

EAP Task Force

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ISSUES PAPER ON COMPLIANCE PROMOTION TOOLS

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This document presents the array of compliance promotion tools that are applied in many OECD countries as well as in Central Europe. This paper also contains a number of questions for discussion during the Fourth Annual Meeting of the NIS Environmental Compliance and Enforcement Network. The main objective of the discussion is to review the current experience with applying compliance promotion tools in the NIS and to assess the feasibility of application of broader range of instruments in the region.

***ACTION REQUIRED:** For prior information and discussion.*

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INTRODUCTION

1. As world-wide, also in the NIS, the traditional command-and-control approach in environmental protection showed to be limited in achieving the desired effect. Many factors contributed to decreasing the effectiveness and efficiency of traditional regulation, including scarce resources available to the environmental authorities, which result in a limited response to non-compliance and low capacity to prosecute violators, political and social pressures to favour industrial and business development, quite often regardless the environmental requirements etc. In many cases, the application of excessively strict regulatory regimes implied substantial costs to operators where the aspired gains were obtained. Altogether, these factors stimulated the need for developing and adopting innovative approaches that would promote and nourish voluntary compliance rather than simply detect and respond to non-compliance.

2. *Compliance promotion is any activity that facilitates or encourages voluntary compliance with environmental requirements* [6]. Many compliance promotion tools exist and only a combination of them can help to achieve the desired objective. Furthermore, most compliance strategies involve both activities to promote and enforce requirements, since no single regulatory or non-regulatory instrument can be effective enough.

3. The Issues Paper discusses a number of possible compliance promotion tools, their benefits and limitations, practical examples, as well as suggestions for their application in the NIS. It also presents the role of principal stakeholders such as government, industry and others.

4. The compliance promotion instruments considered in this paper include:

- information-based compliance assistance activities (meetings and seminars, environmental inspections, information centres, special compliance assistance programmes);
- relations with the public and regulated community, and public information/ education (media, publications, special awareness raising activities, networks for exchange of information and experience, recognition and award systems);
- finance-based compliance assistance (such as subsidies and other financial incentives);
- self-monitoring;
- voluntary approaches (public voluntary programmes, negotiated voluntary agreements, unilateral commitments);
- use of information-based instruments (pollution inventories, product certification/ eco-labelling, corporate environmental reporting); and
- cleaner production and environmental management systems.

5. The Issues Paper aims at creating a framework for discussions during the Almaty meeting of the NIS Environmental Compliance and Enforcement Network (NISECEN). The author made an attempt to cover the entire spectrum of tools, although the economic incentives stemming from economic framework conditions will not be explicitly presented during the meeting as they are the subject of a separate project carried out in the framework of the EAP Task Force.

1. ROLE OF DIFFERENT STAKEHOLDERS IN COMPLIANCE PROMOTION

6. The section presents the role of principal players in compliance promotion, such as government, industry and others stakeholders, such as consumers, investors, suppliers and the public at large.

1.1. Role of Government

7. The level of governmental intervention may vary depending on the type of a compliance promotion tool considered. In some cases governments need to take the lead in designing, applying and monitoring a particular instrument (e.g. compliance assistance, public information and education, public voluntary programmes and negotiated voluntary agreements, pollution inventories and product certification, pollution inventories, economic incentives and limited financial support for compliance promotion), other instruments are for industry to adopt (e.g. unilateral commitments, corporate environmental reporting, cleaner production and environmental management systems).

8. However, even in the cases when governmental intervention is limited, regulated community needs incentives for application of particular instruments. Therefore, one of the key roles of government in regards to compliance promotion is to establish policy framework that provides incentives for enterprises to improve their performance by implementation of preventive measures and enables effective application of different compliance promotion tools. The range of policy instruments is well known, and each country will need to apply the “mix” of policies and instruments, which are best adapted to their circumstances. Effective enforcement is particularly important for providing incentives to regulated community. [8]

9. Some enterprises, particularly SMEs, may require assistance in practical application of compliance promotion tools, governments should ensure that sufficient assistance is provided. Different compliance assistance means are presented in the chapter 2.1.

1.2. Driving Forces for Industry to Respond to Compliance Promotion Initiatives

10. The main driving forces for industry to respond to environmental regulations could be divided in the following categories:

- i. economic factors (costs savings associated with implementation of preventive measures, increased sales associated with improved image, future economic benefits of compliance),
- ii. regulatory incentives (formal request to implement particular measures, reduced number of inspections or reporting requirements in case of voluntary agreements),
- iii. public and other third party pressure to implement certain measures or more generally, to improve environmental performance.

11. Only in few cases industry is willing to initiate unilateral compliance commitments. But even then their decisions are driven by economics. In general the industry responds to compliance promotion initiatives launched by the governments.

12. Implementation of compliance promotion tools also to a large extent depends on awareness and competence of the top management in enterprises. A distinction could be made between two categories of enterprises [4]:

- Large industrial companies, especially those involved in the global economy, normally have good managerial and technical skills and are open for innovative approaches. For such enterprises improvement of environmental performance may become an issue of

equal importance as improvement of product quality. Nevertheless, big enterprises in the NIS may lack sufficient awareness and capacity, so promotional activities as well as technical capacity development is needed.

- Small and medium sized enterprises (SMEs) with limited managerial and technical skills, mainly producing for local market. Such enterprises are very concerned about any risk factor related to changes in the operational practices and issue of reputation is often outside strategic planning process. Lack of human resources could also be a serious obstacle in such enterprises. Much more efforts would be required to convince these companies about benefits of preventive environmental management and more technical assistance would be required to realise these benefits.

1.3. Role of Other Stakeholders

13. Apart from governments and regulated community, other parties are becoming increasingly important in promoting compliance:

- consumers increasingly demand products having lower impact on the environment in the entire life cycle;
- investors and banks evaluate activities on enterprises and increasingly consider environmental risks;
- suppliers and intermediary clients require from their partners to apply preventive environmental measures systematically and to reach a particular level of environmental performance;
- public pressure on enterprises to implement measures aimed at reducing impact to the environment is increasing.

14. Third parties can be exercise their role in many ways [5]:

- non-governmental institutions, universities research institutes – to organise training programmes, implement demonstration projects, disseminate information, etc.;
- consulting companies – to provide consultations on practical implementation of compliance promotion measures;
- non-state owned funds (e.g. environmental or other investment funds, including those set up with the assistance from donors) – to provide financing for implementation of investment projects related to compliance promotion, particularly cleaner production investment projects;
- banks/ insurance companies – to promote implementation of preventive measures by use of due diligence audits.

15. Involvement of these stakeholders in the compliance process includes a number of benefits. Third party quasi-regulation may be more effective than government intervention and could be easier accepted by the regulated community. Additionally, involvement of third parties reduces the need for governmental intervention and associated costs.

16. Unfortunately, different stakeholders in the NIS currently have little interest in environmental performance of enterprises and lack awareness, knowledge, and resources to be fully effective

in compliance promotion, assistance and monitoring. To increase participation of different stakeholders in compliance promotion activities, general environmental awareness raising and provision of adequate information is an obvious starting point, which has to be followed by more comprehensive capacity building activities.

2. COMPLIANCE PROMOTION INSTRUMENTS

17. This section discusses a number of possible compliance promotion tools, their benefits and limitations, practical examples from OECD and CEE countries, as well as suggestions for their application in the NIS.

2.1. Information-Based Compliance Assistance to the Regulated Community

18. Compliance assistance aims to help the regulated community to understand and meet their environmental obligations. Compliance assistance may include activities or tools related to specific regulations and activities that address compliance issues or needs across particular business sector (not only as can also be directed to specific regions). Compliance assistance may be provided by: organising meetings and seminars, carrying out compliance control activities by inspectors, establishing information centres/ clearing-houses or more comprehensive compliance assistance programmes. On-site consultations, printed information, particularly best practice guides, perhaps are the preferred types of compliance assistance [9]. In OECD countries, compliance assistance activities are usually financed by the governments.

19. The most straightforward way of providing information to business is to organise meetings and seminars where the compliance requirements and application of different compliance promotion tools is presented and explained. Such events could be organised jointly with industrial associations and other business support organisations. The following types of events could be used: (i) seminars that are designed to provide general information, (ii) site visits that demonstrate what other enterprises have done, (iii) workshops that are focused on helping participants to take action.

20. Compliance assistance could be also provided by environmental inspectors during environmental inspections. In addition to revealing the fact of non-compliance, inspectors can also often find its reason, communicate this reason to the operator and provide "first aid" recommendations. On-site inspection also may give a possibility to stress responsibility of the management towards better house-keeping. To meet this objective, the inspection should include (i) interviews with personnel at different levels of the enterprise (from management to operators); (ii) reviewing files and documents, and (iii) verifying that procedures are followed, e.g. by source testing, reviewing records and observing operations. Such inspections require substantial resource allocation and adequate competence of the inspectors. Another issue, largely under discussion, is whether giving advice enters in the functions of an inspector and does not conflict with its mission of supervising compliance and revealing violations.

21. Information centres are useful for providing access to information about compliance promotion tools and contacts of compliance assistance providers. Such centres can be located at environmental authorities or a third party institution. To be effective, information centres have to work actively in disseminating information using different means, including direct contacts with enterprises and mass media.

22. More comprehensive compliance assistance programmes (such as environmental best practice support to industry "Envirowise" in the UK¹) usually include a help-line for enterprises, on-site

1. "Envirowise" is a UK government programme offering free, independent advice on practical ways to minimise waste and convert turnover into profit. Every year, the Envirowise Programme helps thousands of businesses across the UK improve profits. It has published more than 70 best practice guides and, in the last year alone, saved British businesses more than £100 million. More information is available at: <http://www.envirowise.gov.uk/>

consultations, publication of cases studies, good practice guides that explain not just what to do but how to do it, environmental performance guides that allow companies to measure their performance with others in their sector and see their scope for improvement, and promotional information. In some CEEC and the NIS such activities are partly undertaken by cleaner production centres or similar institutions.

2.2. Relations with the Public and Regulated Community, and Public Information/ Education

23. Public is potentially a powerful compliance promotion agent. Public interest and power to influence decision making in enterprises depends on (i) general environmental awareness and (ii) appropriate information and means to understand and to take action. A number of different means could be used to increase public environmental awareness and understanding of effects on the environment from industrial activities, including articles in business journals and newspapers, TV and radio programmes, newsletters, leaflets, special awareness raising activities. Local governments have particularly important role to play in raising public environmental awareness, e.g. through development and implementation of local plans (Local Environmental Action Programme or Local Agenda 21) plans, which could include constitution of civil society groups and neighbourhood associations co-operating on compliance promotion. Role of public education system is important in the long-term perspective. To reduce the need for general environmental raising activities in the future, environmental issues could be included in all levels of education from the primary schools to universities. When developing public information activities, the right-to-know principle is a key principle to be applied. It includes the availability of information to the public and helping to interpret the data. with due attention to commercial confidentiality issues[9]. Information-based instruments, e.g. pollution inventories, corporate environmental reporting could be used for this purpose (chapter 2.5.).

24. Closer relations among governmental institutions, regulated community and other stakeholders could be used to ensure more open dialogue among governmental institutions, industry and other stakeholders, which in turn would facilitate application of different compliance promotion tools. Effective co-operation is based on asking for and receiving information just as much as transmitting it. Initiating establishment of networks for exchange of information and experience could be particularly important in this regard. Different stakeholders (e.g. industrial associations, individual companies, governmental institutions, non-governmental organisations, academia, consulting companies) could be invited to join such networks. The networks could be administrated by industry confederation or branch associations and take a form of regular meetings, surveys and development of informational materials depending on the needs of the network members. Such networks could provide an effective platform for consultations to identify compliance problems and the best means of compliance promotion.

25. Promoting excellence, e.g. through establishment of recognition and award systems could also prove to be an effective means to promote good environmental practices and to increase compliance rates. Recognition and award systems are voluntary programmes that provide signs for public recognition or in some cases financial reward to stimulate good performance. They may be offered at local as well as national or regional levels and may be targeted at small and medium sized or large enterprises and could be administered by governmental institutions or industry associations. The publicity, which may accompany an award may also serve as an educational function and may help to raise public awareness. More sophisticated systems, which combine the recognition with the reduction of enforcement burdens for industry (e.g. lowering the number of inspections or reporting requirements) are discussed in the chapter 2.3.

2.3. Finance-based Compliance Assistance to the Regulated Community

26. Public subsidies for environmental investments can be another compliance promotion tool that governments usually consider when trying to stimulate environmental improvements. However,

public support should be provided when and where it is only needed, mostly for priority environmental investments. Public support should aim to mobilise additional resources by requiring enterprises to spend money from their own funds. In addition, subsidies should be disbursed in a competitive and transparent manner and should be directed to those projects and project owners that offer the most cost-effective solutions (that is, achieving goals at minimum costs). To this end, NIS environmental authorities should assess the need for subsidised financing on a regular basis.

27. Relying on subsidies to achieve environmental improvements alone is, in itself, an indicator of weak enforcement. However, during the transition to a market economy, due to a number of policy and market failures, subsidies could play an important role in supporting the implementation of environmental policy, thus encouraging compliance with environmental standards and legislation.

28. Most NIS have set up environmental funds at national, regional and/or local levels to channel some environmental subsidies. Environmental funds are comprehensive public entities, controlled by governments and capitalised mainly through pollution charges and fines. They provide earmarked financing for a wide range of environmental projects for both the public and private sectors.

29. Subsidies provided through environmental funds or directly from the budget could be a legitimate compliance promotion tool, given the above conditions on allocation of public resources are fulfilled. In addition, funding from the environmental funds could be used for media campaigns that promote environmental compliance and for purchasing monitoring equipment for enforcement agencies.

2.4. Voluntary Approaches

30. Voluntary approaches aim to encourage industry to meet environmental goals, while giving them the flexibility to achieve these goals in the manner which best meets their circumstances [12]. In general, voluntary approaches are agreements between government and individual enterprises or industry sectors taking the form of non-binding contracts between equal partners, in which incentives for action arise from mutual interests rather than from sanctions. The most common categories are presented in Box 1 with selected examples in Box 2. The first two categories of voluntary approaches require governmental intervention while the unilateral commitments are initiated and managed by industry without any involvement of a public authority.

31. From a government institutions' point of view, the usually low costs involved in developing unilateral voluntary approaches, the fact that they allow quick responses and are politically less sensitive than command-and-control or economic instruments make them an attractively low-cost compliance promotion tool. The benefits of voluntary approaches also include the possibility to achieve better environmental outcomes at less cost to industry by providing industry with more flexibility to develop pollution prevention and control than do other instruments. Additionally, voluntary approaches are likely to generate soft effects (e.g. learning by doing and demonstration effects, increased stakeholder participation, consensus building), and can help to improve the future design of more traditional instruments. [9] Voluntary approaches are intended to go beyond regulatory requirements and may contribute to rising of performance standards in industry.

Box 1. The most common categories of voluntary approaches [13]

Public voluntary programmes such as “challenge” programmes. Most of public voluntary programmes require participants to sign non-binding letters of agreement, which impose no sanctions if the objectives of the programme are not achieved by the participant. Failure to achieve the objectives usually means that the participant may no longer gain benefits of participation, which usually are associated with public recognition.

Negotiated voluntary agreements. Negotiated voluntary agreements (also known as “covenants” in the Netherlands) are agreements that are reached following a process of negotiation between two or more parties – with at least one of the public sector and the business community. The negotiation results in a commitment that is for-

mally recognised by government and is subject to an incentive or a sanction (depending on whether set targets are achieved or not). There could be two types of negotiated agreements: (i) between government and industry association, and (ii) government and individual enterprises. When negotiated agreement is reached at a collective level, they are usually not binding on individual enterprises and potential sanctions are made to the collective level. Such agreements are quite distinct from the sorts of legally binding agreements between government and individual enterprises; in this case government would offer regulatory flexibility in exchange for “beyond compliance” environmental performance or enterprises would risk individual liability.

Unilateral commitments could be defined as a process when an organised group regulates the behaviour of its members. Usually it involves an industrial association setting rules and standards relating to activities and performance of enterprises that are members of the organisation. Such programmes are usually driven by willingness of the industry to enhance its reputation, increase sales and to reduce impact to the environment. There is a number of self-regulatory schemes and perhaps the best known example is the chemical industry’s Responsible Care programme, which applies in over 40 countries .

32. The inherent danger in voluntary approaches is that they may lead to the setting of unambitious environmental targets. This is due to the fact that business plays a pro-eminent role in target setting process, and that civil society is often absent from this process. Government may also be tempted to reduce the target to increase participation level. Or it may set goals, which are very vague to attract participants from a broad range of industries. When these pitfalls in the target setting can be avoided it is crucial that adequate monitoring systems are put in place. Otherwise it will be difficult to estimate whether targets have been achieved and enterprises may be tempted to gain public relations benefits of participation without making real commitment to improve environmental performance. In terms of unilateral agreements, the evidence suggests that they are usually not effective in achieving environmental improvements, even though there are some exceptions [9].

33. The credibility and environmental effectiveness of voluntary approaches is increasing when third parties are involved in the process of developing and overseeing them. When negotiating positions are open and known to third parties, governmental officials are forced to be more accountable to the public and to other third parties. Furthermore, the information that third parties bring to the negotiations may expand the scope and to increase value of the agreements. More generally, environmental performance should be made public and transparent as it would provide industry with additional incentives to achieve their commitments [13].

34. To be effective, negotiated agreements and voluntary programmes have to be combined with command and control regulation that is sufficiently enforced. Unless there is a tradition of effective governmental enforcement, there will be no incentive for industry either to enter into or to comply with environmental agreements. Regulatory components provide voluntary approaches with safeguards against their shortcomings, namely weak enforcement provisions, and the lack of credible/ efficient monitoring and reporting requirements [13]. Other conditions for voluntary agreements to be effective include sufficient government and industry motivation and professional capacities, ability of industrial associations to exert peer pressure on their members.

Box 2. Examples of voluntary agreements

Example of public voluntary programmes: 33/50 Programme in the United States of America. 33/50 Programme is a voluntary pollution prevention programme of the US Environmental Protection Agency. It was a response to the increased focus on pollution reduction and sought voluntary co-operation from industrial firms to significantly reduce toxic chemical releases and transfers primarily through source reduction. The monitoring of participating firms’ releases and of the programme progress is based on EPA’s Toxic Release Inventory. EPA formally announced the programme in 1991. The programme had three goals (i) an overall emission reduction of 33 percent for the 17 substances by 1992, (ii) an overall reduction of 50 percent by 1995, and (iii) to demonstrate that voluntary programmes could achieve targeted reductions faster than traditional regulatory approach alone. Participants in the programme received support from EPA in several forms. EPA organised regional pollution prevention workshops and conferences to foster an exchange of information. Additional support came in the form of technical assistance. Finally, the programme also referred companies to training courses offered by

state's and private sources. The programme was used mainly as a complement to traditional regulation, and helped to achieve incremental environmental improvements.

[Source: OECD. Voluntary Approaches for Environmental Policy, 1999]

Example of negotiated voluntary agreements: Dutch covenants, The Netherlands. The Dutch negotiated agreements (covenants) form a key component of the environmental policy in the Netherlands. These agreements have the status of contracts in civil law. There are two types of agreements. The first, a declaration of intent, is signed by the government and industry branch association. This contract has no legal value, but serves as a framework for the second type of contract between the government and individual firms willing to join the covenant scheme. These individual contracts may imply firms' liability in a civil court. For example, the first sectoral long-term agreement on energy efficiency (LTA) was signed in 1993. Industry groups committed themselves to achieve 20% reduction of aggregated specific energy consumption on 1989 levels by 2000. Individual firms joining the sectoral agreement undertake to improve energy efficiency as far as technically and economically feasible, with the aim of contributing to this collective target. In return, government agreed not to introduce any new regulations on energy conservation and to provide financial support to the implementation of the programme. In 1999, representatives of government and industry entered into a Benchmarking Agreement, in terms of which particular industry sectors undertake to achieve levels of energy efficiency in line with world best practice, while the government undertakes not to impose any new specific measures requiring increased energy efficiency or CO₂ emissions. The programme covered approximately 90% of industrial energy consumption in the country. It has been estimated that in 1998 the average energy efficiency improvement of 30 LTAs amounted to 17% on the 1989 level. Although there is insufficient quantitative data to confirm the extent to which these improvements are directly related to the negotiated agreements, there is convincing evidence of a number of "soft benefits" resulting from the process of concluding the agreements, including in particular positive outcomes associated with increased information exchange and enhanced co-operation and trust between the public and private sector parties.

[Source OECD. Innovative Approaches to Improve Regulatory Compliance in the Field of Environmental Protection, 2001]

Example of unilateral commitments: The Chemical Industry and Responsible Care. The Responsible Care programme was introduced by the chemical industry to reduce chemical accidents and pollution, to build credibility of the industry through improved performance and increased communication, and to involve the community in decision making. The programme consists of a series of industry codes of practice and underlines greater levels of public disclosure and participation. The programme is based on propagation of norms of industrial conduct, peer pressure, technical assistance, exchange of experience and self-reporting by members to institutionalise responsibility and to ensure compliance. The Responsible Care is administered by chemical industry associations at national level. Several studies conducted to evaluate effectiveness of the programme in promoting compliance revealed that the programme changed the way of thinking only in some of the member companies. The impact of the programme on the performance level of majority of the members was very limited.

[Source OECD. Innovative Approaches to Improve Regulatory Compliance in the Field of Environmental Protection, 2001]

2.5. Self-Monitoring

35. Self-monitoring is a quasi-voluntary compliance promotion tool. It is conducted by enterprises themselves and reports of self-monitoring are submitted to governmental agencies. Self-monitoring rules (e.g. frequency and parameters for measurement) are set by the government regulations and these are specified in the environmental permit issued to a company. The permit could include a requirement to establish and maintain a well defined self-monitoring programme, which could contain the following elements: (i) assessment, (ii) record keeping, (iii) procedures for important activities that can have significant impact to the environment, and (iv) routines for submitting reports to the authorities.

36. One of the main benefits of self-monitoring is that it creates an interest in, and an awareness of, the environmental effects of enterprises' activities and the situations when these effects are most likely to occur. Such information enables enterprises to undertake timely and cost-effective measures to increase environmental performance. From the government perspective, self-monitoring is an implementation of polluter pays principle and can reduce the need for human and financial resources to be devoted for pollution monitoring activities. At the same time, governments have a possibility to apply sanctions to enterprises that do not follow the established rules.

37. To ensure effective implementation of this compliance promotion tool, reports have to be verified by an independent third party or during inspection carried out by the controlling agency. To

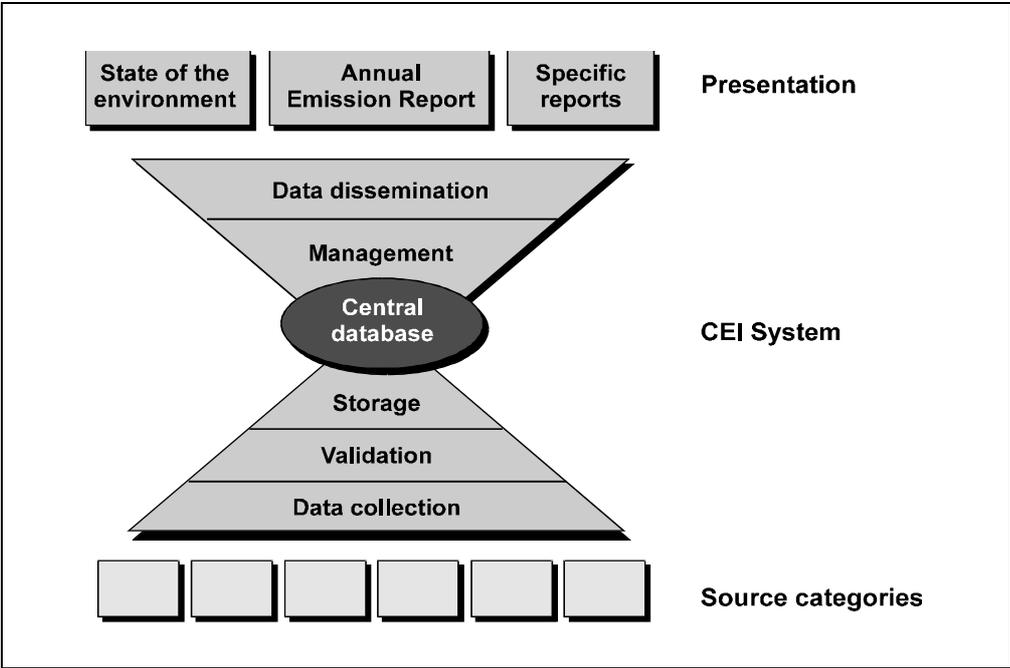
facilitate data verification and analysis, self-monitoring schemes should be compatible with the state monitoring systems.

2.6. Use of Information-based Instruments

38. In contrast to command and control, information-based instruments involve the government encouraging (as in corporate environmental reporting) or requiring (as with community right-to-know) information about environmental impacts but without directly requiring a change in those practices. Such tools are becoming increasingly important and credible way of achieving compliance, at least on enterprises that are sensitive to public reputation. [9]

2.6.1. Pollution/Polluters inventories

39. Access to information is an essential prerequisite for effective community input into environmental decision making. To address this issue, a number of countries introduced laws regulating disclosure of information about hazardous pollution [9]. A pollution inventory (or Pollution Release and Transfer Register - PRTR) usually calls for firms to report periodically on their releases and transfers of a variety of substances [10]. This information is made publicly accessible bearing in mind legitimate needs for business confidentiality. While governments take the early lead in active dissemination, over time non-governmental organisations often play an increasing role in delivering PRTR data to the public and helping the public learn to use them [11]. Other elements in the PRTR process include data collection and management. The relationship of these elements is clearly illustrated in the Figure 1. Some examples of PRTRs in OECD countries are presented in Box 3.



CEI = Collective Emission Inventory;
Source categories include industry, public utilities, traffic, households, agriculture, and nature.
 (Source: OECD. Presentation and Dissemination of PRTR Data: Practices And Experiences, 2000)

Figure 1. Schematic overview of the monitoring process of emission data in The Netherlands

Box 3. Pollution Release and Transfer Registers in OECD countries

The existing national PRTRs in OECD countries have accumulated considerable experience with dissemination of the data they gather—some have a decade or more of such experience. Some countries have identified widespread dissemination of information as a priority right from the start; others have taken an incremental approach. Governments that are planning, or have begun, implementation of a PRTR exhibit a range of commitments to data dissemination. Some have committed considerable resources to developing tools for public access even before their first year of full reporting. Others plan to share only broadly aggregated data summaries for their initial reporting years. For example in The Netherlands, Printed publications resulting from the Netherlands' PER summarise two inventories: the Individual Emission Inventory system which collects air, water, and waste data from large point sources and the Collective Emission Inventory system which estimates releases from small facilities and diffuse sources. The Dutch system originated as a tool for monitoring environmental policy, which has led to presentations that emphasise trends over time in the amounts of specific chemical groupings emitted to specific media. Reports from the Netherlands' inventory incorporate many charts and graphs to illustrate the sometimes complex data.

Experience in OECD countries suggests that dissemination of PRTR data is a powerful tool for communicating information about the environment. By making this information available to the public in a form that encourages tracking, comparison and improvement of environmental performance, PRTRs can promote pollution prevention. Government, industry, and the public all benefit from the data. While governments may use them to evaluate progress towards achieving their environmental policy goals, industry may use PRTR data to improve environmental management efforts. Public access to PRTR data may also constitute a basis for dialogue with individual facilities and can help the public better understand local conditions.

[Source: OECD. Presentation and Dissemination of PRTR Data: Practices And Experiences, 2000]

40. In some central and Eastern European countries inventories or simple lists of major polluters are compiled and maintained by environmental authorities. They aim to focus implementation and enforcement efforts on the key polluters, monitor compliance and make information on compliance performance of individual firms known to a broader public. An example of the list of major polluters in Poland is presented in Box 4.

Box 4. List of 80 worst polluters in Poland.

In 1990, the Ministry of Environmental protection compiled and published *a list of the 80 most polluting enterprises in the country*, in order to focus its implementation and enforcement efforts. Authorities at the voivodship level were encouraged to do likewise. Since 1991, the State Inspectorate for Environmental Protection has been dealing case by case with the listed enterprises. For all 80 enterprises, the State Inspectorate formulated pollution abatement requirements, and firms were obliged to submit plans for their implementation. Factories failing to do so by April 1993 were threatened with closure. Seven enterprises were closed and production was totally or partially halted in 22 others.

Evidence shows that *the list has helped focus the attention of inspectors on "hot spots"* and raise public awareness and control. According to the Ministry of Environmental Protection, these actions led to a 60 per cent decrease in emissions of lead to air, out of the total emissions of the 80 enterprises; a 40 per cent reduction of gaseous emissions; a 10 per cent decline in sewage discharges; and a 40 per cent fall in waste disposal. These figures are gross results, however : output-related pollution reduction needs to be separated from genuine improvements in emission efficiency. In fact, a considerable share of air pollutant emission reductions were due to improvements in emission efficiency, for particulates, lead and general gaseous emissions; efficiency improvements were smaller for *solid waste* and practically absent for *waste water* discharges. No overall results are yet known for pollution reductions by the 800 enterprises that are on the voivodship lists.

The success of the national list hinges on the relatively small number and status of the listed enterprises. Most of them were still state-owned or under the control of the Treasury, which facilitated *case by case treatment*. With progressing privatisation and a growing number of enterprises, this approach will be less effective. Though generally satisfactory in the short term, the overall cost-effectiveness of the list approach has also been questioned, as there is a danger of neglecting other sources of pollution with low marginal abatement costs.

[Source: Environmental Performance Review of Poland, OECD, 1995]

41. The following main benefits of pollution/polluters inventories could be stressed: (i) properly designed pollution inventories can provide additional incentives for enterprises to take voluntary action aimed at improvement of environmental performance as enterprises collect additional information and identification of measures for environmental improvement becomes much easier, (ii) information provided to the public helps to raise environmental awareness and to increase third party pressure on enterprises in terms of environmental performance, and (iii) information collected could help to increase effectiveness of decision making process in governmental institutions.

42. Despite the apparent success of some initiatives, there are some considerable problems related to pollution inventories. There are concerns that data supplied is often very limited and is not sufficiently presented to the public. Additionally, taking into account problems in the area of data collection and analysis existing in the NIS [7], there is a risk that information collected will be used only for statistical purposes and will not have impact on both decision-making and compliance rates. Finally, high costs are associated with administration of pollution inventories. On the other hand, simpler lists of major polluter may be much less costly and easier to operate. However, in applying these careful consideration should be given to the clarity, consistency and transparency of the criteria for including and excluding the installations from the lists as well as frequency of their revisions. Such lists can serve as an intermediary instrument in the NIS in the transition towards more elaborated schemes as PRTRs.

2.6.2. Product certification/ eco-labelling

43. Product certification/ eco-labelling is most frequently used tool for informing public about product environmental characteristics taking into account the entire life cycle of the product. Usually, environmental labels are used for consumer goods which are labelled to indicate that they are more environmentally friendly than other similar products. Programmes of this type are voluntary and are based on a number of criteria defined by government for particular product groups.

44. The main value of the product certification is the possibility to communicate a complex message in a simple form. In principle, properly designed and implemented eco-labelling schemes could help to raise public awareness in the area of environmental protection, to increase demand for environmentally friendly products, which in turn will motivate enterprises to improve their environmental performance.

45. To be effective, eco-labelling scheme should be comprehensive and cover most important environmental aspects in a particular product group taking into account the entire life cycle of the products. However, there is a risk that criteria and procedures for product certification will become too complicated and functioning of the whole system may become questionable. In many countries, eco-labelling schemes have experience strong industry opposition, which has significantly limited their coverage and effectiveness [9]. In addition to design difficulties, there are considerable costs associated with the establishment and operation of eco-labelling schemes. Moreover, national eco-label might not be attractive for enterprises due to limited public environmental awareness and demand for environmentally friendly products.

2.6.3. Corporate environmental reporting

46. Enterprises publish environmental reports where they indicate the achievements and problems in the environmental area. The reporting is often voluntary and is driven by stakeholder pressure on companies to disclose the environmental information. However, in some OECD countries (e.g. Denmark, Norway, The Netherlands) there is a regulation on environmental reporting [2]. The number of enterprises reporting on environmental issues is increasing. Currently, more than 35% of the world's largest corporations voluntarily release their environmental reports [9].

47. Producing an environmental report can benefit an enterprise in a number of ways. Making the report can help to better understand, and therefore better manage environmental impacts, improve performance, and minimise potential risks. Insurers, regulators, investors, customers and neighbours are likely to react more positively to companies that show they are aware of these issues and act to improve performance. Moreover, development of environmental reports motivates enterprises to analyse their activities and helps to identify opportunities for improvement of environmental and economic performance [4]. On the other hand, environmental reporting contributes to raising of public awareness in environmental issues. In the long term, to the extent that environmental reports use common reporting criteria and measurements, it will be possible for third parties such as environmental groups, to compare relative environmental performance, to publicise the results, and thereby push “bad performers” to improve their performance.

48. However, corporate environmental reporting is still in the stage of early development, and there are still substantial shortcomings to be overcome including quality of data, consistency and coherence in reporting format, and independent verification [9].

2.7. Cleaner Production and Environmental Management Systems

2.7.1. Cleaner production

49. Cleaner production (CP) approach is based on rational use of energy and natural resources and minimisation of pollution/ waste at the source where it is generated. CP includes the following prevention practices: good housekeeping, input substitution, better process control, equipment modification, technology change, product modification, using energy efficiently, on-site recovery/reuse [1].

50. Generally, CP helps to reduce enterprises’ impact to the environment and to increase economic performance. Properly implemented CP helps to reduce regulatory compliance costs reduces long-term liabilities, lowers production costs and enhances productivity, leads to more efficient use of energy and raw materials, etc. Investing in cleaner production to prevent pollution and to improve natural resource use is cheaper than continuing to rely on increasingly expensive end-of-pipe pollution control technologies. CP is particularly important in developing countries and countries in transition due to relatively high material and energy intensities of enterprises.

51. CP implementation will not solve all environmental problems. Pollution control technologies will always be required. However, scale of pollution control equipment required to minimise impact to the environment can be significantly reduced by cleaner production implementation. [16]

52. The main condition for successful CP application is establishment of framework conditions that provide incentives for enterprises to implement preventive measures. CP implementation could also be promoted by including formal requirements in environmental permits to conduct regular cleaner production assessments or establishing schemes to finance CP investments (Box 5).

Box 5. Promotion of cleaner production

Through Integrated Pollution Prevention and Control permits in Ireland: From the outset the approach in permitting companies has been to initiate programmes for CP and better environmental management. It is a requirement of the permit that the company develops an environmental management system, which drives improvement of environmental performance as well as facilitating compliance with permit limits and conditions. This begins with the establishment of a schedule of environmental objectives and targets by the company, which is subject to approval by the Environmental Protection Agency (EPA). Following assessment of the on-site operations and the information submitted in the permit application, the EPA specifies in the permit for each site the areas which must be addressed in setting out the schedule for objectives and targets. The company may also include other areas for improvement selected by itself. The company is required to submit to the EPA an Environmental Management Programme, which identifies dates by which individual targets will be met and who is responsible for achieving these targets. This programme is required to address a five-year period.

Progress against targets is subject to annual review. There are many examples of cleaner production projects implemented as part of mandatory environmental management programmes. The programme also acts as an incentive for enterprises to implement formal EMS, because permit holders who have registered to Eco-Management and Audit Scheme may apply to have a reduced level of auditing by the EPA as a result.

[Source: Maria Martin. Promotion of Cleaner Production through IPPC permits in Ireland – The Role of Environmental Management Systems, 2001]

Through financing of cleaner production investments in Lithuania: To promote CP and facilitate implementation of CP options that require investments, a special revolving fund to finance CP investments in Lithuania, Latvia, Estonia and Russian Federation was established by Nordic Environment Finance Corporation (NEFCO) in 1998. The main objective of the fund is to provide soft loans for the implementation of high-priority CP investments with rapid payback that yield environmental and economical benefits (“win-win projects”). To date, the Revolving Fund most successfully operates in Lithuania. The key partner of NEFCO in Lithuania is Institute of Environmental Engineering (APINI), which plays a crucial role in CP projects identification, evaluation, implementation and reporting. In 1998 – 2002, NEFCO approved loans for 29 companies. The success of the NEFCO initiative in Lithuania is to a considerable degree the result of availability of a local institution that can support the identification of cleaner production opportunities and the elaboration of loan applications. To develop such local capacity and to profit from it in these types of programmes could be of interest for other countries.

[Source: Institute of Environmental Engineering, Kaunas University of Technology, Lithuania]

2.7.2. Environmental management systems

53. The basis of environmental management system (EMS) is development of a cycle for continuous improvement with involvement of all employees. The basic elements of EMS include the identification of significant environmental impacts and aspects, development of an environmental policy, setting objectives and targets, implementing environmental programmes to achieve these objectives, monitoring and measuring its effectiveness, correcting problems, and reviewing the system to improve overall environmental performance. Environmental management systems can be formal (i.e. correspond and be certified according to the international standards such as ISO 14001 or EMAS – box 6) or informal (i.e. non-certified system).

Box 6. Examples of International Environmental Management Standards

ISO14000

The ISO 14000 series addresses environmental management systems, environmental auditing, environmental labeling, environmental performance evaluation, and life cycle assessment. These International standards are voluntary standards for the establishment of a common worldwide approach to management systems that aims to the protection of the earth's environment while spurring international trade and commerce. They serve as tools to manage corporate environmental programmes and provide an internationally recognized framework to measure, evaluate, and audit these programmes. When implemented, these standards will ensure consistency in environmental management practice, harmonize national environmental standards within an international framework, simplify registrations, labeling and conflicting requirements, provide a single system for all transnational subsidiaries, and offer guidelines for environmental management excellence. Even though the standards do not prescribe performance levels, performance improvements will invariably be achieved by any business if its commitment to environmental care is emphasized and employees are trained and aware of the policies in place to protect the environment. The ISO 14000 voluntary environmental management standards and guidelines are intended to be practical, useful and usable for companies or organizations of all sizes, in both manufacturing and service industries.

[Source: EnviroWindows: Environmental Information for Businesses and Local Authorities
<http://ewindows.eu.org/ManagementConcepts/ISO>

EMAS

Enterprises in the European Union can voluntarily participate in a Community certification scheme called Eco-Management and Audit Scheme (EMAS). EMAS is a voluntary initiative designed to improve companies' environmental performance. Its aim is to recognise and reward those organisations that go beyond minimum legal compliance and continuously improve their environmental performance. In addition, it is a requirement of the scheme that participating organisations regularly produce a public environmental statement that reports on their environmental performance. It is this voluntary publication of environmental information, whose accuracy and reliability has been independently checked by an environmental verifier, that gives EMAS and those organisations that participate enhanced credibility and recognition.

[Source: Regulation (EC) No 761/2001 of the European Parliament and of The Council of 19 March 2001 Allowing Voluntary Participation By Organisations In A Community Eco-Management And Audit Scheme (EMAS)]

54. In principle, environmental management system enables to tackle environmental issues systematically can help to ensure continuous improvement of environmental performance of an enterprise, i.e. to minimize the environmental impact of the company's processes, products and services.

55. In practice, most organizations implement certified EMS because their customers require it, or because it increases their chances of gaining new customers. Many organizations also get a certificate as a strategic move since they expect it to be very important in the future. When there are no additional incentives, there is a risk that EMS will be ineffective and will be additional administrative and cost burden to the enterprise. Nevertheless, experience shows that some enterprises realise potential benefits of EMS in later stages of its implementation and manage to implement sufficiently effective management systems [15]. Another limiting factor associated with effectiveness of EMS could be too strong involvement of consultants in the process of EMS implementation. In such cases there is a risk that EMS will not fit in the overall management system and will be ineffective. Finally, while EMS may indeed improve environmental performance, it can also mislead public into thinking that certified companies are performing well when in actuality they continue to harm the environment [14].

56. To ensure that all potential benefits of EMS are utilised, EMS programmes, procedures, structure and responsibility have to be integrated in the overall management system of the enterprise. Additionally, the system should be based on preventive approaches. Integration of cleaner production and EMS is particularly important in this regard.

2.7.3. Environmental self-audit

57. Environmental self-audit or environmental assessment is an integral part of a cleaner production programme or environmental management system in an enterprise. Self-audit could be defined as an ongoing assessment of operations for such purposes as preventing and controlling releases, and ensuring environmental compliance (including monitoring and measurements to maintain compliance and root-cause analysis of problems). Self-audit helps to identify activities that could cause adverse environmental impacts and/ or regulatory non-compliance and to develop corrective actions, which address specific environmental aspects or non-compliance.

3. DISCUSSION POINTS

3.1. Current Trends and Experience

58. A number of activities in the area of compliance promotion have been undertaken in the NIS. They include mostly information-based compliance assistance, cleaner production, environmental management systems. In the area of CP and EMS a progress has been made in some of the NIS: a number of Cleaner Production experts have been trained, demonstration projects implemented and CP centres established, a number of enterprises have implemented certified EMS. Generally, other compliance promotion tools such as industry self-regulation, voluntary agreements, and use of information-based instruments have not been practically used in the NIS so far.

Questions for discussion:

1. *What is experience of the compliance promotion tools applied so far in the NIS? How could these programmes/ projects be improved?*
2. *Are there any concrete plans of application of compliance promotion tools other than CP and EMS in the NIS?*

3.2. Most Promising Tools

59. A number of different compliance promotion tools and their benefits/ limitations have been presented in the paper:

- compliance assistance activities, e.g. meetings and seminars, environmental inspections, information centres, special compliance assistance programmes.
- relations with the public and regulated community, and public information/ education, e.g. media, publications, special awareness raising activities, networks for exchange of information and experience, recognition and award systems;
- finance-based compliance promotion (mostly environmentally friendly subsidies and other financial incentives)
- self-monitoring;
- voluntary agreements, i.e. public voluntary programmes, negotiated voluntary agreements and unilateral commitments;
- use of information-based instruments, i.e. corporate environmental reporting, pollution inventories, product certification/ eco-labelling); and
- cleaner production and environmental management systems.

Questions for discussion:

3. *What are the most promising and feasible tools taking into account political, social and economic conditions in the NIS? Why?*
4. *Which compliance promotion tools are not likely to work in the current conditions? Why?*
5. *What role governmental institutions (including environmental inspectorates) could play in implementing particular compliance promotion tools?*

3.3. Major Barriers in Applying Compliance Promotion

60. Major barriers in applying compliance promotion in the NIS:

- lack of framework conditions providing incentives/ motivation for companies to improve their environmental performance, particularly to implement cleaner production and effective environmental management systems;
- inadequate enforcement of environmental regulations (one of the key obstacles for effective application of voluntary and quasi-voluntary tools);
- lack of capacity in governmental institutions and industry to ensure effective implementation of different compliance promotion tools and lack of awareness about potential of preventive environmental measures;
- poor management in enterprises that often hinders utilisation of high engineering potential and diminishes technical and organisational innovation;
- weak involvement of third parties in compliance promotion in the NIS as compared to many OECD countries, e.g. there is no traditional environmental pressure from the public to business, which is a result of lack of general understanding and information about environmental problems and their relation to daily operations of industry;
- low demand for environmentally friendly products (one of the key barriers for introduction of product certification/ eco-labelling).

Questions for discussion:

6. *Are there any other important barriers not mentioned in the list?*
7. *What are the key barriers for applying compliance promotion tools?*
8. *What are the most efficient ways to overcome the key barriers?*

3.4. Paths and Actions to be Taken: How to Apply Compliance Promotion Tools in the NIS

61. There may be three principal elements for effective application of compliance promotion tools in the NIS: (i) establishing framework conditions, (ii) capacity building and (iii) involvement of third parties in compliance promotion. The delegates will be asked to discuss their relevance and applicability taking into account political, social and economic conditions in the NIS.

(i) Establishment of framework conditions needed for effective application of compliance promotion tools

62. To ensure efficient application of compliance promotion tools there is a need to establish an effective policy framework (such as resource prices and environmental policies) that provides incentives for enterprises to improve their environmental performance and to actively respond to compliance promotion initiatives.

Questions for discussion:

9. *What are the policy framework elements that enterprises are most likely to respond and undertake activities aimed at improvement of their environmental performance?*
10. *What are the differences between major industry and small and medium sized enterprises in terms of compliance promotion?*
11. *What are the priority actions to be undertaken to provide enterprises with incentives to respond to compliance promotion initiatives that require limited governmental intervention (e.g. cleaner production, corporate environmental reporting)?*

(ii) Capacity building

63. Taking into account lack of capacity in governmental institutions and industry to ensure effective implementation of different compliance promotion tools and lack of awareness about potential of preventive environmental measures, there is a need for capacity building activities in the NIS.

Questions for discussion:

12. *What are the key areas where capacity building is needed?*
13. *In what areas long-term training programmes with on-the-job training would be needed?*
14. *Is there a need for a short training sessions for decision makers? If yes, what are the key topics to be covered?*
15. *How could capacity building activities be organised most efficiently?*

(iii) Involvement of third parties in compliance promotion

64. Experience from OECD countries suggests that involvement of third parties in compliance promotion and monitoring is one of the key issues in providing additional incentives for enterprises to increase their environmental performance and to increase effectiveness of different compliance promotion tools. Therefore, in addition to capacity building activities, activities to promote involvement third parties in compliance promotion and monitoring are needed in the NIS.

Questions for discussion:

16. *What are the most important third parties to be involved in compliance promotion and monitoring activities?*
17. *What are the incentives for these third parties to get involved in compliance promotion and monitoring activities?*
18. *What would be the most efficient ways to involve third parties?*

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