

Assessment of Environmental Policy Implementation: Two Case Studies from the Czech Republic

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Abstract

Environmental protection seems to be a very important social problem, associated with allocations of substantive amounts of social resources. Designs and implementation models of environmental policies have significant impacts on the effectiveness of such allocations. The authors have developed a novel methodology for ex-post environmental policy implementation assessment. The methodology has been approved as the one suggested for environmental policy assessment by the Czech Ministry of the Environment. It covers all three pillars of sustainable development and applies multicriteria analysis as its main methodological tool. The paper also presents two applications of the methodology - in Integrated Pollution Prevention and Control (IPPC) and Solid Waste Management in the Czech Republic.

Keywords: environmental policy, policy assessment, policy implementation, multicriteria analysis

Introduction

Environmental protection is an important social problem associated with huge allocations of social resources. These allocations are significantly affected by implementations of various environmental policies. Thus, assessment of these policies is an important task for experts and policy makers. After entering the EU, environmental policy became a new challenge for the Czech Republic, Poland, Slovakia, Hungary, and other Central and Eastern European countries. These countries took up on their relatively long traditions of environmental policies and gradually harmonized their relevant legislations with the *Aquis communautaire*, which has increased the importance of quality assessment of past and current policies. (For a general methodology for evaluating public interventions, see [1]).

Literature published by governmental and international organizations and academic sources can be discussed when studying the topic. The EEA [2] and the OECD [3] bring two different concepts for assessing the effectiveness of environmental policies. The EEA defines in more detail what is understood by the effectiveness of implementation of environmental policy; nevertheless, it fails to provide high-quality grounds for practical application. The OECD presents a listing of a large number of criteria for the assessment. They include traditional criteria as well as criteria involving a broader social view of the issues concerned. Nevertheless, for the purpose of practical application, it also fails to provide applicable guidance on how to work with the criteria.

Most of the works discuss environmental policy assessment methodology in relation to a concrete problem in a given case. It is possible to find such a methodological discussion, for instance, in Saleth and Dinar [4], who use multicriteria analysis for a water sector performance analysis at

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a cross-country level; Livingston [5] applies institutional analysis to water policy issues; Švajda and Fenichel [6] evaluate policies concerning national parks in Slovakia that apply a so-called integrated protected area management tool-box (IPAM); Potužáková and Mildeová [7] argue about the importance of introducing difficult-to-quantify (soft) factors to policy evaluation. Studies by Ellerman [8], SEPA [9], and Suter and Walter [10] develop and/or refer to unique methods for effectiveness assessment. These studies also deal with more than one effectiveness criterion. Effectiveness criteria applied vary from a single environmental effectiveness criterion by Ellerman [11] to cost-benefit criteria in Sutter and Walter [9]. As effectiveness evaluation needs a comparison of two or more policies implemented (or implemented counter-factually), these studies employ various techniques for counter-factual scenario design and evaluation. Moravec [12] has developed structured criteria and built his methodology on cost factor analysis for nature and countryside protection. A qualitative research methodology for environmental and resource policies has been applied in Jilková and Pavel [13] for an assessment of effectiveness of public spending on environmental protection, and by Dvořáček and Slivka [14] for evaluating the economic tools in the Czech raw material policy.

The goal of this paper is two-fold: It intends to present key aspects of the new methodology for environmental policy ex-post assessment developed by the authors of this paper [15]. It also brings and discusses results of two cases of implementation of the methodology, namely in the ex-post assessment of:

- (i) Integrated Pollution Prevention and Control (IPPC) – specifically the part focusing on air emissions of substances with an acidification potential from large combustion plants
- (ii) Czech (Solid) Waste Management Act – specifically its part concerning the charges paid for landfilling waste

Both policies are part of the above-mentioned harmonization of the relevant national legislation with the *Aquis communautaire*.

Methodology

The policy assessment output should support decision-making in the political process. It provides information on to what extent the environmental and other objectives of an implemented environmental policy have been achieved, at what costs, and with what economic and other impacts on all important subjects concerned. It should assist explicit identification of the main reasons for success and drawbacks. The methodology application results should include, among other things, proposals for the next stage of the policy cycle – we may propose and justify continuation of the given policy, its modification, or backing out of it.

The suggested assessment process is divided into two main levels – basic assessment and comprehensive assessment. The basic assessment is carried out in all cases and is of a complex character. The basic assessment proceeds in

three (parallel) modules that correspond to the three “pillars” of sustainable development: environmental, economic, and institutional-social. The comprehensive assessment is carried out only if required by conclusion of the basic critical review. In this aspect, the methodology is somehow analogous to a “small” and “extended” regulatory impact assessment (RIA). However, unlike an RIA, what decides about the carrying out of the comprehensive assessment is not arbitrarily pre-defined criteria (amounts of costs) but the result of the basic review (see below).

The methodology is intended to bring outputs that are intelligible to policy-makers and experts in various disciplines, as well as the public. In principle, the methodology uses structured and easy-to-survey tables, which are to be completed step by step. This system allows for the assessment to incorporate standard classifications and procedures facilitating the assessment. In this way, all the assessment steps are also transparently documented.

The methodology regulates the definite determination of competence in the assessment process: clear definition of the roles of the manager, executor of the assessment, subjects concerned (stakeholders) and expert reviewers. A thorough critical review of the assessment documentation is a significant attribute of the methodology.

As regards the methods used for the actual assessment of the policy implementation effectiveness, both qualitative and quantitative methods are applied. The qualitative methods include, for example, document analysis, identification of relevant factors for multicriterial analysis, consultations and comprehensive interviews with experts and subjects concerned, etc. The quantitative methods include, in particular, conversions to comparable units used in assessment tables, and also multicriterial analysis techniques. In preparing the assessment, the quality of the data is observed and evaluated. The use of the qualitative assessment of the data validity according to EMEP-CORINAIR [16] is envisaged.

The assessment scale runs from 1 to 4 points:

- 4 – fully satisfactory
- 3 – rather satisfactory
- 2 – rather unsatisfactory
- 1 – unsatisfactory

The methodology describes the rules for assigning points to each of the factors in much more detail, including quantifying relevant values if appropriate.

The basic assessment consists of four phases:

- 1) Preparatory phase
- 2) Data collection and assessment in the particular modules
- 3) Overall assessment of the policy and elaboration of a policy rating
- 4) Critical review and final assessment of the policy

The preparatory phase begins with making a requirement to assess the effectiveness of a policy implementation. Such a requirement may arise from the policy itself or it may be forwarded to the Ministry of the Environment from another organization at the governmental level (ministries, parliament). It may also arise from non-governmental organizations, political parties, industrial associations, etc.

The requirement is then reviewed from the viewpoint of the necessity to perform an actual assessment of the relevant policy implementation effectiveness. Reasons for rejection of the requirement may be, for example, the fact that the required assessment already is proceeding as part of

reporting to the EU, that the policy concerned does not fall within the powers of the Ministry of the Environment, that the requirement aims at public resource management rather than an assessment of the effectiveness of the policy implementation, etc.



Fig. 1. Simplified scheme of the policy assessment process.

Should a decision be made to carry out an assessment of the effectiveness of a policy implementation, an (assessment) manager and an assessment executor are appointed by a responsible person at the Ministry of the Environment. Then the manager appoints an executor or executors. This is followed by collecting information in the particular modules and its transformation to a form needed for the partial assessment. The executor works with criteria ensuing from the policy wording, criteria provided by the methodology, and criteria that are creatively derived from the analysis performed as part of the assessment. For all the criteria, the methodology has the rankings prepared.

The overall assessment consists of criteria ranking in each module (an example is the Environmental module assessment) according to their significance, and of standardized weights assigned to each criterion in each module. Based on the results, easy-to-survey tables showing the overall assessment are compiled.

The first output of the assessment is called a “policy performance review” containing a listing of the significant criteria with their explicit inclusion in either the positive or negative group from the viewpoint of impacts on effectiveness, a listing of the criteria recommended for comprehensive assessment, and an overall verbal and quantitative assessment of the policy. In the policy performance review, among other things, weights of the modules are introduced in order to obtain a summary score. For the applications described in our paper, the weights of the criteria and modules were set by a team of seven experts from academia and practice. No agreement to emphasize any of the module(s) was reached. For this reason “equality (1/3) of the module weights” was used.

The overall assessment tables below include:

- (i) an identification of the reasons for the positive and negative results of the assessed policy
- (ii) a table of specific well-founded proposals for the following phase of the policy cycle.

The resulting basic assessment documentation is distributed to expert reviewers. It is also placed on the Internet so that the public and representatives of the subjects concerned are given an opportunity to make comments. By making comments they become participants in the critical review.

The critical review may result in:

- (i) an approval of the resulting assessment and process and the contents of the basic assessment
- (ii) making a request for final elaboration of the basic assessment and a new critical review
- (iii) making a request for and specification of a comprehensive assessment.

The comprehensive assessment, which may follow up on the critical review of the basic assessment, need not be of a complex character. A recommendation may be made, for example, to focus on a deeper economic analysis using the Cost Benefit Analysis, or to elaborate in more detail on the calculations of inter-compartmental effects of the policy assessment: a deeper analysis of the macroeconomic impacts of the policy, for example, using a general equilibrium model, using methods of qualitative analysis, etc.

The comprehensive assessment may deal with a request for preparing detailed proposals for the policy improvements for the future, which may include, in more detail, international comparison of assessments of the innovative technologies and cycles, etc. The comprehensive assessment also ends with a critical review. The final assessment report is elaborated upon in case the critical review is settled successfully.

Case Study 1

IPPC – Air Emissions of Acidifying Pollutants from Large Combustion Plants

The first case study concerns the Integrated Prevention and Pollution Control (IPPC) regulation. IPPC is a major EU policy for regulation of pollution from extensive and intensive industrial and agricultural processes and activities carried out in stationary sources of pollution (For the codified version, see Directive 2008/1/EC [17]). IPPC was transposed in the Czech legislation by the act on Integrated Prevention in 2002, and from 2004 the act was implemented on a full scale. The core of the IPPC regulation sets out rules and binding conditions for operation of regulated installations. The rules and conditions should be set out in such a way that each installation regulated reach emission levels associated with the use of the best available techniques.

The overall goal of the IPPC policy is to attain a high level of protection of the environment as a whole from pollution from large industrial installations. There are two main aspects of integration in the IPPC policy – the integration of all environmental media (air, water, soil, energy, and material efficiency, and health and ecological risks) into a single regulation, and the integration of pollution prevention techniques into the pool of available environmental protection techniques.

The main instrument used in the IPPC policy implementation is the permit, which not only allows the operators to run the production processes on the installation, but also specifies the conditions and rules the operation is subject to. As noted above, the conditions and rules should be based on the environmental performance attainable by the application of the best available techniques (BAT) of pollution prevention and control.

The request for assessment was submitted by the Ministry of the Environment of the Czech Republic as a consequence of the National Emission Ceilings Directive. Large combustion plants were the focus, since they are the main category of sources of the pollutants covered by the National Emission Ceilings Directive [18]. In general, the request concerned the environmental effectiveness of the IPPC in reducing the emissions of the main pollutants (particulate matter, SO₂, NO_x, and CO) from large combustion plants in the Czech Republic in 2004-08.

Moreover, the request for assessment was supported by the fact that the European Commission had started its own IPPC revision process that resulted in the draft of the Industrial Emissions Directive [19] in 2007.

Table 1. Summarized Report Table – IPPC - emissions to air.

Favorable assessment	Points	Adverse assessment	Points
Environmental Module (weight)		Environmental Module (weight)	
NO _x emissions (0.24)	3	CO emissions (0.29)	2
		PM emissions (0.25)	2
		SO ₂ emissions (0.22)	2
Economic Module (weight)		Economic Module (weight)	
Real GDP growth (0.14)	3	Expert evaluation of cost effectiveness (0.22)	2
Prices and inflation (0.13)	4	Innovation processes (0.16)	2
Employment (0.11)	3	Competitiveness (0.13)	2
Balance of trade (0.10)	3		
Institutional – Social Module (weight)		Institutional – Social Module (weight)	
Human rights (0.21)	3	Quality of regulation (0.17)	2
Quality of legislation (0.18)	3	Policy legitimacy (0.17)	2
Governance and civic society (0.15)	3		
Governmental failure (0.12)	3		
Summary Assessment			
Environmental Module			2.24
Economic Module			2.59
Institutional-Social Module			2.66
Summary Score			2.5

In the environmental module, four criteria were assessed: emissions of SO₂, NO_x, particulate matter, and CO. The data analysis shows that during the initial phase of the IPPC implementation in the Czech Republic (i.e. 2004-08), the emissions of SO₂ and CO from large combustion plants increased slightly, while the emissions of particulate matter and NO_x decreased slightly. It should be noted that the emissions of SO₂ and CO showed the least variability during the period, while the latter two substances showed a higher variability in their total annual amounts. One can assume that the total emissions of the substances were not affected significantly by the IPPC policy. The main reason for this is the way the IPPC principles were implemented. The binding conditions (i.e. the individual emission limits in mg/m³) were not based on the environmental performance of the best available techniques, but rather on the existing set of sector-wide emission limits specified by the air protection regulation. The IPPC implementation thus failed in the sense of achieving a high level of protection based on the best available techniques. Instead, the implementation was concerned with administration and regulation *per se*.

The economic aspects were evaluated in the second assessment module in seven criteria. For the expert assessment of the policy cost effectiveness, the annual operating and total investment costs were estimated. The annual operating costs of the public administration were estimated at CZK 150

million (approximately EUR 6 million), of which CZK 120 million (EUR 4.8 million) were personnel costs, and CZK 30 million were current operating costs (EUR 1.2 million).

For companies – operators of regulated large combustion plants – the personnel costs were estimated at CZK 30 million per annum (EUR 1.2 million) and the total administrative fees paid to the public budgets at CZK 7.5 million (EUR 0.3 million). The investment costs invoked by the IPPC implementation were not estimated in detail. The initial estimates by the Ministry of the Environment were in the range of tens of billions of CZK; however, the implementation method and the data from random surveys indicate that the investments directly attributed to the IPPC implementation did not exceed CZK 1 billion (EUR 40 million) in the sector.

It should be noted that the above estimates do not depict the net costs of the IPPC implementation. In other words, the values of personnel, operating, and investment costs in a scenario where no IPPC is implemented should be deducted from the estimated values above. This deduction, however, is irrelevant in the case of:

- (i) the total public administration costs, since a whole new public administration infrastructure was created for the purpose of IPPC implementation,
- (ii) the personnel costs and total administration fees paid by the companies, since these were solely induced by the IPPC implementation.

Because of the weak quality of the investment costs estimates, those were finally ignored in the assessment.

Also, the above estimates were calculated based on the IPPC implementation in the large combustion plant sector without attributing the effort and resources spent to the four substances covered in the environmental module. The estimates should thus be significantly lowered.

However, based on the estimates and considerations, one can evaluate the cost effectiveness of the IPPC implementation gains as very weak results: almost no environmental improvement was achieved at costs amounting to millions of CZK per annum.

The effect of IPPC implementation in other broader economic aspects was evaluated as follows: prices were not significantly affected by the implementation; the implementation also did not affect gross domestic product (GDP) trends, employment rate, and payment balance. Because of the lack of pressure for technological change (which one has to assume based on the wording of the IPPC directive), the effect on innovation processes and the level of competitiveness was evaluated as rather negative.

From the social-institutional point of assessment, six criteria were evaluated. The implementation gained a rather positive assessment in most of the social-institutional criteria, mainly because the policy has no effect on the criteria/social values. However, the quality of the regulation was assessed as rather negative due to a departure from the principles laid down by the IPPC directive, multivalent implementing regulations and unreasonable emphasis on the administrative procedures instead of the policy goals. Also, the legitimacy of the IPPC policy was evaluated as rather negative, since the stakeholders gradually ceased to support the policy (on both sides, i.e., the administrative bodies as well as the companies).

In summary, the implementation of the IPPC regulation can be assessed as rather favourable and the policy received an overall score of 2.5. As seen in Table 1, the assessments of the component modules are also well-balanced and, in the case of the economic and social-institutional modules, also moderately positive (respective scores of 2.59, 2.66). However, the most important environmental criterion, emissions of CO₂, receives a rather unsatisfactory score (2). The same is valid for the most important economic criterion: cost effectiveness (score of 2). The overall environmental effectiveness of the implementation is rather weak: there is no basis for the assertion that the total emissions from the regulated installations/plants have dropped in effect of the policy implementation. This unconvincing result is accompanied by an unavoidable administrative burden to the regulated companies. In the institutional-social module, the policy shows deficiencies in the quality of regulation and legitimacy of policy criteria (score of 2 for both).

Case Study 2

Charge for Solid Waste Landfilling

In the sphere of waste management, the assessment concerning the charge for waste landfilling [20], is anchored in Act No. 185/2001 Coll. on Waste [21]. The act

has been amended to harmonize it with EU waste management legislation.

The principal purpose of the charge is to reduce the amount of waste deposited in landfills, which can be achieved in a way that waste generators will reduce the absolute amounts of waste deposited in landfills, reduce the proportion of its hazardous components, or seek alternative paths to dispose of their waste. The charge is collected from waste originators by landfill operators, who are bound to pay it to the beneficiary, being either a municipality or the State Environmental Fund.

The analysis was part of a CENIA (Czech Environmental Information Agency under the Czech Ministry of the Environment) research project aimed at improving preparations of the new State Environmental Policy. The resulting assessment is shown in Table 1, listing the criteria included in the assessment, their weights, and the final point score.

For a correct grasp of the problem, we should first explain how the charges for waste landfilling are understood in the Czech Republic and toward what objective the authorities apply them.

The charge for waste landfilling is conceived as a payment that the waste originator pays in addition to the price of waste landfilling charged by the landfill operator that covers its costs and profits. The charge beneficiary is not the landfill operator but the municipality or the State Environmental Fund. The amount of waste is in direct proportion to the sum of charges paid, so the waste originator has a financial incentive to reduce the amount of waste. In addition to this incentive function, the charges also play a fiscal role: they generate resources for tackling waste management issues in municipal budgets or the State Environmental Fund.

The charges were introduced in the Czech Republic in 1999 by Act No. 231/1991 Coll., on Waste. Their payment method was elaborated by follow-up Act No. 62/1992 Coll. on Charges for Waste Landfilling. In the initial period (until 1997), most landfills operated in the Czech Republic did not conform to environmental safety requirements and had to be shut down or upgraded to a required and prescribed design. Newly established landfills had to conform to the regulations. The charge amount was determined depending on whether the landfill conformed to the regulations or not; the charges for landfills that failed to conform grew over time. The main reason for levying these charges was to accelerate the process of shutting down non-conforming landfills, and the reduction in the total amount of landfilled waste was only a side effect. Since all the non-compliant landfills have been removed over time and only landfills operated in the regulated way have been in operation since 1998, the waste landfilling charge payment method was modified substantially in 1997 by Act No. 125/1997 Coll., on Waste. More changes were introduced by the third Waste Act, No. 185/2001 Coll., in force to this day; it did not change the charge payment rules, though. The Act has been amended to harmonize it with EU waste management legislation. The charges that exist at present are increased every two years in a pre-announced manner.

Table 2. Summarized report table – waste charges.

Favorable assessment	Points	Adverse assessment	Points
Environmental Module (weight)		Environmental Module (weight)	
		Soil occupation (0.80)	2
		Risk of ambient contamination (0.20)	2
Economic Module (weight)		Economic Module (weight)	
Real GDP growth (0.14)	3	Expert evaluation of cost effectiveness (0.22)	2
Prices and inflation (0.13)	4		
Employment (0.11)	3		
Balance of trade (0.10)	3		
Innovation processes (0.16)	3		
Competitiveness (0.13)	3		
Institutional – social Module (weight)		Institutional – social Module (weight)	
Human rights (0.21)	4	Quality of regulation (0.17)	2
Quality of legislation (0.18)	4	Policy legitimacy (0.17)	2
Government failure (0.12)	3	Governance and civic society (0.15)	2
Summary Assessment			
Environmental Module			2.00
Economic Module			2.40
Institutional-Social Module			2.90
Summary Score			2.43

Their current chief purpose is therefore to motivate originators to reduce the amounts of landfilled waste.

The fact that the charges had different primary purposes in different periods has made it difficult to verify the described methodology. Another difficulty is that necessary information for the entire charge period was not available: we could only use data generated since 2002. The study, therefore, did not seek to answer the question whether the charges actually led to fulfilment of their stated objective in the initial period (to reduce the amount of waste deposited in landfills that did not conform to regulations in favor of landfills operated in compliance with regulations). It only focused on the next period, in which the main objective to the attainment of which charges were to contribute was to reduce the total amount of landfilled waste (hazardous waste above all). That means an absolute reduction in the amount of landfilled waste or its replacement with another, more environmentally acceptable method (recycling, incineration, etc.).

The waste landfilling charge policy received an overall score of 2.43, which can be interpreted as a moderately positive assessment. As seen in Table 2, the assessments of the component modules are also well-balanced and moderately positive.

Two criteria by which the effect of the charge introduction was assessed were selected in the environmental mod-

ule. One of them was the reduction of demand for agricultural land fund (80% weight); the other was the reduction in the risk of contamination of sources of water and air pollution (20% weight). The choice of these criteria should be based on the goals of the national environmental policy. If the charge payment results in a reduction in the amount of landfilled waste, the effect will be positive in both cases, i.e. occupation of farmland will decrease and the risk of contamination of sources of water and air pollution will diminish. The study showed that the State Environmental Policy does not even define these goals explicitly. Farmland occupation for landfill establishment and expansion is minimal at present (landfills are opened on other types of land). The risk of contamination of sources of water and air pollution by landfills is also very low because the rules for landfill operation are stringent. It would therefore be desirable to clarify in the State Environmental Policy what goals the government expects the landfilling charges to fulfil. The assessment could then be extended to cover these effects.

The overall score attained in the environmental module by applying the two above defined criteria was 2.

Several criteria were selected in the economic module: E/C expert assessment (the ratio between environmental effects and expenditures) with a 22% weight, impact on prices and inflation (13% weight), real GDP growth (14% weight), employment (11% weight), competitiveness (13%

weight), foreign trade (10% weight), and innovation processes (16% weight). The expert assessment was chosen because it was not possible to obtain the required detailed economic data for a B/E calculation (ratio between benefits and expenditures) easily and fast enough at the time of study. The selection of the other criteria mainly considered their potential connection with the charges studied. The weights were assigned depending on the degree of connection. The impact of waste landfilling charges on the chosen macroeconomic indicators proved to be of little importance and received an overall score of 2.4. This means that the payment of the charges studied has an impact on prices and inflation, GDP growth, competitiveness of the Czech economy and its foreign trade, etc., but the impact is entirely marginal, chiefly because the charges are very low and only marginally manifested in economic calculations. They do bring a certain innovation potential, because they may support the effort to find novel solutions in waste management in the long term, especially in combination with other factors acting upon waste originators (the charges alone would not exert a sufficient degree of such pressure).

The following criteria were selected for the third, institutional-social module: policy legitimacy (17% weight), quality of regulation (17% weight), legislative level (18% weight), governmental failure (12% weight), human rights (21% weight), and civil society (15% weight). In this module, the Methodology can be used for verifying whether the instrument assessed (landfilling charges) complies with social aspects, i.e. whether the Government has the necessary legitimacy to enforce it, what is its legislative level and how good regulation it implies, whether it implies failure of authorities, and whether it infringes on human rights and civil society. The weights of the factors imply that the criteria are of equal importance and none of them stands out with its weight as much more significant. The expert assessment concluded that the charges are not in contradiction with the criteria chosen, that they pose no social problem and are accepted without difficulty. This finding is reflected in the final score of 2.9.

The overall calculation, which includes all the results of the assessments of the three modules and takes into account their respective weights, resulted in an overall score of 2.43. The modules show results that do not diverge very much.

The analysis concludes with a recommendation concerning the continued use of the instrument, because cancelling it would probably result in increased demand for waste landfilling, in turn increasing the demand for soil occupation and increased environmental risks of landfilling. However, a recommendation has been made to increase the charge amounts in order to encourage its motivational role.

Conclusions

Concerning the methodology applications, the overall conclusion is that the assessment of effectiveness of the IPPC regulation and the waste management charges (i.e., waste landfilling charges) identified that neither of the poli-

cies assessed is fully effective with respect to its defined objectives.

The main reason for this low effectiveness of the waste management charges is the insufficient charge amount (they do not provide enough motivation for pollution originators to try to avoid them and act in a different, more environmentally friendly way when polluting). Since the charges for landfilling waste paid are part of eligible expenditures in the company budget in terms of the income tax, and eventually reduce the tax base, the originators have one less reason to try to avoid them. They are included in product price calculations in a way that they are ultimately paid by consumers anyway, and as long as they have no significant effect on the product price compared to competitors', the producers still do not see a reason to try to reduce or shed them. Quite to the contrary, payment of the charges provides the companies with yet more profit that is of importance to them: at least for some time, they avoid problems and concerns associated with introducing alternative solutions. Unless the charge amounts are increased substantially, the situation will remain as it is, and other instruments (probably of directive nature) will have to be found in order to achieve the set objectives (reduce air pollution and the amount of landfilled waste). Leaving the charges at their present amounts, on the contrary, will mean certain income for municipal budgets and the State Environmental Fund, which can be utilized to tackle selected urgent environmental problems. Cancellation of the charges (with the justification that they do not motivate enough for pollution reduction anyway) would probably not result in significant production price decreases, and the resources for tackling problems that the municipalities and the State Environmental Fund have available at present, whatever their amount, would disappear.

Regarding the IPPC policy, the low implementation effectiveness can be explained primarily in terms of low level of implementation of the IPPC principles (i.e. the application of hypothetical BAT associated emission levels). The same is eventually stated in an assessment study by the European Commission [22]. This stems probably from the fact that the IPPC policy and its strategy and concept were clearly new items to be adopted by the administrative culture and structure. The regulator showed a minimal determination to implement the BAT principle in practice and soon all the activities in the IPPC permitting process concerned only with the administrative procedure, not the purpose of the procedure and regulation as a whole. Instead of application of the IPPC principles, the existing permitting procedures were in a complicated and non-uniform way folded up in the IPPC permitting process. The poor environmental results of the implementation were accompanied by significant overall costs, mainly on the side of public budgets.

Concerning the design of the methodology, it can benefit the quality of the assessment in three principal ways:

- (i) the analysis framework directs the workflow from a general (basic policy elements such as goals, resources and instruments) to a detailed level (causal nexus of actions, reactions, results, outputs, and impacts), and then forces care back to the general level

- (ii) incorporated into the methodology are several distinctive roles carried out by persons involved in the assessment
- (iii) incorporating the non-measurable, institutional aspects of the policy implementation allows us to find and assess the other factors for actual effectiveness of the policy evaluated.

As for the main benefit of the methodology, when evaluating a policy, one can simply get lost in the large amounts of hypotheses, arguments, assertions, and data. Our methodology simply allows one to organize and evaluate all these inputs for the assessment. The staging and partitioning of roles and their tasks can help in the same way. Put simply, the results benefit from the specialization in the “production” of assessment reports.

The applications also have shown the importance of availability of quality information and the importance of monitoring for a good policy assessment. Developing a monitoring methodology and a system for reasonable costs seems to be an important task.

It is our belief that the methodology should help implement the “philosophy” of regulation improvements. In future, it may be used to enrich the methodology of RIA preparation. In particular, its outputs may serve to improve proposals of newly prepared regulations in the existing environmental areas. The significance of the proposed methodology in connection with the drafts of new policies consists primarily in accentuating the necessity to formulate verifiable targets.

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