and comparable, to allow for optimized information exchange, high quality policy evaluation and level playing fields regarding compliance with policy targets

12.2.2 Lack of transparency in EPR schemes

At EU level

- *The Commission could introduce guidelines on how to organize schemes for extended producer responsibility, disregarding whether these are obligatory or voluntary. These guidelines should take into account rules for a transparent calculation of the collection and recycling performances, rules for true cost*

¹⁵¹ Article 3 Collection of data

1. Member States shall, whilst complying with conditions as to quality and accuracy to be defined in accordance with the second subparagraph, acquire the data necessary for the specification of the characteristics listed in Annexes I and II by means of:

- surveys,
- administrative or other sources, such as the reporting obligations under Community legislation on waste management,
- statistical estimation procedures on the basis of samples or waste-related estimators, or
- a combination of these means.

attribution and distribution and for ways to implement as much as possible the polluter pays principle. The following principles could be included:

- *The definition and objectives of EPR should be clarified*
 - *The responsibilities and roles of each actor should be clearly defined along the whole product life cycle*
 - *The design and implementation of an EPR scheme should at least ensure the coverage of the full net costs related to the separate collection and treatment of the end-of-life products.*
 - *The fees paid by a producer to a collective scheme should reflect the true end-of-life management costs of its specific products.*¹⁵²
- In the specific Recycling Directives for packaging, ELV, WEEE and batteries, more harmonized systems to organize EPR could be imposed, at least by defining minimum requirements for each EPR system.

At EU and Member State level

- Both the Union and the national or regional authorities have to make efforts to guarantee full transparency on waste related data and on how waste management is funded in the different markets. Data on waste facilities and on prices should be up-to-date and available to market actors and the general public.
- When public infrastructure is used in the scheme, reliable market-based reference costs are to be used to reimburse public authorities. This should be done based upon local market conditions, although EU wide guidelines could be helpful. Fully transparent methods to attribute the right market costs for the use of public infrastructure can avoid that PRO's divert a part of their costs to public services and thus tax payers.

At Member State level

- The effectiveness of local collection schemes and methods in different regions or collectivities should be evaluated when used to implement EPR, taking into account the waste treatment hierarchy, the level of innovation, the resource efficiency and the transition towards a circular economy.

12.2.3 Export of waste provisions are considered as an administrative burden

At EU level

- *A waste-Schengen zone is a zone without administrative burden and a free movement of waste between specific Member States, combined with more stringent controls at the borders of this zone. This could overcome most of the mentioned market distortions, if combined with a guaranteed high level of environmental performance on waste treatment within these Member States and thus no leakage towards the lowest performing and cheapest solution.*
- *The Commission is advised to install a helpdesk service in which Member States can get support on the implementation of the legislation and the use of its definitions and provisions in specific cases.*

¹⁵² See paragraph 6.3.2.2 on how the legislative proposal on amending the Waste Framework Directive, which accompanies the Circular Economy package released on 2 December 2015, copes with these aspects.

- *The Commission can offer guidance and legal clarification on how to use the articles 11 and 12 as well as art 49, with clear do's and don'ts when referring to these articles to object against a shipment. Specific attention is needed on the application of proximity and self-sufficiency principles, on the reference to national waste management plans, on the application of the precautionary principle in case of lacking data or unclear information and on the evaluation of ESM.*
- *Foresee legislative changes or strong EU guidance regarding the minimum criteria/ standards for (pre-consented) waste facilities. Legally binding standards for waste facilities, like included in the BREF reference documents under the IPPC Directive have been introduced for several treatment options, setting minimum requirements. They could be used to create the lists of pre-authorized/ pre-consented recovery facilities.*
- *Pre-consented recovery facilities in line with article 14 can be the basis of a fast track procedure for transfrontier waste shipment. A body installed by the Commission might guard the quality of preconsent decisions made by Member State authorities and label such decisions as valid for all competent authorities when the EU acquis and the requested high level of ESM is reached together with an impeccable track record on infringements. Shipment to a pre-consented facility, for the wastes covered by this pre-consent, could be considered as safe and would not need further approval, although provisions on tracking and reporting may still be necessary.*
- *The Commission should pay sufficient attention to infringements, when Member States illegally apply supplementary measures to control and ban waste movements, like the internal application of the proximity principle on waste shipments for recycling.*
- *A clear definition of mixed municipal solid waste can be introduced in the waste shipment regulation as well as in other related legal instruments. This would help the correct application of the proximity and self-sufficiency principle in case of shipment of such a waste for incineration with energy recovery.*
- *Non hazardous wastes not mentioned in an annex. An amendment on the application of article 3.1(b) (iii) and (iv) might be considered in case of waste or mixtures of waste not mentioned on a list but of which it can be convincingly be proven that they do not possess any characteristics making the waste, the shipment of the waste or its treatment in any way hazardous. Wastes composed entirely of wastes mentioned in annex III, IIIa, IIIb, and for which fact that they are mixed do not form itself a source of hazardousness, might be shipped applying the general information requirements, even when not included itself in annex III, IIIa or IIIb. Wastes not included in these annexes, but of which the holder can prove beyond reasonable doubt and based upon high quality laboratory assessment that it possesses no hazard properties may also be shipped applying the general information requirements.*
- *Include the hazardous/non hazardous waste criteria from the Waste Framework Directive into the way in which the annexes III and IV of the Waste Shipment Regulation should be read.*
- *Provide a tailor-made threshold to ship waste for testing of possible treatment in another Member State, adapted to the convincingly proven technicalities of the testing procedures for specific waste streams, which allows in specific cases to go beyond the actual 25 kg threshold value.*
- *Provide financial support to Member States (e.g. through existing Structural and Cohesion funds) to support the introduction of an online system to register and track shipments as well as to see previous submissions.*

At EU and Member State level

- *Although article 28 of the WSR foresees an approach in case of differing opinions, a centralised approach might be installed in which decisions made by an Member State, in line with the Commissions guidelines and helpdesk support, is acceptable for all other Member states for a specific shipment of a specific waste stream. Key discussions submitted to a centralised approach may include issues on recovery/disposal, hazardous/non hazardous, waste/non waste. Article 28 allows Member States to impose unilaterally and on a case-by-case approach import restrictions based on their own evaluation of waste-non waste, hazardous-non hazardous or recovery-disposal of a specific notified waste shipment. In the Cassis de Dyon case¹⁵³ the European Court of Justice defines conditions under which exceptions are possible on the free movement of goods. Where waste can be considered as goods, e.g. for recycling, there are more reasons than the grounds explicitly mentioned in the present Treaty art 36: protection of public morality, public order, public security, health and life of humans, animals or plants, national artistic, historic or archaeological grounds or the protection of industrial and commercial property. These are called the 'Rule of Reason'. Additionally the case implies to assess whether there may have been harmonisation, whether the measure is a public interest, whether the measure is applied proportional and whether the case is not an arbitrary discrimination. Article 28 of the Waste Shipment Regulation, article 36 of the Treaty and the Cassis de Dyon ruling can be harmonised by including the judgement grounds from the case, which are supplementary to those explicitly included in the Treaty, in the provision of article 28 WSR. Only in line with these grounds and the grounds of the Treaty, a Member State can unilaterally overrule the opinion of another Member State on waste/non-waste, of hazardous/non hazardous or on recovery/disposal. In case on non agreement between Member States, not the opinion of the more stringent should prevail, but arbitration e.g. via a centralised approach is necessary.*
- *Electronic data exchange can be important to balance the administrative burden against the effectiveness of the system, and as such some new processes and in particular digitalisation could decrease the red tape and improve the timeliness of the procedures, while enhancing the tracability of the waste shipments. When a bottom-up approach fails to be implemented quickly throughout the Union, a top-down approach managed and financed by the Commission may be necessary.*
- *Develop policy and fieldwork cooperation between competent authorities for waste shipments, police services, customs services and port authorities. A key tool to enhance such cooperation is a practical concordance table between customs codes (CN-codes of the combined nomenclature) and the codes in the waste legislation (List of Waste, OECD and Basel Convention codes).*
- *Competent authorities could publish their method of processing notifications for transit through their territories on their websites, or the Commission could collect this information and place it on the Europa site.*
- *Create good guidance documents that provide companies with information on how to ship their waste and what rules apply.*

At Member State level

- *Support communication and cooperation between waste management companies and authorities, as easier data exchange will speed up the procedure and increase the quality of the decisions taken. Member States that do not cooperate yet with other Member States and other regulators should do so. This cooperation can be supported through e.g. service level agreements, memoranda of understanding, etc.*

¹⁵³ Judgment of 20. 2. 1979 — Case 120/78

- Attribute competences on transfrontier shipment to regional or national authorities which have sufficient staff and experience, and which are able to manage a sufficient number of files each year to build up expertise, to guarantee the quality of the notification file management.
- Permanently guard and increase the level of environmental sound management of waste within ones own territory, as a precondition for a cross border functioning waste market.

12.2.4 End-of-waste and by-product criteria generate market distortions

- *The Commission can harmonise the application of end-of-waste and by product criteria, by abolishing and replacing regional or national non harmonised provisions*

12.2.5 Lack of market for recycled products

- Recycled content provisions can be included in product standards or in eco-design provisions.
- Quality guarantees can be imposed on waste collection, via the application of BREF-like best available collection techniques. Source selected collection can be promoted above mixed waste collection, and multiple bin systems above two-bin systems etc.
- Quality control and labelling of waste derived products or raw materials can be installed at Member State level, in accordance with EU wide installed guiding principles.
- Member States can be advised or in a binding way requested to include recycled content requests in standardised tender specifications, green public procurement etc...

12.2.6 Different fiscal regimes and gate fees can generate distortions

At EU level

- Regional waste incineration over-capacity, leading to lower gate fees, can attract waste otherwise destined for recycling in the Member State or in other Member States. At EU level, incineration capacity can partially replace the landfilling of non recyclable wastes and some regions suffer from under-capacity. The Commission could be well placed to take up a coordinating role, drafting a pan-European waste management plan, to develop waste incineration capacity in an equilibrated way in the European union. This might possibly be not compatible with market economy principles in which waste incineration capacity is a marketable asset, for which market dynamics should foresee in a balance between supply and demand. Only where this leads to under-performance or non-compliance with the waste treatment hierarchy, steering instruments can be considered. A voluntary EU-wide waste management plan, where needed, has to be made in close collaboration with the national or regional authorities, respecting the subsidiarity principle. Only when distortions of the waste treatment hierarchy occur at a supra-national level due to over- or undercapacity in Member States, planning at supra-national level may be at the more adequate scale.
- Although the Commission has no competences on taxation, it can emit voluntary guidance to fit the taxation instrument of Member States into an overall policy towards circular economy and towards a better waste treatment hierarchy.

At Member State level

- When imposing taxes or levies on undesired waste treatment operations, Member States should avoid to discriminate between waste generated in ones own territory and waste generated in other Member States.

- When discouraging unwanted waste management choices, alternatives on taxes or levies could be found that do not distort the waste markets in the EU market.
- In order to avoid cross border shipments of waste to be landfilled, a solution would be to ban export of waste for landfilling

12.2.7 Large investments and sunk costs block the waste markets

- Local monopolies or exclusive rights, in case of municipal waste and comparable waste treatment, can lead towards longterm and large investments which after a number of years can become less compatible with new policy options, e.g. on evolving towards a circular economy. National authorities may consider to take responsibility to downscale or close such capacity, even when not all costs are depreciated, and to create a non monopolistic setting in which innovation can play a key role. EU funding could support covering the lost investment costs in case of closure before the technical or economical lifespan.

12.2.8 Industrial waste is under-represented in the legal provisions

At EU level

- Develop recycling targets for paper, glass, metal, plastic or other main waste streams generated in a commercial or industrial setting, as is already the case for waste packaging. This should not entail additional reporting requirements for businesses as Member States have already installed systems in line with article 3 of the Waste Statistics Regulation¹⁵⁴ (including surveys, administrative or other sources such as the reporting obligations under Community legislation on waste management, statistical estimation procedures on the basis of samples or waste-related estimators, or a combination of these means). These systems are to be able to report on generation and on treatment of the mentioned industrial waste streams, in line with its annexes I section 2 and II sections 2 and 8. The targets to be installed can be higher as for municipal origin waste, because pre consumer industrial waste is predominantly more homogeneous and therefore easier to recycle. Apart from the fraction of mixed industrial waste with packaging, office waste and miscellaneous non-process waste, industrial waste is predominantly generated in more controlled processes, in larger quantities and in monostreams that facilitate its collection, its sorting and its recycling, while also the quality is better.
- Develop a landfill ban for commercial and industrial waste comparable to the landfill ban for biodegradable municipal waste.

At Member State level

- Evaluate systematically which measures installed for municipal waste are equally applicable, *mutatis mutandis*, on waste from commercial or industrial origin, creating a level playing field between both waste sources, but taking into account differences in quantity, homogeneity and quality.

¹⁵⁴ Regulation (Ec) No 2150/2002 of the European Parliament and of the Council of 25 November 2002 on Waste Statistics

12.2.9 Differences in enforcement efforts create loopholes

- *Member States' effective and targeted enforcement of the provisions of the Waste Shipment Regulation and the Waste Framework Directive could be supported by services provided for by IMPEL. This organisation could expand its policy domain, managed and financed by the Commission. Participation in IMPEL might be made mandatory.*
- Measures to improve the functioning of the waste market should always be combined by targeted and continued enforcement efforts by Member States, to avoid that waste will find its way to the cheapest but in the field of ESM the least performing option within the EU market.
- Some financial support to Member States lacking resources might be considered.
- Member States should also consider cooperating with one another and learn from each other. Responsible authorities and their personnel may in some cases lack motivation and efficiency, even in Member States that have sufficient human and financial resources¹⁵⁵.

12.2.10 Emission trading systems and environmentally harmful subsidies

- Avoid at EU and Member State level to apply financial incentives or subsidies on an activity lower in the waste treatment hierarchy, when not at the same time an equal or higher incentive is foreseen for treatment of the same waste at a higher step of the waste treatment hierarchy.
- Apply CO₂ certificates or other greenhouse gas reduction incentives at EU or Member State level on reuse and recycling activities, taking into account the CO₂ reduction for using a waste derived raw material or product compared to the use of a primary raw material or the production of a new product.

¹⁵⁵ Personal communication of French inspectors

13 Annex VII Used abbreviations

AEO	Authorised Economic Operator
BAT	Best Available Techniques
BIR	Bureau of International Recycling
BREF	Best available techniques REFerence document
C+I waste	Commercial and industrial waste
CENELEC	Comité Européen de Normalisation Electrotechnique
CEPI	Confederation of European Paper Industries
CEWEP	Confederation of European Waste to Energy Plants
CFC	Chlorofluorocarbon
CIWM	Chartered Institution of Wastes Management
CLP	Classification, Labelling and Packaging
DG	European Commission Directorate General
DG ENV	European Commission Directorate General Environment
DSD	Duales System Deutschland
EAA	European Aluminium Association
EBRA	European Battery Recycling Association
EC	European Commission
EFR	European Ferrous Recovery and Recycling federation
EHS	Environmentally harmful subsidies
ELV	End-of-life vehicle
EoW	End-of-waste
EPR	Extended producer responsibility

ERPA	European Recovered Paper Association
ESM	Environmentally sound management
ETS	Emission trading system
EU	European Union
EU12	Bulgaria, Cyprus, Czech republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia
EU15	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom
EuRIC	European Recycling Industries' Confederation
Eurometaux	European Association of metals
Eurometrec	European Metal Trade and Recycling Federation
FEAD	European Federation of Waste Management and Environmental Services
GDP	Gross Domestic Product
GPP	Green Public Procurement
IMPEL	European Union Network for the Implementation and Enforcement of Environmental Law
IPR	Individual Producer Responsibility
MBT	Mechanical/Biological Treatment
MS	Member State
MWE	Municipal Waste Europe
NFM	Non-ferrous metals
NGO	Non-governmental organisation
NIMBY	Not In My Back Yard

OECD	Organisation for Economic Co-operation and Development
PAYT	Pay As You Trow
PRO	Producer responsibility organisation for EPR
PRO-Europe	Packaging Recovery Organisation Europe
RAP	Reclaimed Asphalt Pavement
RDF	Refuse derived fuel
REACH	Registration, Evaluation and Authorization of CHemicals
RoHS	Restriction of Hazardous Substances in electrical and electronic equipment
RReuse	Represents social enterprises active in reuse, repair and recycling
SME	Small or medium sized enterprise
SRF	Solid recovered fuel
TFS	Transfrontier shipment
UN	United Nations
VAT	Value-Added Taks
WEEE	Waste from Electrical and Electronic Equipment
WFD	Waste Framework Directive
WMP	Waste Management Plan
WSR	Waste Shipment Regulation
WtE	Waste to Energy plant

14 Annex VIII Literature references

Literature

- Adelphe. (2013). Contrat pour l'action et la performance (cap) barème E. Online available via http://www.adelphe.fr/sites/default/files/contrat_pour_laction_et_la_performance_0.pdf
- ADEME. (2010). Emballages industriels, commerciaux et ménagers
- ADEME. (2012). Emballages ménagers, données 2011
- ADEME. (2015). Tableau de bord Données 2014 déchets d'emballages ménagers
- ARCADIS & RPA. (2012). The Feasibility of Introducing a Certification Scheme/Standard for Recycling Treatment Facilities
- ARCADIS. (2013). Screening of national and selected regional waste management plans on ex-ante criteria 2 and 4.
- Basel Convention. (2015). Parties exercising their rights to prohibit import. Online available via <http://archive.basel.int/natdef/frsetmain.php>,
- BIOIS et al. (2012). Use of economic instruments and waste management performances. Final report to DG Environment
- BIOIS et al. (2014a). Development of Guidance on Extended Producer Responsibility. Final report to DG Environment
- BIOIS et al. (2014b). Ex-post evaluation of certain waste stream Directives. Final report to DG Environment
- BIPRO. (2012). Scoreboard report "Screening of waste Management performance of EU Member States.
- Brinstengel et al. (2011). Treatment capacity and cross-boundary waste flows in Europe, ISWA Beacon Conference on Waste-to-Energy, malmö, Sweden, November 3 2011. Online available via http://www.beacon-wte.net/fileadmin/avfallsverige/Documentation_2011/1-3_Prognos_Tolvik.pdf
- Cambridge Econometrics et al. (2014). Modelling the Economic and Environmental Impacts of Change in Raw Material Consumption
- Danish Ministry of Environment-Miljøministeriet. (2014). Excluding soils. Affaldstatistik 2012., MST-7761-00562, 24 October 2014
- Dutch Ministry of infrastructure and environment. (2014). Afvalverwerking in Nederland, data 2013.
- Eco-Emballages and Adelphe. (2012). Le gisement des emballages ménagers, évolution 1994-2009
- Eco-Emballages. (2014). Rapport d'activité Eco-Emballages et Adelphe

Eco-Emballages. (2015). BARÈME 2015 Declaration Eco-Emballages et Adelphe. Online available via <http://www.ecoemballages.fr/entreprises/le-tarif-point-vert/bareme-2015>

EEA. -European Environment Agency. (2013). Managing municipal solid waste - a review of achievements in 32 European countries

EEA -European Environment Agency. (2014). Municipal Solid Waste Management Capacities in Europe. Desktop Study. ETC/SCP Working Paper No 8/2014

EEF - the manufacturers organisation. (2014). Materials for Manufacturing. EEF. Online available via <https://www.eef.org.uk/resources-and-knowledge/research-and-intelligence/industry-reports/materials-for-manufacturing-safeguarding-supply>

EIMPack. (2013). Economic Impact of the Packaging and Packaging Waste Directive. The Economics of Packaging Waste Recycling: the case of Belgium

Ellen MacArthur Foundation. (2012). Towards the Circular Economy: Economic and business rationale for an accelerated transition

Environmental Services Association. (2013). Going for Growth: A practical route to a Circular Economy

Eunomia (2009) International review of waste management policy - exports and imports of waste. Study commissioned by Dept. for environment Ireland

Eunomia. (2011). A Comparative Study on Economic Instruments Promoting Waste Prevention.

Eunomia. (2014). Study on environmental fiscal reform potential in 12 EU Member States

Eunomia. (2014). UK Residual Waste Infrastructure Review, Issue 7

European Commission. (2008). Raw materials Initiative

European Commission. (2010). Europe 2020 Strategy

European Commission. (2010). Member States implementation reports of waste legislation

European Commission. (2011). EU flagship initiative 'Resource efficient Europe'

European Commission. (2011). Raw Materials Initiative

European Commission. (2011). Roadmap to a Resource Efficient Europe

European Commission. (2011, 2013). Report from the Commission on the implementation of the Raw Materials Initiative.

European Commission. (2012). Commission report on the implementation of the Shipments of waste regulations for the period 2007-2009, COM(2012), 448 final.

European Commission. (2013). Commission report on the implementation of the EU waste legislation for the period 2007 – 2009. COM(2013) 6 final

European Commission. (2013). Green Paper. On a European Strategy on Plastic Waste in the Environment, COM (2013) 123 final.

European Commission. (2014). Communication "Towards a circular economy: A zero waste programme for Europe".

European Commission. (2014). Industrial Policy Communication
Europol. (2011). EU Organised Crime Threat Assessment (OCTA 2011)

EUROSTAT. (2015a). Database, datasets env_waselee and DS-016894, consulted on 7/10/2015, <http://ec.europa.eu/eurostat/data/database>

EUROSTAT. (2015b). Environmental Data Centre on Waste, consulted on 7/10/2015, <http://ec.europa.eu/eurostat/web/waste/transboundary-waste-shipments>

EUROSTAT. (2015c). Waste shipment reported by MS to Basel Convention secretariat in 2012 & Transit waste shipment reported by MS to Basel Convention secretariat in 2012

EUROSTAT. (2015d). OECD/Eurostat Joint Questionnaire, section waste

French Ministry of Environment. (2011). Recyclage: réagrément des sociétés Eco-Emballages et Adelphe pour la période 2011-2016

House of Commons Environmental Audit Committee. (2014). "Growing a circular economy: ending the throwaway society", Third Report of Session 2014-15, London: The Stationery Office Limited

IEEP. (2011). Practicability and Enforceability of the Waste Shipment Regulation. Online available via <http://www.ieep.eu/assets/959/Final-WSR-report.pdf>

IMPEL. (2013). Enforcement of the European Waste Shipment Regulation.

Innova Europe. (2012). Guide to resource efficiency in manufacturing: Experiences from improving resource efficiency in manufacturing companies

IVC. (2015). Personnel communication Ann Van Poecke. IVC, Interregionale Verpakkingscommissie Belgium

Jofra Sora, M. (2013). Incineration Overcapacity and Waste Shipping in Europe: The End of the Proximity Principle?

Kellenberg, D. (2010). Trading Wastes. Journal of Environmental Economics and Management, Vol 64-1, p. 68-87; online available at <http://www.webmeets.com/files/papers/WCERE/2010/245/Trading%20Waste5.pdf>

Meyer, B. et al. (2011). Macroeconomic modelling of sustainable development and the links between the economy and the environment.

OECD. (2001). Extended Producer Responsibility, A GUIDANCE MANUAL FOR GOVERNMENTS

OECD. (2005). Environmentally harmful subsidies: challenges for reform

OECD. (2014). The State of Play on Extended Producer Responsibility (EPR): Opportunities and Challenges. Issues Paper for the Global Forum on Environment 17-19 June 2014, Tokyo, Japan

RPA. (2012). The Feasibility of Introducing a Certification Scheme/Standard for Recycling Treatment Facilities, with regard to transfrontier shipment of waste.

Scottish Government. (2014). Fiscal instruments to stimulate a more circular economy

Sismega and Ffact. (2013). EPR data verification study.

Triple E Consulting. (2014). Fiscal instruments to stimulate a more circular economy

UK Environmental Audit Commission. (2014). Report - on growing a circular economy.

Wante J. (2015). Challenges from a policy perspective. Symposium on international trade of waste: economic research and policy implications, Brussels.

Internet sources

http://mst.dk/media/mst/Attachments/Ressourcestrategi_DK_web.pdf

<http://archive.basel.int/natreporting/cfs.html>

<http://ec.europa.eu/eurostat/documents/342366/351811/Municipal-waste-statistics-guidance.pdf>

<http://ecoromambalaje.ro/about-us/mission/?lang=en>

http://mst.dk/media/130361/b3010_rev_141126.pdf

<http://www.dmmr.ro/modules.php?module=news&id=326&lg=ro>

<http://www.ecopackmanagement.ro/en>

<http://www.ecotic.ro/en/news/the-european-conference-reuse-and-recycle-towards-a-social-and-circular-economy>

<http://www.eudin.org/>

<http://www.euractiv.com/sustainability/landfills-continue-rule-despite-news-518229>

<http://www.expra.eu/countries/romania/17>

<http://www.greenrevolution.ro/Proiecte/law-no-132-2010>

<http://www.greentech.ro/en/environmental>

<http://www.letsrecycle.com/news/latest-news/illegal-waste-exports-returned-to-ireland/>

<http://www.nvrd.nl/cms/showpage.aspx?id=2945>

<http://www.pro-e.org/Denmark>

http://www.rdneurope.ro/past_romania5.php

<http://www.thediplomat.ro/articol.php?id=5901>

<http://www.vestfor.com/what-we-do>

<http://www.worldbank.org/en/country/romania/brief/romania-climate-change-and-low-carbon-green-growth-program>

<https://www.dpa-system.dk/en/WEEE/ProducerResponsibility/LegislationinDenmark>

<https://www.gov.uk/guidance/importing-and-exporting-waste>

<https://www.ilent.nl/onderwerpen/leefomgeving/afval/producentenverantwoordelijkheid/>

https://www.ing.nl/media/ING_afval-2020-meer-waarde-uit-minder-afval-feb-14_tcm162-70205.pdf

<https://www.rijksoverheid.nl/onderwerpen/belastingplan-2015/documenten/kamerstukken/2014/09/16/belastingplan-2015>