

Funding Environmental Compliance Assurance

Lessons Learned from International Experience

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FOREWORD

Throughout the world, authorities responsible for enforcing environmental regulations and promoting compliance with environmental requirements are operating in the context of financial constraints. Such constraints can be a consequence of the general pressures on the state budgets or the changes in government policies, which may result in shifting the resources to address short-term priority problems away from environmental protection. Very often, environmental inspectorates are required to maintain, or even achieve higher performance with fewer resources.

A number of OECD countries have introduced innovative approaches to improve financial management in enforcement programmes and problems with funding enforcement programmes are not acute. On the contrary, inspectorates in transition and developing countries, which face serious budgetary constraints, have to scale down their operations due to lack of funds. In many countries inspectors' operations have been reduced to a minimum; in some, compliance monitoring systems have collapsed.

To respond to this challenge, a comprehensive review and reform of funding of environmental assurance systems is required involving the application of cost-recovery, polluter pays, and other sound principles of public policies together with better mechanisms for cost assessment, improving financial management and budget allocations, as well as increasing efficiency of enforcement activities. This reform should aim at improving, and diversifying where feasible and appropriate, the funding basis of environmental inspectorates.

This report offers experiences, insights, and concerns, gathered through a survey of selected OECD and transition economies, on developing and applying funding policies and managing budgets of environmental enforcement agencies. However, it may not always be practical to introduce fully the approaches from OECD economies in poorer countries, where start-up resources for building an environmental compliance assurance system are scarce and institutional frameworks are weak. Therefore, the report provides analyses and tailored guidance for the efforts of transition and emerging economies to better assess and meet the costs of their compliance assurance programmes.

The initial findings of the survey were discussed at an international workshop on Financing Environmental Compliance Assurance that was held on 4-5 May 2004 at the OECD in Paris. The report was subsequently revised on the basis of discussions at the workshop, as well as additional information from the participating countries.

The publication of this report is one of the activities undertaken within the OECD programme of work with non-member countries in the context of the Task Force for the Implementation of Environmental Action Programme for Central and Eastern Europe (EAP Task Force), for which the OECD Environment Directorate serves as a secretariat. The report was prepared as part of a project to assist the enforcement authorities in Eastern Europe, Caucasus, and Central Asia (EECCA) to develop sustainable effective, efficient, and financially viable environmental compliance assurance programmes. It is complementary to other projects, in particular on economic aspects of compliance assurance strategies, and performance assessment and management of environmental enforcement authorities in EECCA.

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ACRONYMS

ARPA	Regional Environmental Agencies (Italy)
APAT	National Environmental Agency (Italy)
CCTA	<i>Comando Carabinieri per la Tutela del Territorio</i> (Italy)
CFS	<i>Corpo Forestale dello Stato</i> (Italy)
DRIRE	<i>Direction Régionale de l'Industrie, de la Recherche et de l'Environnement</i> (France)
EA	Environmental Agency (for England and Wales)
EECCA	Eastern Europe, Caucasus, and Central Asia
EHAs	Environmentally hazardous activities
EIA	Environmental Impact Assessment
EIS	Environment Inspection Section (Flanders, Belgium)
EMAS	The Eco-Management and Audit Scheme
EMS	Environmental Management System
ENAP	Project on exploring new approaches in regulating industrial installations
EPA	Environmental Protection Agencies
EP OPRA	Environmental Protection, Operator Pollution Risk Appraisal
GdF	<i>Guardia di Finanza</i> (Italy)
IEEP	Institute for European Environmental Policy
IEP	Inspectorate for Environmental Pollution
INECE	International Network for Environmental Compliance and Enforcement
IPC	Integrated Pollution Control
IPPC	Integrated Pollution Prevention and Control
IRI	IMPEL Review Initiative
ISO 14001	International Organization for Standardization - environmental management standard
NEPF	National Environmental Protection Fund (Poland)
NIEPA	Northern Ireland Environmental Protection Agency
PPP	Polluter Pays Principle
RBD	River Basin Directorates (Bulgaria)
REPIN	Regulatory Environmental Policy Implementation Network
RIEW	Regional Inspectorates for Environment and Water (Bulgaria)
SEPA	Scottish Environmental Protection Agency
SEPA	Swedish Environmental Protection Agency
SFT	Norway Pollution Control Authority
SME	Small and medium-sized enterprise
SMS	Safety Management System
SEVESO	Control of major-accident hazards involving dangerous substances

Country Abbreviations

AU	Austria
B	Belgium
BG	Bulgaria
HR	Croatia
CY	Cyprus
CZ	Czech Republic
DK	Denmark
EST	Estonia
FIN	Finland
FYROM	Former Yugoslav Republic of Macedonia
F	France
D	Germany
GR or EL	Greece
H	Hungary
IC	Iceland
IRL	Ireland
I	Italy
LV	Latvia
LT	Lithuania
M	Malta
PL	Poland
SK	Slovakia
SLO	Slovenia
E	Spain
S	Sweden
NL	The Netherlands
NOR	Norway
UK	United Kingdom
USA	United States of America

EXECUTIVE SUMMARY

Objectives of the report

A stronger focus on environmental policy implementation has increased pressures on environmental enforcement agencies (called also “environmental inspectorates”¹) for additional activities to ensure higher compliance with environmental laws and regulations. However, these pressures have not always been accompanied by allocation of adequate resources. With the same, or sometimes fewer, resources, inspectors are required to maintain and even increase their performance, but if the budgetary cuts are severe they face the threat of compromising credibility, coherence, effectiveness, and fairness of government enforcement actions. As such concerns are now voiced more often, in particular in the transition and developing countries, the need has arisen to identify and apply approaches in order to better allocate resources available for compliance assurance and identify the optimal ways for their management, which includes reducing demand for additional funds (by carrying out tasks more efficiently, redistribution of burdens, outsourcing). Seeking additional sources of funding that can offset budgetary cuts may be necessary in the short to medium-term.

This report responds to calls from the countries of Eastern Europe, Caucasus, and Central Asia for assistance to address a serious under-funding of environmental inspectorates in the economic transition period. The managers of environmental inspectorates requested good international practices to be identified on how to raise efficiency and close financing gaps of enforcement agencies with the view to adapting them to national legal frameworks, as well as economic and social realities.

In order to describe trends and good practices, data from 15 OECD countries and five countries in transition have been collected through a questionnaire. The analysis of information gathered is presented in this report, which looks at the following key issues:

- Existing funding needs and funding patterns of environmental inspectorates;
- Budget management, including general approaches to cost estimation, funds allocation, and funds management; and
- Addressing funding gaps that occur between the assigned responsibilities, needs, and resources available.

Even though a substantial amount of information has been collected, the report points out that further analysis would be useful to gain a deeper understanding of existing funding and budget management policies in order to present a wider spectrum of applied approaches and techniques.

¹ Defined as institutions that typically have legal mandate to prevent environmental non-compliance, identify (through inspection or other approaches, such as ambient monitoring) cases of non-compliance and take action to correct them. In some countries, permitting is another responsibility of environmental inspectorates.

Institutional frameworks for enforcement and their impact on funding needs and patterns

In assessing the funding needs of the inspectorates, it is important to recognise the existing trend of broadening their functional responsibilities. Commonly, enforcement authorities have been responsible for monitoring compliance with national (and through it also with international) requirements. This includes routine and reactive inspections, post-inspection reporting, administrative response to non-compliance, and contribution to court enforcement actions (judicial responses). Some inspectorates are charged with carrying out ambient monitoring of background environmental conditions. Enforcement agencies also provide guidance to, and ensure quality control of, enforcement units at the lower (sub-national) level of the public administration. In some countries the inspectorates are involved in environmental permitting.

More recently the inspectorates are also required to provide better information about the legislation/permit requirements and guide companies in their efforts to comply with them. This compliance promotion can take the form of developing guidance and information documents, organising informational seminars and training, and providing direct advice to enterprises. More and more the inspectorates are required to provide information and feedback to policy makers and legislators on the results of practical implementation of regulations, as well as on their feasibility, and enforceability.

Dynamic reform context

Many environmental inspectorates, as is the case for other government agencies in the OECD countries, have been exposed to a new philosophy of public administration, which emphasizes the adoption of modern management methods to achieve established objectives with greater cost-effectiveness (*i.e.* reaching goals at least costs). As a result, significant reforms of enforcement systems have been conducted to optimise the institutional set-up and improve efficiency of instruments. These reforms aim to establish new objectives, influence the scope of work and responsibilities of enforcement agencies, and promote better allocation of responsibilities within public administration horizontally and vertically. The reform process usually determines the resources required to fulfil new mandates. In many cases, however, these are determined in general terms and implicitly rather than explicitly. As a result, obtaining adequate resources to fulfil their mandates has proven to be a challenging task for many enforcement agencies.

At the same time, the reform processes themselves do incur additional costs as the long-term benefits of reorganisation might not be achieved without initially spending money to reorganise. The findings of the report show that potential initial resource-intensity of reforms should not detract the governments from any attempt to change structural organisation. However, experience shows that the changes should be introduced in a strictly limited period of time with full consideration of available funds. After restructuring is finished the new institution should be allowed to operate over a longer period of time to demonstrate the efficiency of reforms.

Principles guiding funding policies

The choice of approaches in every policy is usually guided by a set of principles that help to ensure their coherence, consistency, and transparency. The selection, interpretation, and/or extent of application, of these principles vary across different countries and each country establishes (or has to establish) their hierarchy in full concordance with its particular social and economic conditions.

The Polluter-Pays Principle (PPP) has been used in many countries as a fundamental approach to assign the responsibility to the polluter to bear the cost of its own measures to prevent and control pollution to the level established by the government. However, the survey shows a differentiated interpretation of the PPP in the context of financing enforcement efforts. In some countries, the PPP approach is interpreted as the responsibility of polluters to pay not only for their own pollution prevention measures but also for impacts that they have on the environment. In these cases administrative costs of compliance assurance are

considered as being covered by the state budgets from funds collected through general taxation. Other countries interpret the principle in a broader way, *i.e.* the polluters should also pay for the cost of regulation – such as permitting, monitoring, inspection, and enforcement – that is needed to ensure that the environment is protected².

Although the first-mentioned interpretation of the PPP is applied in such countries as the Netherlands (which even renounced permit fees), the use of cost recovery for environmental regulation of industry (full or partial) is growing as it is considered consistent with the PPP. There are countries, such as Belgium and France, where the revenue from permit fees goes to the Treasury (which is also in line with the principle of preventing conflicts of interest, also called the “integrity” principle). In Australia, Finland, Ireland, and the UK a significant part of inspectorates’ revenues (in some cases up to 65 per cent of budgets) are raised directly from permit and inspection fees paid to the enforcement agency budgets by the operators.

Overall, the Polluter Pays and the cost recovery principles are commonly applied even though there are differences in their interpretation. Analysis show that the narrow PPP interpretation should be applied in the long term and the broader interpretation can be applied on a temporary basis to offset short-term budgetary constraints. However, there are some particular fields in which full cost recovery would be most appropriate. These include recovery of costs of inspectorates’ interventions when non-compliance is detected or in emergency situations of accidents with immediate impacts on the environment.

The study showed also that some other concerns exist with regard to potential conflicts between different principles. Notably, this is true for the integrity and full cost recovery principles because of fears that regulators may be subject to perverse incentives to relax enforcement for “regulatees” who pay higher fees. Furthermore, full cost recovery can lead to a regulator increasing the fees without due attention to the political and economic impact of user charging, and hence cause problems of acceptability.

Furthermore, the survey’s findings suggest that international benchmarking of administrative fees should be carried out to help seek consensus on the application of full cost recovery and to help cap fee rates if and where politically expedient. For example, the latter is done in Canada where ceilings are placed not to exceed the maximum fee in the United States. Substantial variations of fees, however, exist in the European Union, including within the different jurisdictions of the same Member State.

Funding sources, variations, and limitations

The survey shows that inspectorates would prefer to rely, for their core budgets, on government funding, whether central or regional, as it should be in principle the most reliable and non-volatile source. However, in practice a combination of revenue sources is often used to address the short-term constraints on public budgets. In a few of the surveyed countries, there is a clear tendency to diversify in the choice of revenue sources and also to move towards a system of partial or full cost recovery.

In principle, major sources of inspectorates’ funding include: i) Government budgets (central and local budgets [these can include environmental taxes/charges and resource use fees collected by the Treasury from operators]); ii) Administrative fees (including permit and/or inspection fees) and services (*e.g.* for sampling and laboratory tests) paid to the budgets of environmental enforcement agencies; and iii) Recovery of remediation measures and voluntary contributions also paid to the enforcement agency budgets (this also includes international grants and donations).

² A question may arise, however, as to whether the administrative costs should reflect actual or potential pollution.

Taking account of the funding patterns, the results of the survey allow for a classification of countries into three groups:

- The first group consists of countries that have all (or almost all) of their revenue provided by government grants. Countries in this group include: Belgium, France, Macedonia, Malta, the Netherlands, Slovenia, Spain, and the USA. The fact that all revenue comes from the state government does not exclude the existence of other sources discussed above (such as environmental taxes and charges, and administrative fees), it just indicates that the inspectorate does not benefit from them directly;
- The second group includes countries in which enforcement agencies receive some of their revenue directly through permit fees or inspection charges. These are important sources of funding for the Czech Republic, Denmark, Finland, Ireland, Sweden, and the UK. These are minor sources of funding in Norway and Poland;
- The final group includes those countries for which there are other (usually transitional) sources of funding for enforcement. This group includes Bulgaria and Poland where compliance assurance programmes are supported financially by earmarked environmental funds. However, these are used for the purchase of monitoring equipment, etc., not for general running costs, such as personnel.

The third group shows that the important sources of funding of enforcement agencies in the transition economies of Central Europe are environmental funds in which pollution charges and non-compliance fees are collected. These funds are used as a substitute for funding from the state budgets in the period of the transition to a market economy. However, such arrangements may lead to compromising the integrity of regulation and compliance assurance programmes as inspectorates are authorised to use as their revenue source the monetary payments for pollution and non-compliance. There have been many examples where revenue raising rather than meeting environmental objectives has been the driving force behind actions taken by inspectors. The preferred approach should therefore be to collect these payments in the state budgets so that they can be treated as public money subject to treasury control. The cost-recovery approach could be introduced instead.

Allocating funds

Analysis of actual budget allocation to specific activities shows that inspection is generally the most important activity, followed by monitoring, and in some cases permitting (where permitting comes under the tasks of the inspectorates). Some institutions are highly focused on one activity (in Slovenia 90 per cent of the budget goes to inspection), while in others (*e.g.* in the Netherlands) there is expenditure across a wide range of activities. Much fewer resources are being spent on compliance assistance, enforcement, research, and training.

The expenditure on compliance monitoring can be highly variable (for example forming a major part of the expenditure in Bulgaria and Poland, but only a very small fraction in the Netherlands) as the level of monitoring costs depends on whether monitoring is performed by the inspection or if it is done by a separate institution, and whether the infrastructure is already in place. In addition, existing environmental legislation in many OECD countries puts the responsibility of monitoring on the polluters, with legislation stipulating explicitly monitoring requirements that have to be carried out and information communicated to the inspectorates. Where this is followed, a reduced role for state-operated monitoring programmes is needed.

With regard to the type of expenditure, the personnel-related operational costs generally represent the most significant expenditure. Therefore, knowing the variables that influence these costs (*e.g.* types of inspections, duration and frequency of on-site visits, time input to fulfil other duties, etc.) is crucial. Capital investment, which generally refers to the purchase of assets that ensure enforcement activities, is also important but more difficult to trace as these expenditures extend beyond a single accounting period.

The survey shows that effective budget planning in environmental inspectorates involves a careful projection of operational needs and capital investment, identification of contingencies, and taking account of specific legal constraints. Historical data and cost-estimating ratios often complement the assessment of expected expenditures. In some countries, cost estimates for compliance assurance are adjusted to the fixed limits of the budget.

While many governments do not prepare and maintain a distinct capital budget, the separate consideration of capital resource needs should help to improve efficiency. Capital investment planning is undertaken for five years ahead (Czech Republic), three years ahead (Bulgaria), on a rolling multi-annual programme (Netherlands), or annually (Poland). Using multi-year planning allows for stability of regulatory action, as long as new burdens are clearly identified, contingencies are planned, and some implementation flexibility is allowed.

The increased pressure on governments to improve effectiveness and efficiency resulted in the adoption of performance-oriented budgeting in the majority of OECD countries, and, progressively, in transition economies. This approach is instrumental for providing a higher certainty of budget funding and giving flexibility to managers on operational decisions. The key lesson learned in this field is that the introduction of performance-oriented budgeting has to build on a clear understanding of inspectorates' objectives, a good planning framework, and indicators to measure and manage performance.

Tackling budget deficits

Only a few authorities responsible for inspections note that they have sufficient funds to carry out their job according to their mandates. Most face budget constraints that require them to apply innovative ways to tackle deficits. Possible solutions include:

- Linking budget planning with activity planning and carrying out efficiency analysis, *i.e.* assessing costs in comparison with the benefits of services provided to society, to define where costs can be reduced or services improved. Ideally, such assessment should be launched as an internal standard procedure before external parties request such an analysis;
- Reviewing past experience in the case of systematic shortfalls in budgets and their reasons in order to develop contingencies plans. Early projection of needs for additional resources should be used to facilitate budget planning. A good practice is tracking likely future developments of the regulatory framework, the changes in the profile of the regulated community, and any kind of other “new burdens”.
- Establishing a hierarchy of tasks within the inspectorate for cases where re-allocation of budgets between tasks, or work programme revisions, is necessary. Designating senior-level management structures responsible for prioritisation in the case of budget shortfalls should help to ensure transparency of such decisions within the organisation;

- When cost-effective, outsourcing some tasks (for example emissions and ambient monitoring, laboratory analysis) to external contractors should be considered.
- Encouraging greater involvement of industry in compliance monitoring and other stakeholders in creating deterrence and compliance promotion as a means to reducing budget needs. This could include, for instance, promoting self-monitoring by industrial operators, greater reliance on environmental management systems, and application of information-based instruments (such as industry's performance ratings). Citizens' involvement in compliance monitoring and detection, creating deterrence, and extending public pressures on serious polluters should be promoted as complementary to government compliance assurance actions.

Since inspectorates compete for funds with other authorities and decisions on budget allocation often follow political priorities, many countries face the challenge of ensuring that the benefits of environmental compliance assurance are fully understood by authorities responsible for budget decisions. In this context, the inspectorates should work with economists to assess and compare the benefits of compliance assurance programmes with their costs. The inspectorates should engage in a dialogue with NGOs, mass media, and the general public to inform them about the results of such studies and generate interest and support. This will also help to exert public pressure on decision-makers so that adequate funding is provided for compliance assurance programmes.

1. INTRODUCTION

1.1 Purpose of the report

This report describes practices in financing environmental compliance assurance activities in selected OECD and transition countries. The report looks at the following key issues:

- Existing funding needs and funding patterns of environmental inspectorates;
- Approaches to budget management, including programme and activity cost estimation, funds allocation and management;
- Addressing any funding gaps that can occur between the mandates of compliance assurance agencies and the resources available.
- In addressing funding gaps, the report reviews possibilities of:
- Raising the efficiency of compliance assurance programmes and reducing demands for additional funds through carrying out tasks more efficiently, redistribution of burdens, outsourcing; and
- Seeking additional funding sources.

1.2 Context for the study

Analysis of funding of environmental compliance assurance programmes is part of the OECD/EAP Task Force project to support efforts of inspectorates/enforcement agencies across Eastern Europe, Caucasus, and Central Asia (EECCA) to develop effective, efficient, and financially sustainable environmental compliance assurance programmes.

The study was launched in the context of increasing discussion within the EAP Task Force of the role and importance of inspectorates in environmental enforcement in the transition period in the EECCA region. As the EECCA governments face serious budgetary constraints, the inspectorates have been under strong pressure to scale down their operations due to lack of funds. As a result, inspectors' operations have been reduced to a minimum; in some cases, compliance monitoring systems have collapsed.

At the same time, evidence exists that significant potential remains to increase the efficiency of inspectors' operations. In particular, strategic targeting of inspections could result in focussing on high risk sites, significant violators, or where the economic benefits of compliance will be the greatest, hence saving time on inspection in low risk/low pollution sites. Other options can include tailoring compliance assurance tools to the nature of the regulated community, *e.g.* offering more guidance to small and medium-sized enterprises (SMEs), and adopting modern approaches to prevent non-compliance in addition to inspections and non-compliance responses. Raising efficiency, however, should not mean compromising an appropriate level of inspection activities and quality standards which, among other things, demonstrate government's determination to monitor compliance with regulatory requirements and respond to violations.

The members of the EECCA Regulatory Environmental Policy Implementation Network (REPIN) requested, at their 5th annual meeting in Kiev in 2003, a project that would provide support for developing sustainable mechanisms for funding environmental enforcement work. To help achieve this objective, the EAP Task Force Secretariat commissioned a study that would provide examples of funding patterns and efficiency gains in selected OECD and Central European countries. Such analysis aims to provide inspiration to EECCA inspectorates to address their financing constraints and challenges without diverting from good governance principles.

While most inspectorates/enforcement agencies from OECD countries have some budget limitations and associated problems, this is even more clearly the case in many EECCA countries or other economies in transition. Making more efficient use of existing resources and finding additional funding would greatly benefit further implementation of compliance assurance measures in EECCA countries. The study is also intended to provide a basis for further analysis and provision of support to individual EECCA countries in strengthening funding of enforcement programmes.

1.3 Study approach

As the study sought to offer experiences, insights, and concerns of developed and transition economies, questionnaires were sent to inspectorates/Environment Protection Agencies (EPAs) across Europe and to the US in February 2004, and a further set in July and September 2004. Responses were obtained from Bulgaria, the Czech Republic, Denmark, Estonia, Finland, the Former Yugoslav Republic of Macedonia, Germany (State of Brandenburg), Lithuania, Malta, the Netherlands, Norway, Poland, Slovakia, Slovenia, Spain (region of Galicia), the UK, and the USA. In addition, background documents were analysed for a range of countries (Australia, Belgium, France, and Canada)³, and further interviews were held.

A first version of the report provided background information for an OECD/EAP Task Force Expert Meeting on Financing Environmental Compliance Assurance that was held on 4-5 May 2004 at the OECD Headquarters in Paris⁴. The report has been updated in light of the discussions at the workshop. The results of the study were presented at the 6th annual REPIN meeting on 26-28 September 2004 in Yerevan, Armenia. The study was also presented for comments from the Impel Network and will also be disseminated to other regional networks, such as BERCEN and INECE.

1.4 Structure of the report

The main body of the report summarises the key findings of the survey as follows:

- Chapter 2 explores the scope of inspectorates/environment agencies' work and its relation to funding needs;
- Chapter 3 reviews the principles of financing of enforcement activities;
- Chapter 4 looks at the existing and anticipated sources of funding, as well as variations, opportunities, and limitations in their use;
- Chapter 5 presents the budget planning and funds allocation processes, as well as approaches to securing approval of budget proposals;
- Chapter 6 discusses strategies to close the funding gaps in achieving programme objectives.

³ *E.g.* from the IMPEL Review Initiative (IRI) series -see <http://europa.eu.int/comm/environment/impel/>

⁴ See the Minutes of the Meeting on the OECD web site at www.oecd.org/env/eap or as Annex 12.

Extensive country specific information is presented in Annexes 1-12. The level of detail varies across examples from different countries. The detailed information given in one or two cases should be sufficient to give a benchmark for EECCA countries to reference their own practice. Including too many would make this report unwieldy. The variation of information provision also relates to the level of information provided in the questionnaires and available in public documents.

1.5 Contributors

The survey was carried out by Patrick ten Brink and Andrew Farmer of the Institute for European Environmental Policy (IEEP)⁵. At the OECD/EAP Task Force Secretariat, the project was managed by Angela Bularga and Krzysztof Michalak. The team would like to thank experts and officials from a wide range of countries for their timely and constructive contributions, clarifications, and time.

The views expressed here are those of experts and are not formal country positions. Clearly not everything could be said about all countries and not all information provided could be fully integrated; and there is some greater coverage of some countries' experience than others. Any oversights or simplification of a country's experience are not to be attributed to the experts from the participating countries.

Financial support provided by the Netherlands to develop and publish this volume is greatly appreciated.

⁵ Web site : www.ieep.org.uk

2. INSTITUTIONAL PROFILES OF INSPECTORATES, REFORM TO INCREASE EFFECTIVENESS AND EFFICIENCY AND ITS IMPACT ON FUNDING POLICIES

Countries may have different institutional arrangements for enforcement, which may be subject to frequent changes as a result of on-going reform of public administration. This chapter discusses the relationship between the responsibilities of environmental inspectorates and their funding needs. It also presents the impacts of institutional reform on funding strategies.

2.1 Functional diversity of environmental inspectorates

In seeking to describe the sources of funding for inspectorates and how funds are allocated, it is important to recognise the functional diversity that exists in different countries. Commonly, the enforcement authorities receive the following mandate:

- Checking regulated installations and activities for compliance with legislation/permit conditions, including:
 - Routine and reactive inspection of installations and post-inspection reporting;
 - Monitoring of background environmental conditions or emissions (this includes laboratory testing);
- Providing administrative response to non-compliance and contributing to court enforcement actions (judicial response);
- Facilitating the implementation of compliance assurance activities within the environmental enforcement system, including with lower administrative level units, as well as co-ordinating them horizontally with other government agencies. This includes policy and strategy development; coordination; methodological, procedural, technical and managerial guidance; quality control; human capacity building; and overall performance assessment and management. National-level networking and inter-agency cooperation are often supplemented with international networking.

Increasingly, the enforcement authorities offer information and guidance to companies in their efforts to comply with legislation/permit conditions. This is provided in the form of guidance documents or through discussions and advice. Often, the enforcement agency is required to provide feedback to policy makers and legislators on results of practical implementation of regulations, their feasibility, and enforceability.

Sometimes inspectorates have additional functions, for example they can be involved in environmental permitting. For example in the UK and France a single authority undertakes the functions of permitting and inspection. This requires information sharing, prior agreements on joint activities, and careful planning of resources to be used for these activities.

2.2 Impacts of major administrative reorganisation

2.2.1 *Introduction of modern management methods across the government*

Over the past decade, many inspectorates in the OECD countries have been exposed to a new philosophy of public administration that emphasizes establishing clear objectives, and greater efficiency and cost-effectiveness (*i.e.* reaching goals at least costs). In the OECD region, and increasingly in the transition economies of Central and Eastern Europe, environmental enforcement authorities have the following institutional characteristics:

- A founding law establishes their mandate and strategic directions. The law is supplemented by a number of instructions from a minister or other high level administrator;
- The outputs and goals are clearly defined and resource allocation is linked to measured performance;
- The inspectorates pursue greater decentralization to achieve their goals;
- Inspectorates operate with a degree of decision-making and budgetary autonomy. The inspectorate often manages its budget independently but within the rules set by the government. It has greater flexibility in hiring staff, compensation policy, and labour discipline;
- Inspectorates are subject to an increasing degree of political and public accountability.

Reorganisation of individual administrative structures can also occur in a case by case basis as it can be driven by the need to increase effectiveness and/or adjust the agency's organisation in light of budgetary changes.

There has been relatively recent reorganisation of enforcement responsibilities within the OECD countries (*e.g.* Greece, Ireland, the Netherlands, Poland, and the UK) and more is proposed (*e.g.* the Czech Republic). Most of these reforms brought about an increase in effectiveness and efficiency of operations. However, these changes incur additional costs as well. Even where long-term benefits and savings of reorganisation are evident, they might not be achieved without spending money to begin with. In the UK, in 1995, the previous pollution inspectorate and National Rivers Authority were merged into the Environment Agency of England and Wales (EA). Over time this has enabled savings on administration costs. However, significant investment was needed to make the merger work, including development of compliance assurance strategies and tools, establishing new administrative procedures, and training. Not least this involved relocating staff, developing information systems, etc.

Potential resource-intensity of reforms should not detract the governments from any attempt to change structural organisation. However these changes should be introduced in a limited period of time with full consideration of costs and benefits. After the restructuring, the new structures should be allowed to operate over a longer period so that the benefits show clearly, and therefore the efficiency of reforms can be demonstrated.

Box 1. Creation of state agencies in the Netherlands as a formula for increasing the efficiency of policy implementation

It is the sector minister, together with the Minister of Finance, who may decide to give a specific part of a ministry the status of state agency. Such a decision must not be implemented until at least 30 days after Parliament has been notified in writing of this intention. If, within this period, a request is made by Parliament to receive further information on the proposed decision, the decision shall not be taken until after that information has been supplied. Candidate state agencies need to **satisfy the following conditions**:

- Describe the administrative organisation and production processes, including the methodology for determining the costs of products and services;
- Define a systematic measurement framework, which will be used subsequently to evaluate the degree to which efficiency has been improved (the primary indicator should be the cost price per rendered product or service);
- Be equipped with output-oriented planning and control mechanisms.

As an integral part of a ministry, **the sector minister is the final decision-maker for an agency**. It is the sector minister, endorsed by the Council of Ministers and Parliament, who decides on the objectives, tasks, and products and services rendered by the state agency, as well as its client group and agency mandate changes.

The appointment of the director or chief executive officer of a state agency is made under the regular State legislation meaning that the appointment requires a decision by the Council of Ministers. The appointment of other high officials, including the chief financial officer, must be approved by the General Secretary of the Governing Council (the most senior civil servant) of the sector ministry.

As an integral part of a sector ministry, a **state agency's budget** is determined following the regulations of civil service law. The agency's budget is accompanied by a short description of the nature and objectives of the agency, as well as its tasks. It also describes the agency's plans for improving efficiency and reports on achievements of the past year. The state agency's budget must be accompanied by relevant performance and output indicators and aggregated information on the quantity and quality of products and/or services rendered. The sector minister, together with the Minister of Finance and the Council of Ministers approves the agency's budget. It is then approved by Parliament.

The state agency's budget may be partly financed in advance as a grant (a lump sum contribution to the agency's operating budget) or as a payment for services rendered. State agencies that deliver a programme that includes payments (subsidies, welfare) maintain a division between the operating and the programme budget. As a rule, they will be administered under separate budget headings. The number of agency staff is published as a specific annex to the ministry's budget. In this way the autonomy and distance of the state agency in its relation to the ministry are expressed.

The state agency has a **special account with the Ministry of Finance separate from that of the sector ministry**. It is, however, fully embedded within the government Treasury system for cash and payment management as administered by the Ministry of Finance. Payments by an agency that delivers a programme of government payments (subsidies, welfare) to recipients are carried out via the sector ministry's government account. In this way the benefit programme is not only budgeted apart from the agency's budget, but is also kept separate during execution.

In addition to the ministerial payments, state agency **budget sources** may include revenues from other ministries or third parties. As an incentive to financial and managerial efficiency, the revenues will not in their entirety be taken away by the sector ministry. In the constitutional decrees or state agency protocol, a framework of agreements is laid down specifying the regime for budget surpluses that stem from efficient management.

Modifications to a state agency's budget need not be submitted to Parliament during a fiscal year; they are included in the Final Budget Act that closes the fiscal year. As a full part of the State, the Netherlands Court of Audit audits state agencies. The Court investigates the regularity and efficiency of the agency's performance and financial management. Like all **audit reports**, these are directed to the Parliament. Before that, the sector minister has the right to read and respond to the Court's findings.

Source: OECD (2001), Outcomes-Focused Budgeting -- Case Studies, PUMA/SBO(2001)5/ANN1.

2.2.2 Introduction of institutional autonomy

Institutional autonomy, which has been acquired by many inspectorates, is usually connected with the need to break up an overly centralised system into autonomous units or agencies centred on well-defined tasks and products, thus making institutions more efficient. The creation of an independent inspectorate in Greece and establishment of the Office for Environmental Enforcement at the Irish EPA are the most recent examples of efforts undertaken by OECD countries to bolster the compliance assurance function of environmental agencies through a greater institutional autonomy.

The introduction of the “state agency” form of organisation in the Netherlands is particularly illustrative in the context of increasing the efficiency of policy implementation through enlarged managerial freedom and responsibility, and output-oriented management. “State agencies” can best be understood as a form of “internal corporatisation”⁶, *i.e.* they remain part of the ministries and operate fully within the boundaries of the jurisdiction of ministerial accountability but are autonomous through the introduction of special financial management regimes (see Box 1).

This form of organisation may provide an inspiration to other countries that have not yet established autonomous environmental enforcement authorities. Such an approach could balance the desire to keep inspectorates within ministries of environment (thus continue to operate within the boundaries of ministerial accountability) with the need to give inspectorates necessary autonomy for performing their functions more efficiently.

2.3 Impact of vertical organisation

An important institutional issue that may significantly affect funding is how responsibilities are divided vertically between units responsible for enforcement at the national and sub-national level. The following models have been identified by the survey (see also Box 2):

- Countries where all compliance assurance activities are carried by a central/national office and **no sub-national structures** exist. This pattern can be found in a limited number of, usually small, countries such as Malta or FYROM;
- Countries where **the national enforcement agency has regional branches** that are entirely part of its structure. This is exemplified by countries with independent agencies, such as Ireland;
- Countries where the national enforcement agency has regional branches, but **the agency is integral to the environment ministry**. Its regional staff is part of the regional branches, either of the ministry or of the general government. For example, this is the case in France and in Bulgaria;
- Countries where **sub-national government carries out most enforcement activities, ensuring compliance with national and sub-national requirements**. This is exemplified by most of the governments with a federal structure such as Austria, Belgium, Germany, and the US but also in such countries and Denmark, Italy, and Poland. However, in some cases an oversight is ensured by the national agency. In some cases, as in Poland for example, this can result in **double sub-ordination** of sub-national enforcement offices: to the regional government and to the national environment agency (ministry) or the national level enforcement agency.

⁶ OECD (2001), Outcomes-Focused Budgeting -- Case Studies, PUMA/SBO(2001)5/ANN1.

Box 2. Some examples of vertical organisation of environmental inspectorates in OECD countries

France has a centralised form of government, and the responsibility for industrial pollution control lies within the Ministry of Ecology and Sustainable Development, and specifically with its Directorate for Pollution and Risk Prevention. Other directorates are concerned with the related matters of nature and landscape, water, environmental evaluation, and international affairs. Responsibility for organisation and implementation of environmental regulation lies, in general, with the *Direction Régionale de l'Industrie, de la Recherche et de l'Environnement* (DRIRE) in each of France's 24 regions. The DRIRE was created in 1992 and is supported by inspectors in over 200 DRIRE offices in the 100 departments of France. In addition to pollution control and risk prevention, the DRIRE are also responsible for regulation of vehicles, pressure vessels, and measuring equipment, for nuclear safety, for the security of energy supply systems, and for industrial research and development in the region. In regard to pollution control and risk prevention, individual DRIRE inspectors are responsible for all regulatory aspects on sites under their control. These include permitting, inspection, enforcement, and advising on appropriate penalties in relation to enforcement action.

In **Italy**, there is no single inspectorate; different institutions are responsible for compliance and enforcement. There are the routine (planned) inspections and the non-routine inspections. The routine inspections are mainly carried out by the Regional Environmental Agencies (ARPA), which are divided into provincial departments, sometimes by the Provincial Police together with the ARPAs. The National Environmental Agency (APAT) makes Seveso II inspections (together with other bodies) and nuclear inspections. The non-routine inspections are carried out mainly by the *Comando Carabinieri per la Tutela del Territorio* (CCTA), the *Corpo Forestale dello Stato* (CFS), *la Guardia di Finanza* (GdF), the Provincial Police, and, if necessary, together with the ARPAs, which give technical and scientific support. These authorities also do routine controls related basically to their legislative competencies.

In **Poland**, the Inspection for Environmental Protection (IEP) is responsible for ensuring compliance and monitoring of environmental conditions. In 2002, the IEP employed 2 500 people. The IEP is divided into the Chief Inspectorate for Environment Protection headed by the Chief Inspector for Environmental Protection, responsible at the national level (central governmental administration office), and, at the regional level, 16 *Voivodeship* Inspectorates for Environmental Protection headed by *Voivodeship* Inspectors for Environmental Protection and supported by 34 field offices (in larger regions). The Chief Inspector supervises the IEP, sets the main activities for inspection authorities, and is supervised by the Ministry of Environmental Protection. At the regional level, *Voivodeship* inspectors act in the name of each *Voivod* (provincial governor) and perform the inspection activities, which are set by the Chief Inspector. The Chief Inspector produces annual recommendations which guide the regions in their work, but they do not specify action, *i.e.* what and when to inspect. It is important to note that the regions undertake different types of inspection - regular, check-up, driven by interventions (*e.g.* public concern) and those from the centrally-derived planned cycle, *e.g.* to provide information on overall implementation of requirements on issues such as waste incineration. Thus there is central guidance, but much prioritisation is done at the regional level.

In **Spain**, Central Government has no environmental inspectors of its own and relies on 17 Autonomous Communities to carry out inspections on its behalf in its areas of competency. Reports on these inspections are sent to Central Government. The Central Government can give feedback on the reports and indeed the Central Government has been asked by the Autonomous Communities to give more feedback on these reports and hence enhance the efficiency of inspections.

In the **United States**, the federal level Environmental Protection Agency (EPA), works together with the 50 States, and other agencies. The EPA has ten regional EPA offices to organise the activities of their state. Given the US Constitution, the government is a balance of centralisation and decentralisation, and in the case of the EPA, it cannot compel States to become partners in pollution control enforcement, but can only encourage them. Most States have however chosen to implement and enforce EPA law directly through State laws that are consistent with those of the EPA.

Source: (France) IMPEL Review Initiative (IRI) (2002), "Phase 3: Testing of the Review Scheme"; 4th Review, Douai, France, 14-18 October 2002, http://europa.eu.int/comm/environment/impel/pdf/iri_france.pdf (accessed on 23 March 2004); (Spain) IMPEL Review Initiative (IRI) (2003), "Testing of the Review Scheme", 6th Review, Autonomous Community of Galicia, Spain, 3-7 March 2003, IMPEL, Brussels, http://europa.eu.int/comm/environment/impel/pdf/iri_spain.pdf (accessed 23 March 2004); (Italy, Poland, United States) Responses to the questionnaire on financing of environmental enforcement authorities.

In the first three institutional patterns, funding and its distribution among the national and sub-national agencies do not pose major problems as the regional offices are part of one agency. The funds are usually transferred from central offices to the regions. A more difficult situation arises where local government is made responsible for environmental regulation and implementation. The survey noted concerns that the priorities of local governments are likely to be biased towards promoting economic development, often disregarding environmental requirements and objectives, and their enforcement, as well as costs of pollution or other environmental impacts. As a result, environmental regulation and its enforcement become a lower priority in budget setting, thus adversely affecting both the revenue basis of inspectorates functioning under local governments (where this is the case) and/or the funding allocations for comprehensive environmental programmes.

2.4 Key lessons from international practice

While institutional profiles of environmental inspectorates (*e.g.* their responsibilities, the degree of institutional autonomy and decentralisation, etc.) may differ across countries, some key lessons common to different countries can still be identified. They include the following:

- The need to adopt a form of organisation that is most appropriate for meeting established objectives. In particular a higher institutional autonomy should be provided to an environmental inspectorate so that compliance assurance is delegated to a well-defined unit. The inspectorate should operate in close relation with the ministries of environment to enable links with the policy design and providing feedback on policy implementation;
- There is also a need to define the nature and degree of autonomy needed by sub-national units based on clear objectives and analysis of operating methods, and to back up delegation of regulatory functions to local public with adequate and stable funding and accountability mechanisms for both achievement of goals and budget management;
- The need to conduct structural reforms based on a sound understanding of their costs and benefits, and avoid too frequent reorganisation that may only add costs due to the initial resource-intensive phase of re-structuring;
- Reinforcing activities that traditionally were viewed as “marginal”, such as compliance promotion, and feedback to policy makers on the feasibility and enforceability of regulations.

In order to prevent the situations in which enforcement of the requirements become a lower priority in budget setting at the sub-national level, one of the following three options may be applied:

- That the responsibilities of local governments are very clearly -- in precise detail -- defined in law and adequate and transparent performance assessment systems exist so that the central government/regulator and citizens can monitor how well they carry out their obligations;
- Where the central government provides grants for local authority regulatory enforcement activities, the environmental expenditure should be ring-fenced to ensure that the budget is spent for the envisaged purposes;
- The adoption of full cost recovery measures for regulatory activity, whereby local government can recover its regulatory costs from the regulated community.

All of these solutions are often only partial in their effectiveness. However carefully-defined objectives and the analysis of operating methods should help to define the necessary degree of autonomy needed by a sub-national agency to effectively perform its tasks. Matching autonomy with accountability mechanisms is critical.

3. FUNDING PRINCIPLES FOR ENVIRONMENTAL COMPLIANCE ASSURANCE

This chapter introduces key principles that influence inspectorates' funding policies. The principles include those that guide financing of government activities in general and also those that are specific to environmental protection and environmental compliance assurance.

3.1 Funding Principles

The choice of a particular policy should be guided by a set of principles that can provide coherence, consistency, and transparency. As concerns funding policies of environmental inspectorates, the survey shows that the following key principles are applied: the Polluter Pays Principles (PPP), User Pays Principle, full cost recovery, and the integrity (prevention of conflict of interest) principle. Their selection, interpretation and/or extent of application can vary across different countries and each country establishes (or has to establish) a hierarchy of principles in full concordance with its economic and regulatory frameworks.

3.1.1 *Polluter and User Pays Principles*

The **Polluter Pays principle** (PPP)⁷ has been used in many countries to assign to the polluter the responsibility for addressing pollution. The PPP has evolved since its introduction in 1972 by the OECD countries. Initially, it required the polluter to bear the cost of its own measures to prevent and control pollution to the level established by the government. The goal was to keep new environmental protection measures away from being financed by governments in the form of subsidies and to prevent differences in subsidies between countries to cause significant distortions in international trade and investment. At the same time it was understood that the costs of environmental regulations and enforcement are borne by public authorities and covered by the state budgets, which collect general taxation.

Over time, as compensation payments, taxes, and charges have been introduced⁸, the principle has evolved towards encompassing all pollution-related expenditure ("PPP in a broad sense"). The widespread requirement for self-monitoring by industry (self-monitoring of emissions and even of the ambient environment) is also often justified by referring to the PPP⁹. The evolution of this principle is in line with the efficiency objective of both environmental, as well as economic policies. Box 3 presents a particular example concerning PPP interpretation in a broad sense as applied to accidental pollution.

The results of the survey confirmed that different interpretations of the PPP in the context of financing enforcement efforts exist across countries. Some countries interpret it only as a responsibility of polluters to pay for pollution prevention measures and impacts that they have on the environment. Others interpret the principle in a way that (in particular cases) "polluters" should also pay for the cost of their

⁷ See also OECD (2003), "The Polluter Pays Principles as it Relates to International Trade". The report looks at current definitions of the PPP; information on the way in which the main elements of the PPP have been incorporated in different laws and practice; analyses the application of the PPP in an international, trade, and environment context; and provides an overview of the linkages and relationship between trade and environmental issues.

⁸ See EEA (1996, 2000), as well as Ecotec *et al* (2000), OECD (1996, 2000) for extensive discussions on environmental taxes and charges, including links to PPP.

⁹ However the costs of such monitoring are not necessarily a reflection of the levels of pollution.

regulation – permitting, monitoring, inspection, and enforcement – that is needed to ensure that the environment is protected¹⁰.

In a number of cases countries apply the former interpretation of the principle. However, some OECD countries (for example, the environment protection agencies of Australia, Ireland, and the UK) apply in their funding policies the latter interpretation, which considers that the recovery of administrative costs for regulation falls under the scope of PPP¹¹.

Box 3. The Recommendation of the OECD Council concerning the application of the Polluter Pays Principle to accidental pollution (1989): The right of public authorities to impose fees

In matters of accidental pollution risks, the Polluter Pays Principle implies that the operator of a hazardous installation should take measures to prevent and control accidental pollution and to limit their consequences for human health or the environment. They can include, in particular, measures aimed at improving the safety of installations and accident preparedness, developing emergency plans, acting promptly following an accident in order to protect human health and the environment, carrying out clean-up operations, and minimizing without undue delay the environmental effects of accidental pollution. They do not include humanitarian measures or other measures that are strictly in the nature of public services and that cannot be reimbursed to the public authorities under applicable law, nor measures to compensate victims for the economic consequences of an accident.

Public authorities that have responsibilities in the implementation of policies for prevention of, and response to, accidents involving hazardous substances, may take specific measures to prevent accidents occurring at hazardous installations and to control accidental pollution. Although the cost entailed is as a general rule met by the general budget, public authorities may, with a view to achieving a more economically-efficient resource allocation, introduce specific fees or taxes payable by certain installations on account of their hazardous nature (e.g. licensing fees), the proceeds of which are to be allocated to accidental pollution prevention and control.

Source: OECD (1989), Recommendation of the Council concerning the Application of the Polluter Pays Principle to Accidental Pollution, 7 July 1989 - C(89)88/Final

In addition to the PPP, several countries apply the **user pays principle**¹². It calls upon the user of a natural resource to “bear the cost of running down natural capital”. Nowadays, the scope of this principle stretches beyond the traditional user charging for environmental services (e.g. wastewater treatment or waste disposal) and includes the notion of the user who should pay for the utilisation of environmental media for pollution releases. The **beneficiary pays principle** may sometimes be applied, which suggests that where an action provides a benefit, those who receive the benefit should pay for the cost of providing that benefit. This may imply that costs can be passed on to consumers in prices or directly through taxation for the improved environment.

3.1.2 Principles of full cost recovery and prevention of conflicts

Increasingly, the goal of most of the regulatory systems is that governments fully recover the costs of regulation from those who are regulated and/or those who directly benefit from regulation¹³. In view of inspectorates’ funding policies, this approach intends to recover the installation-specific costs of such activities such as permitting, inspection, non-compliance response activities, and monitoring.

¹⁰ A question may arise, however, as to whether the administrative costs should reflect actual or potential pollution.

¹¹ In some cases, it remains unclear whether countries that impose administrative charges do so as a response to the application of this principle or for other reasons.

¹² *Source:* United Nations. Glossary of Environment Statistics. <http://esa.un.org/unsd/envmnt/default.asp>

¹³ See several country-specific examples in **Annex 1**.

While most countries adopt a **cost recovery approach** (full or at least partial¹⁴) to the provision of environmental services (such as drinking water supply, waste-water, or waste collection and treatment), some countries, such as the UK and the Czech Republic, have also adopted cost recovery for regulatory practices. For example, the UK is one of the most advanced in moving towards full cost recovery in the context of the regulatory framework. It attempts not only to recover the direct cost of permitting, monitoring/laboratory work, inspection, and enforcement, but also looks at recovering the cost of dialogue with industry and compliance guidance materials.

However, there are countries that have opted not to impose costs recovery schemes, for inspection charges for example, on the grounds that it is not appropriate to receive the payments from those who are inspected. In this case the principle of **prevention of conflict of interest**¹⁵ is effectively followed. The Netherlands, for example, consider that permitting and inspection are part of the general costs of administration and these services should be, therefore, rendered to the public supported by general taxation (derived from the public and business). Nevertheless, many countries where regulatory services have traditionally been funded by the state treasury are also looking to expand the role of cost recovery for compliance assurance programmes.

According to the full cost recovery principle, the calculation of fees should be based on the assessment of all costs of providing the service, *i.e.* that permit and/or inspection fees should cover required staff time, capital investment, and operational costs¹⁶. There are two alternative approaches to costing as regards compliance assurance that are used currently:

- Site-specific costing, which involves an assessment of the staff time spent on each installation (permitting and/or inspection) and recovery of those costs from the installation;
- Determination of the overall administrative costs of the regulatory activity and dividing among installations, either equally or in some form of “banding” (grouping by sector, and possibly also by size and complexity of installations).

Site-specific costing is usually time-consuming to set up and administer. Sometimes it can also present problems for communication to industry on costs incurred prior to inspections, and can lead to concerns over the amount of time that the regulator spends on any individual installation (as there would be an incentive to spend more time and hence charge more). In order to address such concerns in the UK, for example, the Environment Agency of England and Wales introduced a risk-based approach to charging (see Box 4). It also conducts its Regulatory Impact Assessment, and engages in consultations with stakeholders. Assuring full transparency of the approach was an important factor for raising confidence among stakeholders.

¹⁴ Depending on affordability.

¹⁵ Also referred to as integrity principle. See also the “Recommendation of the Council on Guidelines for Managing Conflict of Interest in the Public Service” (OECD, June 2003).

¹⁶ See also “Best Practice Guidelines for User Charging for Government Services” (OECD, June 1997).

Box 4. Risk-based calculation of permit fees in the UK within the framework of full cost recovery

The Environmental Agency of England and Wales operates a risk-based system (OPRA) to determine the regulatory effort required for each installation. This system scores the risks of installations to the environment, safety, etc., according to a wide range of factors. Accordingly, the Agency has therefore developed a charging scheme reflecting its move to risk-based regulation that aim to¹⁷:

- Allow the Agency and operators to focus on the environmental performance issues capable of improvement;
- Ensure that operators undertaking a variety of activities will, through the transparency of the risk-based regulatory regime, be regulated in a consistent and proportionate manner;
- Facilitate smarter regulation that will enable the Agency to deliver a more efficient service;
- Benefit business in the longer term, as environmental performance improves, through lighter regulation (e.g. fewer Agency inspections) and, as a consequence, reduce business costs;
- Facilitate the development of environmental performance benchmarks for industry sectors;
- Through the publishing of EP OPRA scores, act as an incentive to improving operators' performances;
- Allow the Agency's charges to be more transparent and to be seen as reflecting the costs of regulation of individual installations.

The main points of relevance to the costs of implementing the new regulatory regime are:

- Many of these businesses will benefit financially from the new approach. For charges for applications for permits, 2 892 (55 per cent) of applicants will pay the same or lower charges than at present. For annual subsistence charges, 4 314 (82 per cent) will pay the same or lower;
- The greatest increases in charges will affect applications in the landfill sector. Application charges will rise from around £5 000 to around £15 000 (affecting around 800 landfills). Ongoing subsistence charges, however, will remain at about current levels; application charges will also rise on average in the food and drink sector (up to 500 businesses), which is new to regulation, from around £15 000 to around £21 000;
- The Agency's costs of regulation and therefore charge income will not increase overall as a result of the implementation of EP OPRA, except for landfill and other waste disposal and food and drink sectors. For waste activities this is a result of under recovery in inherited Agency charging schemes, and for the food and drink sector, this is due to a re-evaluation of the costs of regulating a sector new to IPPC;
- The impact on SMEs will be small, with highest estimates suggesting that around 1 000 businesses will be affected. Of these, about 800 are landfill sites, which will see increases in application charges (one-year only), about 300 are food and drink related, and about 30 are miscellaneous;
- Operators' costs of preparation will be small. Pilot studies have shown that at the outside, costs for completing initial assessment forms should be no more than £400.

Source: <http://www.environment-agency.gov.uk/business>, last accessed on 15 November 2004.

This site-specific approach can be adjusted in different ways, by using, for example, different banding approaches, and hence benefit from the savings from common charges, while not having any cross-subsidy (itself arguably¹⁸ a further principle: the principle of no cross-subsidisation). Once again, the UK environment authorities in some instances band installations according to sector, size, risk, impact, and location. The approach of having average charges is easier to administer, but there may be concerns that installations requiring less regulatory effort are over charged, thus penalised.

¹⁷ Full details of a report examining the basis for risk-based charging schemes are available at: http://www.environment-agency.gov.uk/commondata/105385/ria_final.pdf

¹⁸ The European Commission, for instance, does not forbid cross-subsidies, but insists that cross-subsidisation should be made explicit and open for public scrutiny. The OECD position is that subsidies or soft financing should be used exceptionally and under specific, internationally-agreed conditions.

3.1.3 Other principles

Other principles relevant to designing funding strategies for enforcement actions include the precautionary principle, the principle of preventative action, and the full cost accounting approach/principle. Issues of precaution and prevention are important not only in directing individual permitting decisions, but also in directing strategic programmes by regulators. An obvious example is work on compliance promotion, which can identify measures to reduce environmental impacts in a preventative fashion in parallel to traditional permitting and inspection. However, achieving this objective requires the regulator to include the provisions for such work in its mandate and budget.

3.2 Key lessons from international practice

The survey revealed that various principles are applied to ensure consistency and transparency of funding for compliance assurance programmes. Their selection, interpretation, and/or extent of application can vary across different countries and each country established (or has to establish) a hierarchy of principles in full concordance with its particular social and economic conditions. The findings of the survey regarding international practice have led to the following lessons, which can make the funding policies of enforcement agencies more effective:

- The need to ensure that the principles of polluter/user pays, full cost recovery, prevention of conflict of interest, are increasingly implemented. These will allow increasing pressures on agencies to link funding and better performance, ensure certainty of funding, and increase accountability and transparency. The implementation of these principles could most usefully be done through a pragmatic and step-wise approach that does not run into the problem of affordability encountered in various charging schemes applied in industrial regulation;
- Many countries where regulatory services have traditionally been funded by the state treasury are looking to expand the role of cost recovery for compliance assurance programmes. Increasingly, environmental enforcement agencies apply, in their funding policies, the broader interpretation of the PPP, which considers the recovery of administrative costs for regulation as falling under the scope of this principle. In view of inspectorates' funding policies, this approach intends to recover installation-specific expenditure incurred by the agency from such activities as permitting, inspection, non-compliance response activities, and monitoring;
- However, there is a need to resolve conflicts between different principles. This could be done by reaching consensus on a hierarchy of principles or some general decision-making criteria on their application;
- The need to avoid leaving interpretation of principles to environmental inspectorates. This should be the role of policy makers and legislators.

4 FUNDING SOURCES, VARIATIONS, AND LIMITATIONS

4.1. Overview of Funding Sources

Funding for environmental inspectorates can come from different sources, such as transfers from the state budget, revenues from fees and services, penalties for non-compliance, and others. This chapter introduces an array of potential revenue sources and provides real-life insights into what the main sources of funding are, and what sources are complementary. Examples of revenue sources are presented in **Annexes 2-4**.

4.1.1 *General Taxation/Budget Transfers*

The activities of environmental inspectorates are usually considered as a public service. Therefore, the most common funding sources are transfers, usually in the form of grants, directly from central or local government budgets (which collect revenue from general taxation). The use of general revenue to finance compliance assurance activities spreads costs among taxpayers. In OECD countries such revenue is relatively predictable, although facing budgetary constraints many government agencies compete for these revenues and their allocation is susceptible to changing political priorities.

A number of central or local government budgets also receive as revenue environmental taxes and charges that have been introduced as the response to the Polluter Pays Principle. These taxes and charges are collected by the state budgets and redistributed as other general taxation. They can be applied to pollution (*e.g.* taxes on emissions to air or water, waste taxes, and noise taxes), natural resources use (*e.g.* water abstraction), energy (*e.g.* excise duties on petrol), and products (*e.g.* plastic bags or batteries)¹⁹.

4.1.2 *Earmarked Environmental Taxes and Charges*

Sometimes, in particular in the countries of Central Europe, environmental charges that are imposed on pollution and the use of natural resources are earmarked for environmental purposes through extra-budgetary environmental funds. In principle, the revenues from these funds should be allocated for environmental investments but in many cases they are used to support environmental administration, including inspectorates' operations or capital expenditure. The use of these funds for enforcement was justified by the need to compensate the shortage of funds from the general budget.

Even though earmarked funding can provide additional direct revenue that is not subject to competition from other authorities, it is usually less predictable and may therefore affect the stability of budgets. Moreover, this revenue usually works against the principle of prevention of conflict of interest as it links pollution with revenue (more pollution – more revenue). In cases where such revenue is used to finance compliance assurance programmes, it brings into question the way the charges base is defined – whether it aims to stimulate higher environmental performance or maximise funding for environmental authorities. When the latter purpose prevails, taxation is likely to erode the motivation of the regulated community to comply.

¹⁹ See (Eurostat 2001).

Finally, earmarking may be inefficient – funds earmarked for environmental funds may need to be used for more pressing needs elsewhere in the government budget. Therefore, the use of earmarked funds for operation of enforcement agencies may be acceptable only as a transitional measure and it should only be used for capital investment in monitoring or equipment and not for remuneration of staff.

Monetary penalties are levied in cases where companies operate without a permit or do not comply with permit conditions. The general view among the enforcement agencies is that these penalties should not be used for funding compliance assurance programmes as they can provide perverse incentives for inspectors to impose such penalties more often. In addition, they cannot assure a stable revenue base in the long term.

4.1.3 Revenues from administrative fees and services

Administrative fees are charged for services provided by government authorities. These are usually linked to a regulatory function or some other form of compliance assurance. In the context of environmental policy this category can include: fees to cover permit processing (permitting fees) and site inspections (inspection fees). The administrative fees can come in the form of an upfront fee, a renewal fee (linked to licence renewable period requirements if and where they exist), variation fees, annual fees (this then relates to monitoring and in some cases inspection costs), transfer fees (part and whole – for sale of part or whole of installation), and surrender fees (*i.e.* for plant closure). Sometimes, fees for inspection are part of a general permit fee.

Inspectorates can undertake additional “services” (*e.g.* sampling and laboratory analysis) for the industries that they regulate. In this case they might charge for these services, either through a set charge or a charge based on the time spent, etc. There is typically a move to charge for field or laboratory tests on a full cost recovery basis – if monitoring is the responsibility of the installation. If monitoring is part of the planned inspection activities, then it can be covered by an annual inspection charge or by government funds, and not charged separately. In some countries, monitoring costs related to the cases of non-compliance are levied on the violator.

4.1.4 Recovery of remediation measures, voluntary contributions, and other sources

In the majority of OECD countries costs arising from action taken by the competent authority to remedy environmental harm can be recovered from any identifiable party who caused this harm. This approach in the European Union is called “administrative coercion”. Most often, it is used if the penalty decision or an official order to remedy the environmental impact of an offence does not have or has not had the desired effect. If environmental hygiene or public health is seriously at risk, administrative coercion is used immediately.

Coercive actions are taken at the offender’s expense. To this end, where possible, competent authorities can ask for insurance company or bank guarantees in the permit so that, should an offence be committed that the offender does not rectify, the inspectorate can take action by making use of private guaranteed funds. Where there is no such contractual guarantee, the inspectorate may file a civil suit to recover any costs to the tax payers of funding the remediation.

In several countries voluntary earmarked contributions are also used to finance compliance assurance. Voluntary contributions can be provided in the form of grants that can be received from private or public sources – domestic or foreign. As a rule, earmarked contributions are accompanied by written conditions concerning their purposes and management. It is important, however, that such grants are not provided in a way that might result in influencing the integrity of the inspectorates.

Voluntary grant contributions from international or bilateral aid agencies – whether for equipment or training – can also be an important source of funding, especially in countries with transition economies. They are often used for items that may be vital but less often recognised as such, *e.g.* training and other capacity-development activities. There are also “in-kind” contributions that are not formally revenue sources but can deter the need for revenue-raising. Typical of these are contributions for training through government exchange programmes.

4.2 Patterns and trends in funding enforcement systems

In general, identifying common trends in sources of revenue has proven difficult as the results of the survey show significant variations in the funding sources for inspectorates across the different countries. However, the survey shows that in a few of the surveyed countries, there is a clear tendency to diversify in the choice of revenue sources and also to move towards a system of full cost recovery. The results of the survey allow for a classification of countries into three groups according to the pattern of their funding (see also Table 1):

- The first group consists of countries that have all (or almost all) of their revenue provided by government grants. Countries in this group include: Belgium, Spain, France, Malta, Macedonia, the Netherlands, Slovenia, and the USA. The fact that all revenue comes from the state government does not exclude the existence of other sources discussed above (such as environmental taxes and charges, and administrative fees), it just indicates that the inspectorate does not benefit from them directly.
- The second group includes countries that receive some of their revenue directly through permit fees or inspection charges. These are important sources of funding for the Czech Republic, Denmark, Finland, Ireland, Sweden, and the UK, and minor sources of funding for Norway and Poland.
- The final group includes those countries for which there are other (transitional) sources. This group includes Bulgaria and Poland where compliance assurance programmes are supported financially by earmarked environmental funds. However, these are used for purchase of monitoring equipment, etc., not for general operational costs, such as personnel.

Table 1. Share of funding sources for some environmental enforcement authorities

Sources	BG	DK	FIN	IRE	NO	POL	UK
Government funds	60.6%	80	60%	69%	91%	69%	31%
Administrative fees	13%	20%	35%	29.5%	7%	0.50%	70%
Pollution or natural resource fees	-	-	1%	-	-	-	-
Non-compliance fees/fines/penalties	1.4%	-	-	-	-	9%	0.25%
Other	25%	-	4%	1.30%	2%	22%	-

Figure 1. Share of funding sources – country examples (based on 2002-2004 data)

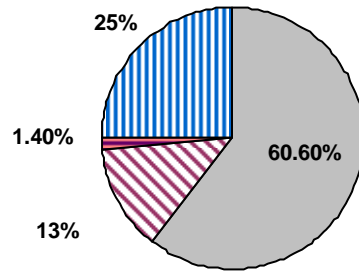
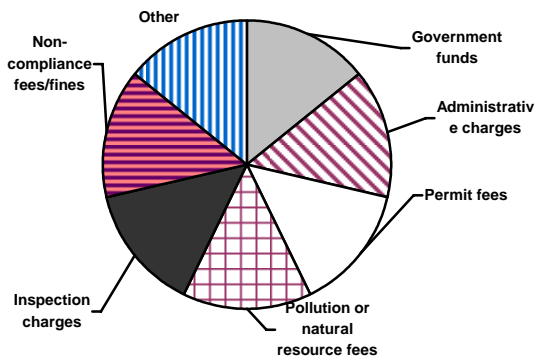


Figure 1a Bulgaria

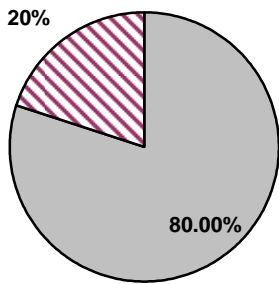


Figure 3.2b Denmark

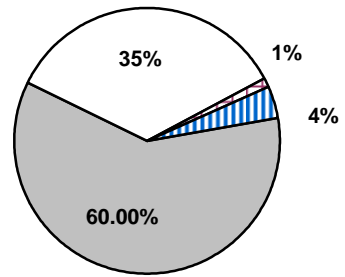


Figure 3.2c Finland

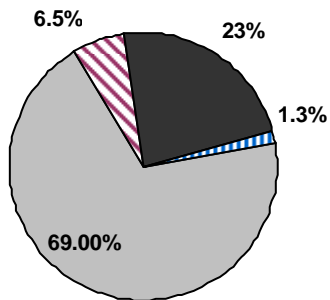


Figure 1d Ireland

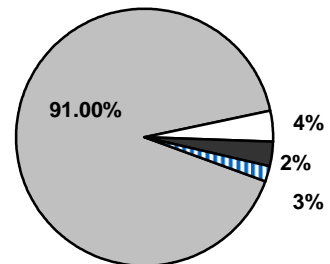


Figure 1e Norway

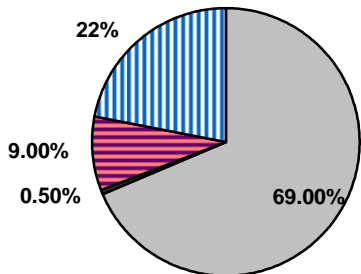


Figure 1f Poland

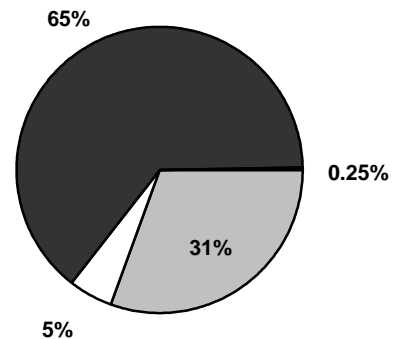


Figure 1g UK

4.3 Trade-offs between revenue and compliance: the case of permit fees

Some countries have reduced permit fees or inspection fees for companies that obtained certified environmental management systems (see Box 5). Such a reduction does not have a major effect on income streams, and in some cases it seems to be warranted by the reduction in time input by the regulator. However in some cases there are no regulator time savings, as there is more paperwork, and the loss of revenue hinders full cost recovery. Even if this takes place, the approach that rewards application of good environmental practice should be pursued.

Box 5. Examples of countries that reduce permit fees or inspection charges to “reward” or encourage companies with certified environmental management systems (EMS)

In **Finland** there are incentives to allow reduced permit fees in cases where there is a reduced workload for permitting authorities. The reduction of the fees can be as much as 35 per cent. So far the possibility has not been put into practice – hence it is not having any adverse effect on income.

In **Germany** permit charges, and decisions to reduce these in order to offer incentives, are decided at the *Land* level, due to the Federal structure and allocation of responsibilities for permitting to the *Länder*. In several *Länder* (Bavaria, Hessen, Niedersachsen, Hamburg) permit charges can be reduced by up to 30 per cent depending on the level of administrative costs for permittees. These reductions are not in place for all media. Indeed, in Bavaria, a 30 per cent reduction is available for permitting in the air sector, but is only being tested in the water and waste treatment sectors. The lower charges option was initially rejected in Baden-Württemberg, given that fee rates were already lower than in some other *Länder*, and local authorities objected to a reduced permit fee income.

Norway provides a reduction of 50 per cent in control fees for inspection.

Source: P ten Brink *et al*, (2003)

4.4 Key lessons from international practice

The use of various source of funding will depend upon the principles adopted in a given country. Many countries, especially those that have achieved steady financing, follow strictly the approach of state funding to avoid conflicts of interest and perverse incentives. However, in many countries there appears to be scope for developing other funding mechanisms, notably permitting and inspection charges, and laboratory and testing services based on the cost-recovery principle.

The risk of upsetting the more readily accepted *status quo* with the introduction of changes in funding policies does therefore pose a problem to the government and/or inspectorates. Hence transparency in undertaking such a change is critical, in order to inform those affected about the advantages and disadvantages. In practice, where changes have occurred (or are planned), such as in Finland, the UK, and Malta, governments have issued (or will issue) detailed information notes explaining both the policy basis and financial implications of the proposed policy changes. With any change to funding/charging, there are always likely to be winners and losers. If charges are altered so that larger companies or those posing greater risks pay more, then they are likely to resent this. A rejection of a charging system, similarly, is likely to result in a requirement to increase government revenues elsewhere.

Realistic rates should be set at an early stage as subsequent changes to funding policies can be difficult to impose. For example, in the Czech Republic the permit fees for IPPC were, arbitrarily, set at a low level. While these fees support the work of the regional authorities, they only form a small part of the budget. Industry would resist any increase in the fees, as it views the development of permit applications themselves as costly enough.

Enforcement authorities in the transition economies use funds from the earmarked national and regional environmental funds that collect environmental fees and fines and from international funding (included in the “Other” category). These are used for the purchase of monitoring and laboratory equipment and also vehicles and information technology, and not for general operational costs, such as personnel. Even

though such sources can significantly increase operational capacity, as well as support human capacity-building and development of guidance materials they cannot be regarded as long-term sustainable sources of funding. There are already pressures on enforcement agencies to move away from relying on these sources towards cost-recovery and government funding.

Fees and fines will always remain a volatile income source that is difficult to include in budget plans. Including penalty fees as a source of revenue could also encourage the enforcement authority to maximise revenue instead of compliance and, since higher compliance would reduce revenues, this could distort the goals and priorities of inspection. This approach may also facilitate corruption, particularly if the flow of public payments is exempt from regular budget discipline and treasury control. Therefore an inspectorate should not be authorised to receive financial penalties directly from violators. Exceptionally, this might be allowed in the case of dramatic budget shortfalls, for a limited period and under strict provisions, ensuring transparency, accountability for public money, fiscal control, and appropriate incentives. For these reasons, the preferred approach should be to treat the penalties as public money subject to treasury control and to be collected by fiscal or treasury services.

It is worth noting that although industry²⁰ has some concern over the variation in fees charged across different countries, in particular in the EU, there is little support for any standardisation of the process across countries²¹. This lack of support for standardisation reflects the strong concern that a number of Member States have about external “interference” in national budgetary matters. Clearly, the strong contrasting approaches in the EU Member States seem difficult to harmonise.

However, greater understanding on the current funding and charging systems will enable comparisons to be more readily made (*e.g.* by businesses) and this will help in having information for internal national debates. Any debate on the implications of, for example, comparisons of permit charging for industry, needs to take account of other government-imposed business costs (*e.g.* business taxation) that might be used to fund permitting activities.

²⁰ Response of the National Farmers’ Union of England and Wales to the European Commission IPPC Stakeholder Consultation 2003 (COM[2003]) 354.

²¹ Response of the United Kingdom to the European Commission IPPC Stakeholder Consultation 2003 (COM[2003]) 354.

5. BUDGET PLANNING AND MANAGEMENT

The aim of this chapter is to describe overall approaches to budget planning for environmental compliance assurance and provide practical examples of budget allocation. Since the bibliography on the general budget planning and public expenditure management is very rich, the discussion related to general budget management is presented only briefly and the report focuses on specifics of allocating budgets within environmental inspectorates.

5.1 Performance-oriented budgeting

A new budget management model based on **performance-oriented budgeting** has been introduced in OECD countries over the last two decades. It aims at creating stronger and more direct links between allocating budget resources and performance in reaching stated objectives. The adoption of performance-oriented budgeting requires several important changes in budget management, such as:

- **Increased pressure on agencies to pursue improvement in programme results.** In recent years, there have been increased attempts to integrate budgeting with other management processes, to get agencies to measure performance and evaluate the results of their operations, to develop new guidelines and methods for holding managers accountable, and to develop the information basis and reporting systems that can enforce this accountability.
- **Greater flexibility of managers on operational decisions and removal of constraints in resource management.** This flexibility has focused mainly on the ability of agencies managing funds to reallocate them within controls on budget line items. In return, organisations and managers are more directly accountable for results;
- **Provision of higher certainty of budget funding.** Medium-term budget planning has been a major development in OECD countries where fiscal targets have been set on a three to five-year basis rather than on a traditional annual basis.

Some environmental inspectorates, *e.g.* in Australia, Canada, the Netherlands, and the United States have recently been adopting this new budget management model. It has been shown that solid management foundations are necessary for the successful introduction of this model. This includes a good understanding of the hierarchy of each organisation's objectives, as well as performance indicators to assess achievement of these objectives and optimise strategic and tactic planning of activities²².

5.2 Evaluation of costs and funding needs

Budget planning involves a number of elements, including projection of future resource requirements for both operational needs and capital investment; taking account of new working methods (*e.g.* to increase efficiency) and their effects on the budget; identifying contingencies for unexpected expenditure; and taking account of specific budgetary constraints (*e.g.* relating to the sources of funding). Some of these elements of budget planning are discussed in the subsequent sections.

²² See also the OECD/INECE, "Proceeding of the International Workshop on Environmental Compliance and Enforcement Indicators" (OECD, 2003).

5.2.1 Operational cost

Operational resources for environmental compliance assurance generally consist of:

- Personnel, including salaries, social payments, insurance, as well as training;
- Office and office supplies, communication, and publications;
- Laboratory materials and chemicals;
- Vehicle/fleet maintenance;
- Maintenance for computers, laboratories, and publication equipment;
- Field sampling material;
- Funds for contractor support.

5.2.2 Personnel-related costs

The **personnel-related costs** generally represent the most significant operating expenditure, and therefore understanding the time input needed to fulfil the objective and targets of the inspectorate is the key to projecting operational costs. These costs depend upon such factors as:

- Specific commitments arising from domestic environmental legislation, international and regional treaties;
- The profile of the regulated community, including the potential impact of different facilities, the complexity of processes, the compliance history of companies, the geographical dispersion of facilities, etc.;
- The complexity of duties of inspectors;
- Resources required by, and duration of, different types of inspections, including reactive inspections;
- Post-inspection activities, most importantly the number of administrative cases, preparation of court cases, and their proportion;
- Commitments to cooperate with other regulatory bodies, and time allocated for coordination and joint actions;
- Fulfilment of management and administrative tasks.

The calculation of staff time will be largely based on the level of total regulatory effort, which is a function of facility numbers under certain categories and category-specific regulatory effort. The regulatory effort will be a derivative of facilities' risk rating and their grouping in categories: usually, three categories of facilities will be used to assess the regulatory effort (see Box 6).

**Box 6. Assessment of the regulatory effort in the United Kingdom
based on category of facility as applied to local air pollution control**

In the United Kingdom, a simple risk rating system is used to determine the regulatory effort per facility (to be more exact, per "process") as applied to local air pollution control. The low risk rating corresponds to 25 points or less, medium risk equals 26 to 75 points and high risk – 76 to 100 points. Minimum levels of inspection are defined for each of these categories to provide guidance to local authorities performing inspection:

HIGH: Two "full" inspections a year, during which the local authority officer must examine full compliance with all authorisation conditions and look at any process or other relevant (e.g. management) changes. In addition, there must be at least one "check" inspection to follow-up any areas of concern or other matters arising from the full inspection. "Extra" inspections may be needed in response to complaints, adverse monitoring results, etc.

MEDIUM: One "full" inspection, plus one "check" inspection, together with "extra" inspections as required.

LOW: One "full" inspection, together with "extra" inspections as required."

Source: Inspection Frequency - Basic Principles. Additional Guidance from the Department for Environment, Food & Rural Affairs, and from the Welsh Assembly Government (DEFRA, 2000)

Frequency and duration of inspection are other important variables for estimating the regulatory effort. In OECD countries, many inspectorates have developed inspection policies that outline the standard frequency and duration of the inspection provided. These are often sector-specific, with further guidance provided to inspectors on adjusting standard parameters to specific facilities based on the risk of these facilities to the environment and the behaviour risk (history of non-compliance).

The duration of an inspection largely depends upon the type of inspection. For example, in Galicia (Spain), a guidance document has been prepared by the Ministry of Environment on the standard duration of different types of inspection (see Table 2).

Table 2. Standard duration of an inspection according to its type in Galicia, Spain.

First inspection	Preparation	Visit	Reporting	Total
<i>Verification*</i>	1	1	1	3
<i>General</i>				
Small size installation	1	1	1	3
Medium size installation	1,5	2	1,5	5
Large size installation	2	4	2	8
Follow-up inspection	Preparation	Visit	Reporting	Total
<i>Verification*</i>	0,5	0,5	0,5	1,5
<i>General</i>				
Small size installation	0,5	1	0,5	2
Medium size installation	1	1	1	3
Large size installation	1,5	2	1,5	5

(*) Frequently, initially programmed inspections for verification identify serious non-compliance. Then it is necessary to carry out a general inspection at the installation.

Source: IMPEL Review Initiative (IRI) (2003), 6th Review, Autonomous Community of Galicia, Spain, 3-7 March 2003, IMPEL, Brussels, http://europa.eu.int/comm/environment/impel/pdf/iri_spain.pdf (accessed 23 March 2004)

All inspectorates will have to carry out reactive inspections in response to accidents, polluting incidents, or to complaints by citizens. Even though it is difficult to calculate the time required for such events for the purpose of programme planning, the review of past experience and the extrapolation for the future should facilitate such calculation. Based on such an estimate, a proportion of time may then be set aside for foreseeable but unplanned events (see Table 3 and Annex 5).

Table 3. Selected items from the summary table of the enforcement activities of the Environment Inspection Section of the Flemish Government in 2003

Type	Subject	Title	Personnel requirement		
			Days	Full time equivalent	
SPECIFIC ENFORCEMENT PROGRAMMES	Projects	Water	Integrated control of textile finishing companies- continued Self-monitoring of waste water	129	0,65
				108	0,54
		Safety	Internal emergency plan control tool	133	0,67
		Waste	Inspection of the use of ozone depleting substances Inspection of scrapped vehicle processors	156 96	1,78 0,48
		Air	Control of VOC emissions in the gravure, flexography, and rotary engraving industry	111	0,55
			Control of self-monitoring of air	129	0,65
	Control of the dry cleaning industry (delegation of enforcement to lower authorities)		25	0,12	
	Actions	Water	Control of municipal waste water treatment plants Food companies under directive 91/271 Discharge of hazardous substances	60 122 15	0,30 0,61 0,08
		Safety	Seveso II enforcement system	276	1,38
			Inspection of petrol stations	218	1,09
		Noise	Airfields (class I) in Flanders	40	0,20
			Quality control of acoustic examinations	150	0,75
		Waste	Groundwater pollution around landfill sites	58	0,29
			Specific inspections at soil sanitation companies	93	0,47
			Illegal disposal of waste substances in the food chain	99	0,50
			Control of waste from haulage companies	15	0,07
		Air	Odour investigation in Ghent	56	0,28
	Odour investigation in Maasmechelen		31	0,16	
	Ad hoc immission measurements		23	0,12	
	Mines	Controlled filling of mines and quarries	127	0,64	
	Research	Water	Propose standards for the colour of waste water Audit of 'sampling of accredited laboratories'	20 5	0,10 0,03
		Safety	Safety examinations	51	0,26
			ASER Environment risk management assessment tool	19	0,09
		Noise	Complaints on nuisance caused by noise and vibrations	42	0,21
		Waste	Audit of the field sampling and measurement quality manual (part 2: waste)	17	0,09
	Air	Measurement methods for dioxin-like PCBs	58	0,29	
	Enforcement campaigns of previous years	Safety	Safety examinations in 2002	40	0,20
			ASER Environment accident index	98	0,49
		Air	Heating installations in greenhouse cultivation industry	13	0,07
			Audit of continuous measurement systems at facilities	6	0,03
			Investigation of fugitive VOC emissions in Flanders	36	0,18
			Odour investigations in 2001 (Tienen)	18	0,09
Chipboard factories- formaldehyde emissions			44	0,22	
Asphalt plants			20	0,10	
Large refineries			46	0,23	
VOC emissions for solvents			36	0,18	
Odour investigations in 2002 (Grimbergen/Vilvoorde, Koningshooikt)	20	0,10			
Sum of the specific enforcement programmes			2854	14,27	
ROUTINE INSPECTIONS	Water	Camera inspections in drains and pipes Routine waste water samples	15 454	0,08 2,27	
	Noise	Ad hoc noise and vibration measurements	68	0,34	
	Waste	Routine samples of waste, soil, groundwater, and manure	204	1,02	
	Air	Routine air emission measurements	185	0,93	
	Operation	Refused licences	357	1,79	
		Special licence conditions	446	2,23	
		Control of self-monitoring	44	0,22	
Sum of the routine inspections			1774	8,87	

Type	Subject	Title	Personnel requirement	
			Days	Full time equivalent
REACTIVE INSPECTIONS		Complaints	1372	6,86
		Incidents	61	0,30
		Evaluation report trial licence	121	0,60
		Enforcement report re-licencing	176	0,88
		Evaluation of working plan	49	0,25
		Evaluation of new established heading 2	46	0,23
		Referrals	142	0,71
		Give advice	46	0,23
		Parliamentary questions	24	0,12
		High supervision	500	2,50
	Sum of the reactive activities		2537	12,69
Follow-up (enforcement instruments)			3069	15,35
TOTAL PLANNED			10235	51,17

Source: Environment Inspection Plan 2003, Environment Inspection Section of the Flemish Government.

In addition to the regulatory effort *per se*, there will be a range of other inspection-related activities that are not dependent upon variables described above, such as:

- Desk review and travel time;
- Identifying facilities operating without permit;
- Reporting, checking, and maintaining public registers;
- Appeal and prosecution work.

A detailed calculation of effort available for compliance assurance requires analysis of all the other duties of an inspector. These may include participation in licensing (permitting), administration, advising other inspectors in any areas of personal expertise, advising on the development of legislation and supporting regulations, training, responding to general queries, presenting or attending seminars, research management, attending meetings on behalf of the organisation, etc. This will vary from country to country, and from inspectorate to inspectorate, depending upon organisational structure and management arrangements.

Finally, it will be important to evaluate both the number and type of staff. The key employees are permit writers (where permitting is done by the enforcement agency), inspectors, and enforcers. There is also input from specialists – *e.g.* chemical analysts, hydrologists, instrumentation experts, laboratory staff, etc. In addition, an inspectorate will need personnel for general management, administrative tasks, financial matters, legal support, information technology management, public and international relations, etc.

Time recording tools are increasingly applied so that managers can understand how time-intensive certain duties are. They can plan time input (thus estimate personnel needs) based on actual figures, as is done, for example, by the Environment Inspection Section of the Ministry of the Flemish Community (Belgium). Furthermore, time recording is believed to be a robust basis for subsequent charging under a cost-recovery based fee programme (*e.g.* for permits and inspections).

The difficulties of converting to a time recording system should not be underestimated, as this is sometimes a huge cultural development in the government administrations. In general, time recording does not require complex software and a wide range of products are available on the market.

Finally, time recording may not be a permanent exercise and can be done when required, for a certain period of time (*e.g.* two-three months) and further extrapolation can be done. In this regard, a balance needs to be kept between the effort put into recording time and the actual use and utility of collected information.

When necessary initial data are available, the calculation of total personnel needs can be done in several steps:

- Dividing facilities into categories according to their risk and precisely indicating how many facilities belong to each category;
- Establishing the normal frequency of inspection per year;
- Estimating the regulatory effort per category, in hours or days spent at a certain type of facility;
- Assessing the total time on inspection;
- Assessing how much time (days) is spent annually on other tasks, annual leave, sick leave, meetings, etc.;
- Calculating the effective time for inspection (days per year);
- Dividing the total time of inspection by effective time to evaluate the number of inspectors required (but not their profile, which is done subsequently).

Often compromises need to be reached on desirable levels of activity compared to what is practical. For example, the OPRA system used by the EPA of England and Wales (see the description in Box 4) links back the regulatory effort to the funding source, *i.e.* charging of industrial operators.

5.2.3 *Non-personnel operational costs*

The **non-personnel operational costs** are generally more difficult to estimate than personnel costs. These costs often are calculated by employing cost-estimating ratios that have been used in prior year budgets. Historical data (see **Annex 5**) are used for inspectorate budget planning in many countries, including Australia, Canada, and the Netherlands. Alternatively, expected expenditures may be estimated. This approach is generally more accurate; however, it is also more time-consuming than an approach that relies on ratios. The majority of countries surveyed use a combination of both approaches.

For example, in the Netherlands, water inspectorate budget decisions are produced by analysing historical data and estimating the budget needed for current activities and expected developments in the work areas. They enable an assessment of the gap between resources required to achieve statutory objectives and the resources available. In Norway, the regulator undertakes a simple assessment of costs that are then adjusted to the fixed limits of the budget. In the UK, the budgeting process starts with the previous year's baseline expenditure. This is then reassessed to take account of service levels and new pressures, such as legislative changes and organisational changes (*e.g.* re-structuring).

5.2.4 *Planning for capital investment*

Countries have a variety of needs for capital investment that generally refer to the purchase of assets that provide services beyond a single accounting period or a single year. These needs, which include facilities' lifetime, and operating and training needs in relation to the new equipment, are usually assessed and incorporated into budget allocations. Following are examples of capital expenditures that are required for effective implementation of compliance assurance programmes:

- Central and regional laboratories provide reliable sample analysis and conduct applied research;
- Office space for the headquarters and regional units that may be secured through rental arrangements, long-term leases, or through direct purchase or construction;
- Computers for administrative tasks, information management, and communication;
- Vehicles to facilitate on-site visits;
- Other capital miscellaneous items, such as libraries, furniture, inspection or sampling equipment, and equipment for publication and education functions.

Although capital budgets differ fundamentally from operating budgets many governments do not prepare and maintain these budgets separately. While operating budgets must be balanced on a regular basis, capital budgets can run a “deficit”. They can be used to designate funding mechanisms for long-term financing (that is, to borrow money). In practice, capital investment planning can be undertaken for five years ahead (Czech Republic), three years ahead (Bulgaria), on a rolling multi-annual programme (Netherlands), or annually (Poland). Using multi-year planning also allows for stability of regulatory action, as long as new burdens are clearly identified in advance and some flexibility is allowed.

5.2.5 *Dealing with “new burdens”*

Inspectorates have to deal with new obligations and this section examines the processes by which some countries account for them. Most new burdens derive from new legal obligations and, where applicable, some focus will be given to those dealing with common obligations, such as multilateral environmental agreements (MEAs) or community legislation, as in the EU Member Countries. “New” burdens can also arise from emergency situations. Where these are minor and repeated, they might be viewed as predictable and included in general management. However, there are also examples of major emergencies that are not predictable and that cause significant, though temporary, burdens on inspectorates. Examples of particularly important “new burdens” include:

- Increased burden for permitting and inspection in the EU Member States related to installations that are subject to Integrated Pollution Prevention and Control (IPPC – Box 7);
- New approaches, new skills, and new institutional links for the Seveso Directive;
- Urgent needs to respond to environmental disasters, such as the Prestige oil spill in Spain.

The response to new burdens varies among countries. The Netherlands and the UK undertake a systematic assessment of new burdens, building on past experience and anticipated future needs. This is then reflected in budget requests. Indeed, Finland states that such an assessment is obligatory for the authority. Some countries redefined budgetary needs to respond to specific issues. This occurred in Slovenia in response to the transposition and enforcement of EU legislation.

Box 7. Addressing new administrative burdens related to the IPPC regime

Countries reported different ways of dealing with new administrative burdens related to the IPPC regime that was introduced in the EU in 1996:

- Phasing in permit application dates – moving from a single target deadline to, for example, sector specific deadlines;
- Engaging inspectors to help with permitting – this can prove helpful not only for an immediate workload perspective, but in some cases can also make sure that the permit conditions are indeed easy to inspect, which can of course make inspection more efficient²³;
- Investing in outside expertise – e.g. consultants, or foreign permitters/inspectors – to help with permitting and inspection. This runs the risk of the regulator missing an opportunity to invest in its own capacity development;
- Lengthen permit renewal periods, shorten inspection times on site, increase time between inspections, and focus more on high risk or high impact installations.

These measures are also relevant to addressing budget/resource deficits in general (see Chapter 5). Care is of course taken to ensure that reducing regulatory input as part of a process of seeking gains on efficiency does not reduce the ability of the inspectorate to fulfil its mandate and reduce the safeguards for the environment.

5.2.6 *Unexpected new burdens*

Problems can arise, however, if new burdens occur “suddenly”, *i.e.* need to be addressed within the budget for that year. The Czech Republic reports that additions to the budget are not possible, thus new burdens have to be integrated into existing overall planned expenditure. There is also the possibility of including a budget line for “unexpected/accidental events”.

In addition, in certain countries (*e.g.* Finland or Ireland) operators are required to maintain or guarantee availability of funds for dealing with environmental liabilities, including consequences of accidents, plant decommissioning, and the management of long-term “residuals” such as contaminated land or waste disposal facilities. The scale of necessary funds is judged by external specialist consultants whose findings in the form of published reports are assessed by the competent authority.

5.3 **Role of inspectorates and other authorities in budget planning and approval**

Inspectorates have different levels of influence/discretion in budget planning and approval (see **Annex 7**). In some countries, it is simply a budget allocation from their Ministry of Finance; in others, information on needs is provided for the budget process, though the government still decides on the budget. As presented before, the inspectorates may also have revenue raising powers that give them certain autonomy from central budgets.

The country examples demonstrate some variation as to who is involved in setting the regulator’s budget, but there are many common elements. Usually the determination of the budget construction begins with an internal assessment of future budgetary requirements. In all cases this is then discussed, amended, and potentially approved by the Ministry of Environment (or equivalent government agency). This occurs either where the regulator is part of the ministry or where it is an independent body reporting to the ministry. The regulatory budget then forms part of the overall ministerial budget for approval by the Ministry of Finance, government and parliament. The role of the Ministry of Finance is not always clearly reported, some countries indicating that it can be significantly involved in the debates on regulator budget determinations.

²³ There are of course some dangers here as the same person carrying out the tasks of permitting and inspection means there is less room for cross-checking.

An interesting example of the budget approval process can be seen in the Netherlands where two parallel procedures (“top-down” and “bottom-up”) are used. In the “top-down” route, Parliament sets priorities and budgets for the activities of ministries (at the moment these are almost entirely budget cuts). The ministries themselves look at how burden sharing is achieved when possible. Parallel to this the various departments of the ministries (including the inspectorates) estimate and approve their own budget (“bottom-up” approach). If this conflicts with the “top-down” approach problems are solved by adjusting the priority setting and sometimes by budget shifts or the approval of additional budget.

There is often a *de facto* and sometimes explicit negotiating process during budget approval, with a request made for budget increases, and with the final agreement often less than the request (as, for instance, reported by Malta). In some cases, the ministry checks on the demands through the use of a consultant, and assesses whether efficiency gains can be made that allow a reduced budget increase to be sufficient for the increased tasks at hand.

The flexibility of making adjustments within the approved budget can vary. In some cases (*e.g.* Norway) a total sum is approved and the regulator has the freedom to change expenditure between budget lines as it deems necessary. In others the budget may be approved along specific budget lines, so that external approval is required before the regulator can move funds between budget lines (*e.g.* Poland).

The process described above presents a “rational” view of budget approval. However, resources are always limited and inspectorates face competition from the other demands of government. This competition can be found within the environment ministry as well as across government functions more widely. Where competition occurs, efforts are made to reach a rational compromise.

Political contexts can have impacts not specific to the environment. This is obviously the case where governments are elected with sweeping “cost-cutting” agendas. The Danish Environmental Protection Agency, for example, has had a lower budget since the recent change in government for this reason. In Spain the political context for the regional authorities is important. General lack of increases in government expenditure acts as a constraint in Slovenia, as do the International Monetary Fund restrictions in Bulgaria.

However, there is also the potential for political priorities to exercise a positive impact. Wider political pressure on raising the profile of environmental protection within the new EU Member States and candidate countries raised the status of inspectorates within the general budget setting agenda of governments.

5.4 Allocation of funds

Inspectorate resources are allocated to a range of activities, depending on the nature of the inspectorates (as described in Section 2.2). In each of these areas some funds go to staff wages, to equipment/capital investment, to operating expenditure, etc. Examples of the allocation of budgets are given in Figures 2.1a and 2.1b for the Netherlands and UK respectively. This is complemented by country specific examples and explanations presented in annexes.

5.4.1 Allocation of funds to specific activities

The analysis of allocation of funds to specific activities shows that inspection is generally the most important activity, followed by monitoring, and in some cases permitting and others. Many of the countries’ institutions do not report expenditure on permitting as they focus on inspection (and vice-versa). This is the case in Poland, Spain, and Slovenia, where permitting and inspection is carried out by separate bodies. Some institutions are highly focused on one activity (in Slovenia 90 per cent of the budget goes to inspection), while in others (*e.g.* in the Netherlands) there is expenditure across a wide range of activities.

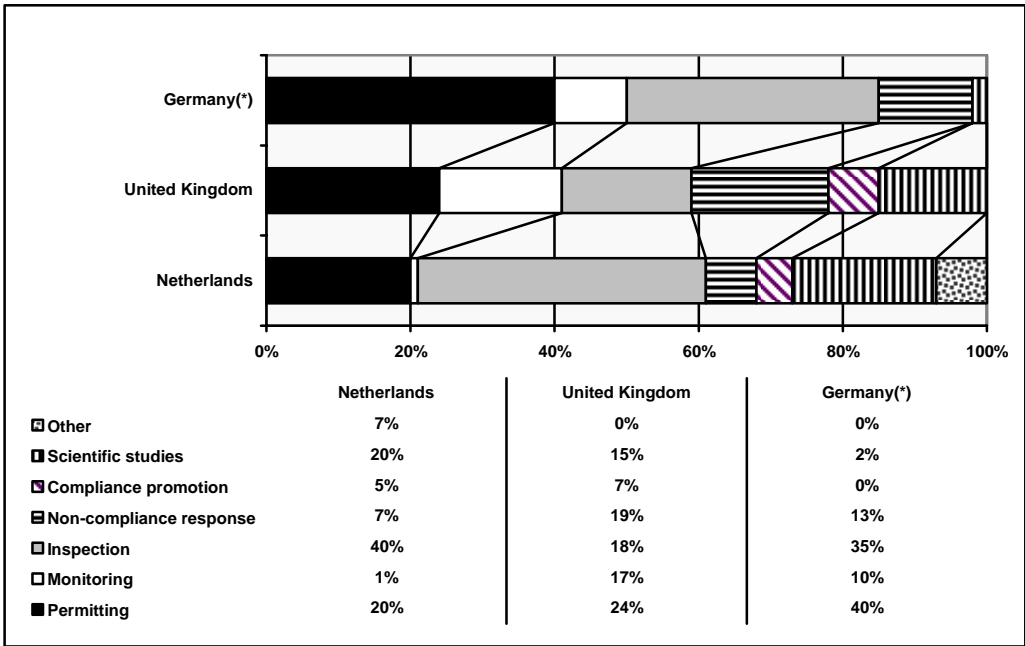
The expenditure on monitoring is highly variable, forming a major part of the expenditure in Bulgaria and Poland, but only a very small fraction in the Netherlands as shown in Figure 2a. The level of monitoring costs depends on whether:

- Monitoring is performed by the inspection or it is done by a separate institution;
- Whether the infrastructure is already in place;
- Whether there are obligations on companies to do significant amounts of own monitoring.

Existing environmental legislation in many OECD countries puts the responsibility of monitoring onto the polluters, with legislation stipulating quite explicitly what monitoring requirements have to be carried out and what information needs to be communicated to the inspectorates. This, therefore, helps implement the Polluter Pays Principle and also helps to outsource some activities (see also Chapter 6). Where this is the case, one could expect a reduced role for state-operated monitoring programmes. At this stage, however, monitoring costs have been increasing in the new Member States of the EU, as indeed have costs for permitting, inspection, and enforcement as the EU environmental *acquis communautaire* is implemented.

The divide between inspection and non-compliance response is not always clear cut, as while inspectors in both the UK and the Netherlands engage extensively in dialogue and guidance with industry on how to respond to non-compliance, this is seen as part of inspection for the Netherlands and as part of non-compliance response in the UK. In the UK this is due in part to the time-keeping systems and also to charging for such response and guidance.

Figure 2. Budget share for activities of environmental enforcement authorities



5.4.2 Funding trends

In examining the more detailed country examples, it is clear that the majority of the budget is spent on staff costs. In a few countries, *e.g.* Bulgaria, Ireland, and the UK, the staff costs are just below half of the total budget, while in Poland these rise to 82 per cent. Other administrative costs also form large parts of most budgets.

Capital expenditure is more variable. In the UK this accounts for 25 per cent of the budget, but it is much lower in Ireland. However, this probably reflects a greater need, in the UK, for capital expenditure on the EA's water and flood management function, rather than a difference in industrial regulation. It is also interesting to note that other activities can also be an important part of expenditure, such as 20 per cent of the Irish EPA budget being devoted to research (it funds a series of external research projects to universities and consultants every year).

The levels of expenditure also vary depending on the stage of formation of an inspectorate. A mature inspectorate will have relatively low and constant capital expenditure where laboratories, vehicles, and monitoring equipment are already in place due to past expenditure. Growing inspectorates, on the other hand, may well have a much higher share of capital investments, especially if national labour costs are lower than OECD averages. However, capital investments were not viewed as a major issue by a number of the countries, *e.g.* in Norway they are described as "minimal" and in Finland they have no separate budget line. An important element in capital investment budgeting is to take account of the depreciation of capital assets in the overall budget and these should vary depending on the nature of the asset (*e.g.* Ireland).

Two of the countries report significant funds in the "other" category. For the Netherlands this concerns reporting and communication activities and for Poland the maintenance and modernisation of laboratories.

Also inspectorates can outsource their use of major capital items (such as vehicles or monitoring equipment). This can be an efficient use of funds, although an analysis is needed in each case to examine frequency of use, current costs, etc. Outsourcing can be done based on framework contracts for a longer period or separate smaller contracts in certain circumstances when specialised services are required. This approach is followed by the Environment Inspection Section of the Ministry of Flemish Community in Belgium (see also Chapter 6).

5.5 Strategies to safeguard against budget cuts during the budget approval process

5.5.1 Preparing robust budget proposals

Preparing robust budget proposals is the first step in safeguarding against budget cuts. In this regard, a proposal is designed to show:

- Overall work volumes and costs of key inputs;
- Allocations of budget by tasks;
- Benefits from services;
- Costs compared to prior years (and sometimes to similar activity in other agencies).

Usually the budget proposal is accompanied by a short description of the objectives of the inspectorates, its tasks and duties, and plans for improving efficiency and achievements of the past year. Where performance-oriented budgeting is used, the budget proposal must be accompanied by relevant performance (output and outcome) indicators. Stressing benefits from environmental compliance assurance will be particularly important to safeguard against budget cuts (see Box 8).

5.5.2 *Creating confidence that budgets are used effectively*²⁴

Creating high confidence among stakeholders (including Ministries of Environment and Finance) that budgets will be managed effectively by the inspectorate is the underlying context for safeguarding against budget cuts. This requires accurate procurement and accounting procedures. This refers not only to expenditure on equipment, but on how staff time is allocated, as staff costs account for the majority of expenditure. Various approaches have been adopted to demonstrate that budgets are used prudently in the countries surveyed, as described in Annex 8. Some examples are as follows:

- Setting targets to measure financial performance;
- The assignment of authority and responsibility for specific budgetary functions to selected managers;
- Restricting authorising disbursement of funds, payment of salaries, pensions, creditors, and expenses to a limited number of high-level officials;
- The creation of project management disciplines in respect to building programmes and consultancy projects;
- Installing modern computerised financial accounting, payroll, and fixed asset register software systems to underpin the internal financial controls;
- Outlining detailed procedures for engaging consultants;
- Regular reviews by the Management Board of periodic and annual financial information, and reports that indicate financial performance against budget.

Box 8. Indicators of environmental compliance and enforcement (ECE) efforts

Indicators of compliance programme activities and their impacts can help to respond to increased demands to demonstrate results of government activities by assisting in evaluating and adjusting approaches to changing conditions. The ultimate aim of these adjustments is the improvement of programme effectiveness. Disclosing performance information and indicators can ensure internal and external accountability which helps to create deterrence. By demonstrating the value of activities and the results, policy relevant, analytically sound, and measurable information can ensure public and political support for the compliance assurance programme. In spite of a variety of approaches and terminology, there are similarities in the application of ECE indicators:

Environmental authorities commonly use environmental indicators to measure "final outcomes", *i.e.*, the ultimate state of, and changes to, the environment. However, such "final outcome" indicators are not sufficient on their own for assessing the effectiveness of enforcement activities because environmental quality may be influenced by factors outside the enforcement agency's actions.

In most countries, enforcement capacities or activity levels are measured. These measures are called "input" and "output" indicators. Examples of "input" indicators include the number of inspectors and the enforcement agency budgets, while examples of "output" indicators are the numbers of inspections and the numbers of enforcement actions.

Even though these three types of indicators are used frequently, they have some limitations. They cannot account for new assistance and incentive approaches, and cannot measure environmental changes resulting from specific activities. They may not allow for assessing progress in addressing environmental goals and problems as a result of the whole enforcement programme. These indicators cannot also measure:

- Precise degree and duration of non-compliance;
- Seriousness of nuisance, damage, and accidents;
- Impact on human health;
- Specific emission reductions; and
- Positive/negative change in organisation/behaviour of companies.

²⁴ See also "Good Practices of Public Environmental Expenditure Management in Transition Economies", OECD (2003).

In order to respond to these shortcomings, some countries launched programmes that use “intermediary outcome” indicators as an additional measure of behavioural changes of the regulated community as a result of enforcement and compliance promotion actions. These indicators can include: number and types of responses to inspections, rates of compliance, and actual impacts of compliance assurance on changes in environmental quality. A change in ambient concentrations of a pollutant brought about by a specific enforcement action can also be regarded as an “intermediary outcome” indicator, though in many cases such cause-effect link is difficult to establish.

However, none of these types of indicators can be used alone. There is a need to use “input”, “output”, or “intermediary outcome” indicators in conjunction for better determination of the efficiency and effectiveness of enforcement programmes. Analysis and presentation of these measures in combination can inform the management structures and policy makers in a comprehensive way and serve the full range of audiences and purposes.

Some countries use benchmarking to compare the use of resources, costs, and activities either across bodies nationally (e.g. in a federal structure or across municipal authorities) or internationally. This can include comparison of the number of inspections per year, per sector, or per inspector; the number of inspectors; the time spent on site for inspection; the time spent on a permit application; etc. Own performance in one year can also become the reference point for targets in future years so as to encourage efficiency improvements.

Source: Based on OECD (2003), *Measuring What Matters: Proceedings from the INECE-OECD Workshop on Environmental Compliance and Enforcement Indicators.*

5.5.3 Commissioning external audits

Many countries report the importance of external auditing (e.g. in Bulgaria and Poland), which is a critical element not only in ensuring greater confidence in budget management but also in ensuring the confidence of industry and public stakeholders. The main function of external audits is to ensure that those outside the inspectorate (environmental ministry/agency, wider government, industry, public, etc) have confidence in the budgetary management of the inspectorate. This is important to ensure that future budgets are maintained in that the organisation is seen as responsible.

Audits can also be used pro-actively to demonstrate funding problems, *i.e.* where there are insufficient funds to deliver particular tasks. The audit, therefore, provides an independent voice to argue for additional funds to deal with budget deficits, which is more powerful than the inspectorate asking for additional funds on its own.

There can also be the use of external audits to explore the efficiency of activities and assess the real need for budget increases. This has, for example, taken place in the Netherlands, where VROM asked external consultants to assess local authority requests for increased budgets.

5.6 Key lessons from international practice

A new budget management model based on performance-oriented budgeting has been introduced in OECD countries over the last two decades. It aims at creating stronger and more direct links between allocating budget resources and performance in reaching stated objectives. However, in transition and emerging economies, the shortage of appropriate management skills can be a particular constraint for the implementation of performance-oriented budgeting. For implementation of performance-oriented budgeting in these countries, a number of preconditions should be met:

- Sound budgetary operation;
- Financial discipline;
- Sound system of budget formulation and execution;
- Efficient method of recording and reporting financial and physical data;
- Close co-ordination between the central budget agency and other government agencies.

The survey showed that effective budget planning in environmental inspectorates involves a careful projection of future resource requirements for both operational needs and capital investment, identification of “new burdens” and contingencies for unexpected events, and taking account of specific budgetary constraints.

Historical data and cost-estimating are used for inspectorate budget planning in many countries, including Australia, Canada, and the Netherlands. Alternatively, expected expenditures may be estimated. This approach is generally more accurate, however, it is more time-consuming. The majority of countries surveyed use a combination of both approaches. In some countries, cost estimates for compliance assurance are adjusted to the fixed limits of the budget.

Analysis of actual budget allocation showed that the largest parts of budgets are devoted to core activities, such as permitting, inspection, and emissions/ambient monitoring, with fewer resources being spent on compliance assistance, enforcement, research, and training. Most authorities responsible for inspections report budget constraints, and only a very small minority note that they have sufficient funds to do their job comfortably.

Furthermore, there is variation across countries as regards the timeframe for budget estimation and planning, with some having short planning horizons and others a more long-term vision, albeit regularly updated to take into account new developments and hence able to identify, quantify, and respond to “new burdens”. Such burdens can derive from new legal obligations (thus are predictable) or arise from emergency situations.

The personnel-related operational costs generally represent the most significant operating expenditure, and therefore knowing the variables that influence these costs (*e.g.* types of inspections, duration and frequency of on-site visits, time input to fulfil other duties, etc.) is crucial. When the value of such variables is known, the Full Time Units necessary within the inspectorate are relatively easy to estimate. The non-personnel operational costs are more difficult to calculate and costs are often assessed using historical data.

While many governments do not prepare and maintain a capital budget distinct from the current expenditures in an operating budget, a separate consideration of capital resource needs could improve efficiency. Capital investment planning is undertaken for five years ahead (Czech Republic), three years ahead (Bulgaria), on a rolling multi-annual programme (Netherlands), or annually (Poland). Using multi-year planning also allows for borrowing to cover capital costs of environmental inspectorates that may improve equity among taxpayers over an extended period of time.

The role of inspectorates within the government budgeting process differs across countries surveyed. Since inspectorates compete for funds with other authorities and decisions on budget allocation often follow political priorities, many countries face the challenge of ensuring that the benefits of regulatory action are fully understood by authorities responsible for budget decisions.

Many countries report the importance of external auditing to be a critical element not only in ensuring greater confidence in budget management but also in ensuring confidence with industry and public stakeholders. Audits can also be used pro-actively to demonstrate funding problems, *i.e.* where there are insufficient funds to deliver particular tasks. External audits can help to explore the efficiency of activities and assess the real need for budget increases.

Further conclusions from the review of international practice include:

- When budget planning becomes more closely linked to activity planning, this ensures better time and resource allocation for different activities;
- Inspectorates should review past experience of systematic shortfalls in budgets and their reasons in order to develop contingencies plans;
- Early projection of needs for additional resources can be used to facilitate budget planning. Good practice is to track likely future developments of the regulatory framework, the changes in the profile of the regulated community, and any kind of other “new burdens”.

6. TACKLING BUDGET SHORTFALLS

Previous chapters reviewed the sources of funding and presented approaches to managing resources that are available for environmental compliance assurance programmes. Very often, however, enforcement authorities face a financial gap between the resources that they have and the needs to meet programme objectives. This chapter outlines several options that are used by inspectorates to tackle budget shortfalls. Country-specific examples of traditional and innovative approaches to close budget gaps can be found in Annex 11. Whatever options inspectorates choose, political support and legal changes are needed for these options to materialise. It is most likely that political support will be earned only if the actual benefits of inspectorates' programmes to the environment, society, and the economy are demonstrated.

6.1 Re-allocating funds

One of the first responses to the budget deficit can be re-allocation of funds (*i.e.* readjustment of expenditures) between tasks undertaken within an inspectorate. This means a prioritisation within the work areas that are commonly influenced by certain legal obligations. While experience in these categories will vary from country to country, in the case of a budget deficit, inspectorates clearly give priority to the tasks that are linked with highly specific legal obligations or in other words to the tasks that are linked with those legal obligations for which there can be little flexibility. Often the budget for those activities for which the inspectorate has more discretion is decreased. In Finland, for example, if there is a budget shortfall, the greatest priority is given to the permitting procedure, with inspection and monitoring being secondary. In Belgium, a whole hierarchy of priorities has been developed to re-allocate tasks most effectively and transparently (Box 9).

The more general legal obligations, such as types and frequency of inspections, are also prioritised. In cases where there are no strict provisions on the frequency and procedures for inspection, the available funding will be allocated to inspect priority facilities whereas other facilities will be inspected using simplified procedures, or less frequently. In case of budget shortfalls it usually happens that non-legal obligations, such as educational and compliance promotion activities, are carried out with less frequency or put on hold. This is the easiest solution, though a prolonged period of absence of such efforts can negatively influence compliance rates and may lead to increasing costs of compliance assurance in the future.

Box 9. Choosing priorities during re-allocation of tasks in Flanders, Belgium.

The Environment Inspection Section (EIS) of the Ministry of the Flemish Community has learned from experience that however carefully developed a work plan may be, the actual volume of work remained too great. Priorities must therefore be made during a plan's implementation. To this end, the priority of different activities is decided according to the following criteria:

- **Environmental impact:** How seriously do the environment and/or people suffer if the EIS does not (immediately) carry out this task?
- **Deadlines:** Are the deadlines imposed or does the EIS itself set the deadline?
- **Available resources:** Are there sufficient financial resources, (qualified) people, and material resources to satisfactorily conduct this task or assignment?
- **Hierarchy of tasks or client:** What type of task or assignment is involved or who is the client?

Based on these criteria, tasks are grouped as follows:

- **Highest priority:** tasks and assignments that must immediately be carried out. Other tasks and assignments are suspended until this task or assignment has been completed;
- **Very high priority:** tasks and assignments that certainly must be carried out within the periods set;
- **High priority:** tasks and assignments that must be carried out; if necessary they can be suspended;
- **Low priority:** tasks and assignments that because of lack of time cannot always be carried out.

The implementation of specific enforcement campaigns belongs to the very high priority group. Reactive inspections or routine inspections receive a lower priority, however, responding to current affairs these could also become a priority. Should there be a crisis or should other incidental inspections be required, or should the latest (political) insights demand immediate action, it would automatically imply that the priorities must be weighed up against each other and that other planned activities must be suspended.

Source: 2002 Environmental Enforcement Report of the Environment Inspection Section.
http://www.mina.be/uploads/mhr_2002_ch03.pdf

Individual staff (and teams of staff) will often seek to overestimate the priority of their own work within the organisation. Therefore, the prioritisation of activities is usually undertaken at a senior level (*e.g.* the Board, or equivalent) as managers have to bear responsibility for the overall performance. Once the prioritisation has been undertaken, the decision on priority and the transparent and robust reasons for it are communicated clearly to staff before tasks are reassigned. Communication is also necessary with other government bodies, industry, and NGOs.

The work plan revisions are usually translated into the individual work plans of the teams and individuals. For some individuals it would mean altering their work; for some it could be a radical change as the organisation may decide to discontinue certain activities and concentrate staff and operational resources on others.

A clear directive from senior management must be provided to show that the changes are needed. Senior management might also be involved in revising the work plans of major teams, but much of the work plan revision will be undertaken by middle managers in consultation with their staff. The consultation is needed not to alter the strategic decisions already taken, but to translate these into the practical outcomes of day-to-day working methods. An example of this approach has been seen in the UK Environment Agency which, for a period, re-allocated individual staff responsibility at national and regional level to meet growing pressures for inspection of waste management sites.

It is, however, important to note that there are limitations to work plan revisions, especially where regulators have a wide range of functions. Staff in one area often cannot be assigned to alternative areas for which they may have no appropriate qualifications (and yet this would be a major part of budget re-allocation for countries such as Poland where staff costs form the majority of the budget expenditure).

Some inspectorates have their quota of permanent staff fixed by the legislation. In such circumstances, it is difficult to vary the number of permanent staff to match increased workloads. To address the problem of permanent staff shortages, it is common practice to employ contractors on short or medium-term contracts. If so, the inspectorate must first resolve several issues, including, for instance, the authority of contractors to inspect private property and to possess confidential information from business and government.

Furthermore, the inspectorate should not be totally involved in one activity while not active in others. Being dormant in one activity, such as routine inspection, affects other activities, for example, by leading to an increase in the number of complaints. Moreover, reduced planning activities might lead to non-achievement of the required objectives.

6.2 Raising efficiency

An alternative or parallel management decision to altering work plans is to increase the efficiency of work that is being undertaken (this usually involves doing more for the same amount of money or keeping established objectives and standards for less money). Raising efficiency is stressed as one of the first tasks to be undertaken in the event of budget restrictions in countries as diverse as Bulgaria and the Netherlands.

Raising efficiency is particularly emphasised where budget cuts are made without prior announcement. However, it may be a difficult strategy to follow in the situation where staff may have experienced years of under-funding. In some cases more efficient ways of working can be envisaged, but their adoption is limited by the need for some up-front investment (*e.g.* in information technology) that is beyond the current budget.

The survey's results show that immediate efficiency gains can be achieved through various methods:

- Targeting high risk installations and significant violators, or the installation where the economic benefits of the intervention would be the greatest, as well as using opportunities for task clustering or geographic clustering of inspections;
- Limiting field inspection activities, and accordingly time and resources spent, to only those relative to the inspectorate's objectives;
- Developing standard operating protocols for field inspectors;
- Using to a larger extent multi-media inspections that are generally more efficient than single-medium inspections;
- Seeking synergies with other governmental bodies (regulators, local government, the police, etc.) so that joint work (*e.g.* inspections) can be undertaken. A core potential here is for health and safety inspections, and environmental inspections to be coordinated.

Other options that may yield results in the longer term include:

- Establishing an accessible and constantly updated database of the regulated community, and adequate information management that, for instance, can save the inspectors' time for reconstructing compliance and case histories;
- Investing in human capacity and technical skills can prove highly rewarding in the long term;
- Encouraging activities for others that will facilitate regulatory authorities' work *e.g.* encouraging non-governmental organisations (NGOs) and the general public to take increasing interest in pollution issues and to communicate problems to authorities. However, there is only so much that others can do and ought to do²⁵.
- Raising efficiency is not always achieved through the methods mentioned above and staff may require some additional training in order to improve their working methods (especially if new systems are introduced), as is undertaken in the US. In the UK, the Environment Agency argues that it continually seeks to improve efficiency through restructuring, revising the tools it uses, etc. However, the result of this is that there is little "slack" to cope with budget cuts if they were to occur or to respond to new burdens arising in the short term.

²⁵ It is also a "double-edged" sword in that greater NGO or public involvement could draw a regulator into detailed debates/analysis, etc. of particular activities, which it does not see as a priority and could result in unplanned use of staff time and budget pressures.

It is therefore important to engage in efficiency analysis (either internal, *e.g.* building a new time recording system where there was none before, or external, such as through the use of consultants) in order to determine if, and where, efficiencies can be made. Again this is a strategic requirement of senior management. However, it is also the responsibility of managers of teams to look for efficiency savings. The individual inspectors will do so only if appropriate incentives exist.

Finally, it should be noted that improved efficiency is not only an appropriate response to budget restrictions, it is also a recommended approach to general management where better protection of the environment can be achieved with the same budget. Training and capacity building and the use of monitoring and assessment tools are among key tools to ensure programme efficiency.

6.3 Compliance promotion as a means to reduce budget needs

Compliance promotion is an important approach to assisting companies in making decisions that improve their environmental performance. This approach is central even without restrictions on the budget. However, it is perhaps vital when budgets are limited as it can be an efficient means of improving environmental outcomes.

However, compliance promotion may require some up-front investment to achieve lower costs at a later stage. Some options may actually initially increase the workload. This notably concerns development of self-monitoring systems, which is difficult to establish quickly, but can lead to cost savings, capacity building, better access to information, making the industry more responsible, and ultimately an improved environment.

In the European Union (EU), self-monitoring is common and standard practice now, complemented by regulators' inspections on-site and analysis of quality of the environmental data in order to crosscheck viability of company reporting of emissions. For example, there are requirements for large combustion plants to have continuous monitoring of flue gases (notably particulates, SO₂, and NO_x), for regular waste water quality analysis, and analysis of waste so as to determine what disposal routes are appropriate. In the latter case the company pays for the use of laboratory services to test samples.

Besides self-monitoring, the following activities have proven to lower costs in the long term *e.g.* through a reduced need for permitting input, inspection, non-compliance response:

- Encouraging **environmental management systems** (EMS²⁶) or safety management systems (SMS²⁷) to be put in place;
- Developing the use of “**name and shame**” programmes;
- Developing industry **benchmarking** schemes, showing each company how it ranks compared to the others in terms of environmental impact, compliance, etc.;
- Developing **incentive-oriented taxes and charges**;
- Putting effort into ensuring that these and associated **non-compliance fees are collected**.

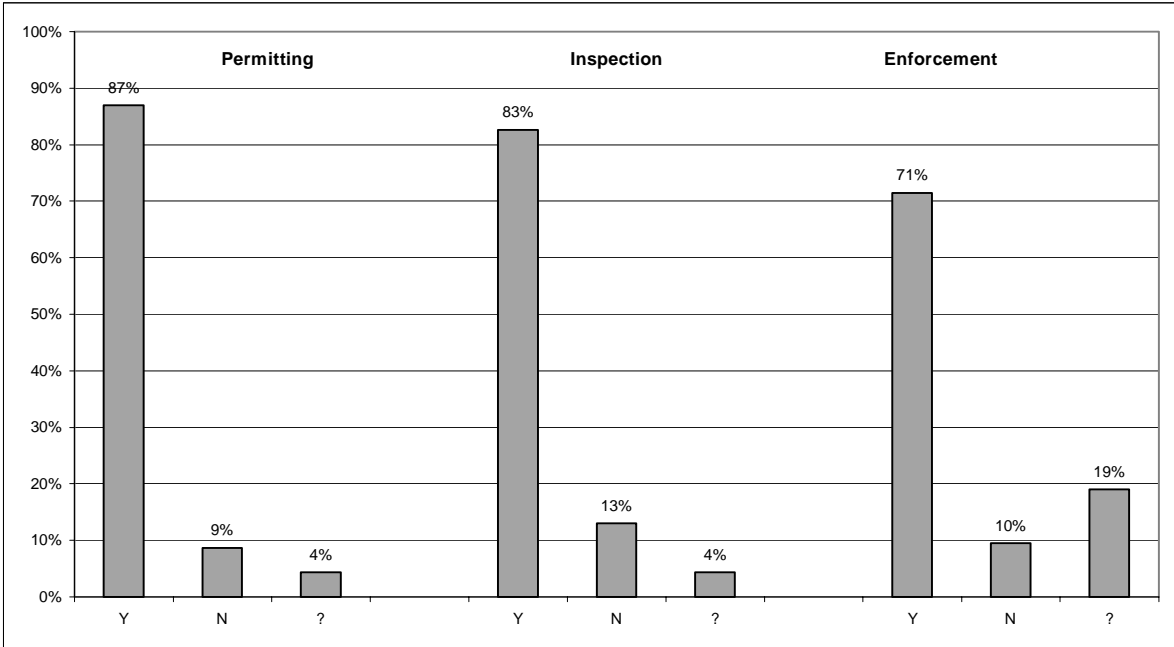
²⁶ This can either be a general EMS, or a formalised/recognised one, such as the EMAS and ISO14001 schemes. For EMAS Regulation (EC) No 761/2001 of the European Parliament and of the council allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), OJ L 114, 24/4/2001, see http://europa.eu.int/comm/environment/emas/index_en.htm For ISO14001: [EN ISO 14001:1996, <http://www.iso.ch/iso/en/iso9000-14000/iso14000/iso14000index.html>; <http://www.tc207.org>]

²⁷ *E.g.* as used to implement the EU's Seveso Directive.

In particular, an Environmental Management System (EMS) can help companies to speed up both notification of environmental problems at their facilities and identification of solutions, and hence some non-compliance issues are avoided or at least reduced in duration. In addition, the EMS improves the level of monitoring of environmental aspects and the management system needs to note reasons for non-compliance incidents. The regulatory authorities have a chance to “veto” an EMAS registration if and where they know of non-compliance situations. Thus “assuring legal compliance” is often considered by companies as an important benefit to companies and a reason for their implementing a quality EMS.

Some countries feel that EMSs can improve permit applications and reduce the time needed by permitting agents (though not all countries agree), can facilitate inspection (again not all agree as there is more paper to work through), and can lead to improved compliance (again not all countries agree), and again less frequent inspections by the authorities. Figure 3 shows the results from a survey of the regulatory authorities for the OECD countries on the subject. Most thought that EMSs can help simplify permitting, inspection, and enforcement, though not all agreed that this would lead to greater time savings, as there is more paperwork.

Figure 3. Does an EMS facilitate permitting, inspection, and enforcement?



Source: ten Brink *et al.* (2003)

In addition, implementation of an EMS may formalise management arrangements and encourages a company to look beyond specific regulatory requirements. These include improvements in training, operational procedures, monitoring, etc., which are often more robust at sites with an EMS. Such improvements can specifically assist with compliance for a company and make it easier for the regulator to assess compliance. Finally, the use of a public environmental statement can increase public exposure. Each of these should lead to a greater probability of compliance.

6.4 Generating additional funds

An important response to budget restrictions is, wherever possible, to seek sources of additional funding. This is often extremely difficult in the short term, such as in response to an unexpected reduction in government grant support. Obviously senior management can argue for additional funds from government sources, but this is often difficult to achieve. If regulators are funded only from this source (and

if they are legally restricted to this), they will have no choice. In most cases, such arguments are limited to improvements in funding for future years.

Where inspectorates/EPAs have greater freedom for budgetary action, then the collective senior management of the institution can examine alternative sources of revenue. Various examples of this approach exist:

- In Finland, a strategic decision was taken to raise additional income from permit fees. This is seen as important in supporting the challenge of implementing the IPPC Directive;
- Malta has recognised that the additional workload for regulators will leave it under-funded unless radical change is made. Thus the country is planning to introduce permit fees and inspection charges. This will provide a new and, hopefully, sufficient revenue source;
- Bulgaria and Poland have both received additional support from their respective extra-budgetary environment funds. In both cases the support is focused on capital investment, not running costs. However, it can provide some marginal relief during periods of budget restriction.

It is important to note, however, that these options are not open to all countries. In Slovakia, for example, permit fees are in place, but using them to raise extra revenue is not an option as they are paid directly to the State budget. Strategically, therefore, the only option in this regard is to see a policy change in relation to where the revenue goes. Failing this, it returns to a question of convincing government to allocate greater funds²⁸.

6.5 Outsourcing

Strategic alliances with private sector and non-profit citizens' organisations show considerable potential as a way to lower costs through improvement of operating effectiveness of public services and decreasing budget deficits at the national and sub-national levels. In some cases, for instance, "outsourcing" government functions to commercial operators can reduce costs and improve revenue flows.

In environmental inspectorates, a possibility to cope with the budget problems is to outsource emissions and ambient monitoring. This is possible if the total budget is not drastically constrained but, for example, there is a ceiling on acquiring equipment, or if some of the potentially acquired equipment will not be frequently used, thus increasing the fixed costs per measurements. This approach will work only if there is higher confidence in the efficiency of the private sector as a service provider (Box 10), and if appropriate oversight mechanisms are introduced.

²⁸ A major effort to support the battle of environment ministries to obtain funding was the European Commission funded report "*The Benefits of Compliance of Implementing the Environmental Acquis Communautaire*". This sought to highlight the benefits and hence importance of allocating funds for environmental purposes. It is available on the European Commission's web site www.europa.eu.int

6.6 Key lessons from international practice

The challenge of closing the funding gap lies in appropriately dealing with the problem and ensuring that the key tasks are carried out and that the regulatory authority can fulfil its statutory duty/obligations. Some solutions can be carried out within the same budget year, and others launched now that can be useful for future budget years; some are ongoing or repeated tasks; others are more one-offs. Good practices include:

- Preparing robust budget proposals and explaining the benefits of compliance assurance through meaningful performance indicators to safeguard against budget cuts during the budget allocation process;
- Benchmarking of permit fees, frequency and duration of inspections, etc. Both internal (comparison with past practice and other agencies) and external (comparison with practice in other countries) sources can help to assess resource-intensity;
- Carrying out efficiency analysis, *i.e.* assessing costs in comparison with the services provided to society to define where costs can be reduced or services improved. Ideally, this would be launched internally as a normal procedure before external parties request such an analysis;
- Targeting high risk installations and significant violators, as well as using opportunities for task clustering or geographic clustering of inspection;
- Establishing a hierarchy of tasks within the inspectorate for cases where re-allocation of budgets between tasks, or work programme revisions, is necessary;
- Encourage more systematic and targeted planning for inspections. Where not yet in place, set up time tracking systems to form the basis for efficiency evaluation in the future – this can be a help for future deficits;
- Designating senior-level managers responsible for prioritisation in the case of budget shortfalls and ensuring transparency of their decisions within the organisation;
- When cost-effective, outsourcing some tasks (for example emissions and ambient monitoring) to external contractors;
- Encouraging preventative approaches as a means to reduce budget needs, for instance, promoting self-monitoring by industrial operators, (quality) environmental management systems, and information-based instruments (such as industry's performance ratings);
- Encouraging interest from NGOs, mass media, and the general public, and involvement in compliance monitoring and citizens' enforcement.

Box 10. Quality assurance for external service providers in Flanders, Belgium

The Environmental Inspection Section (EIS) of the Ministry of Flemish Communities (Belgium) dedicates substantial resources for outsourcing emissions and ambient monitoring. Agreements are concluded with recognized laboratories for the measuring, sampling, and analysis of different substances and emissions. The total sum paid for outsourced services is slightly less than two million Euros.

In the past, the EIS has observed that when measuring emissions on its own behalf or on behalf of other companies, a number of certified air pollution laboratories sometimes trifle with the regulatory standards for the sampling of waste gases. Considering the significance of the outcome of the measurements with respect to enforcement, it is very important to the EIS that emission measurements are conducted precisely and thoroughly. In this respect, sampling is the most critical and least controlled step.

Until 2001 the system for certifying air pollution laboratories only required an audit of their procedures and an investigation into the precision of their analyses at the time of their application for certification. Certified laboratories were not checked as to their sampling methods and once they had been certified, there was no active follow up of their methods for on-site measuring.

Based on these experiences, in 2001 the EIS asked VITO, in its capacity of air pollution laboratory of reference, to initiate an active quality control in the field. By way of trial, VITO conducted a limited number of audits in 2001 during emission measurements by certified laboratories. In the fall of 2001, all certified laboratories were informed of its findings. These actions were continued in 2002. Furthermore, since 2002, VITO has also been inspecting the laboratories' sampling methods when investigating them, as a result of an application for certification.

Upon instruction of the EIS, in 2002, VITO also conducted a field audit during emission measurements by the two certified laboratories with whom the EIS has a contract for outsourced services. The purpose of these audits was to conduct an on-site inspection and to evaluate the reporting method of these certified laboratories. Both audits took place in the second half of 2002.

Due to these initiatives, there seemed to be a clear evolution towards improved quality as regards equipment, competence of the staff, calibration, sampling, etc.

Source: 2002 Environmental Enforcement Report of the Environment Inspection Section, Ministry of Flemish Community (Belgium); http://www.mina.be/uploads/mhr_2002_ch01.pdf, last accessed 15 November 2004.

Some of these solutions are particularly high on the agenda of enforcement agencies. In a number of countries it is argued that investment in compliance promotion and in guidance to industry can actually be very cost effective, reducing administrative costs on inspection and legal proceedings. Many countries undertake considerable efforts to ensure that resources are planned and used effectively, in particular through such tools as assessments of resource-intensity and targeting the highly polluting companies.

Obtaining sustainable financing for inspectorates/environmental protection agencies to ensure required levels of permitting, inspection, and enforcement is an ongoing challenge in virtually all countries, and from which new burdens and new challenges will inevitably arise. It is hoped that the reflections and examples in this report help in responding to the ongoing and future challenges.

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ANNEX 1. EXAMPLES OF TRENDS IN COST RECOVERY APPROACHES

Australia

In September 2002 the South Australian government decided to introduce significant reforms to licensing arrangements²⁹. These reforms included a doubling of fees phased in over four years to meet the full cost of administering licenses including inspections of licensed facilities. In 2005–2006, average annual licence fees will thus be about \$2 900, although this is distorted by large licensees.

The average annual fee paid by small and medium-sized businesses will be significantly below the average. Even after the full phase-in, licence fees in South Australia will still be substantially lower than fees charged in New South Wales, Victoria, and Western Australia, where average annual fees currently range from about \$4450 to \$15 200 and are set to increase significantly over the next few years.

The EPA is developing a system of accredited licences whereby a licensee who has achieved a high level of environmental performance and can demonstrate an ongoing capacity and commitment to maintaining and improving environmental performance will be able to obtain a 50 per cent reduction in annual licence fees. To obtain an accredited licence an operator will be required to have an environmental management system (including an environmental policy and objectives), an environmental audit and compliance programme, and, if required, an EIP approved by the EPA.

There will be a system of third party certification of environmental management systems by a certified environmental auditor or certification body, and an environmental audit programme carried out by an independent, EPA approved, environmental auditor. This system will provide a significant incentive to licensees to develop improved environmental management by rewarding them with cost savings.

Belgium

Authorities exist for Brussels, for the Flanders Region, and Wallonia:

Brussels. Applications for a new permit attract the following charges:

- €125 for a Class II installation.
- €250 for a Class IB installation.
- €2,500 for a Class IA installation.

There is no charge for a permit reflecting a minor variation of a process. Substantial variation requires the issue of a new permit and, in this context, substantial variation entails an increase of more than 10 per cent in the environmental impact of a large installation and more than 25 per cent for a small installation.³⁰

²⁹ <http://www.environment.sa.gov.au/epa/pdfs/annualreport0203.pdf>

³⁰ IMPEL Review Initiative (IRI) (2002), *Testing of the Review Scheme*, 3rd Review: Brussels, Belgium, 24–28 June 2002, IMPEL, Brussels. See: http://europa.eu.int/comm/environment/impel/pdf/iri_belgium.pdf (accessed 23 March 2004).

Flanders. In Flanders, the prices differ from Brussels and are:

- Class 1 application subject to an EIA or Safety Report : €247,89
- Class 1 application: €123,95
- Class 2 application: € 61,97

For an appeal, prices have to be doubled.

Class 1 and 2 applications are dealt with by the provincial authorities. The tax on the communal level (for class 3 applications or for treating class 1 or 2 applications) depends on the community. Prices seem to vary widely.

Class 1, 2 or 3 is determined by the classification in Vlareme I and for some types of activities also depending on the size of the activity. For an overview in English see:
http://www.emis.vito.be/wet_ENG_navigator/Vlareme1-Appendix1.Htm

Germany

In Germany, the costs to the authorities of licence fees are required to be recoverable by law – as the law requires that the operators cover the costs³¹. *Länder* can and do charge different permit fees. There are cases, in some *Länder*, where the licence rates are reduced for companies that have EMAS - up to 30 per cent reduction - though with variation in reductions across *Länder* with lower charges now in, for example, Bavaria, Hessen, Niedersachsen, and being planned in other *Länder*, including Baden-Württemberg. The costs are regulated by the *Länder* Fee Laws and the General Administrative Fee Ordinances.

Note that while there are inspection charges and permit fees and some non-compliance fees/fines/penalties these do not directly fund inspectorates but serve as (unspecific) budget income of the state. For the sake of comparison, they amount to around two per cent (inspection charges), 10 per cent (permit fees) and 0.5 per cent of the state inspectorate budgets respectively.

Malta

Malta is currently in a phase of transition, moving from dependence on central government funding to a situation where more income will come from permits charges and inspection fees, and associated activities. The ambition is to move to a full cost recovery scheme for permitting, monitoring, inspection, and compliance enforcement activities. Issues such as legislation, strategy, planning, and policy will remain a government expense paid for by general taxation.

Sweden

In Sweden, the Ordinance for Fees for Permits and Inspection states that certain types of activities carried out by the national and local authorities shall be financed by the enterprises. Among the activities are permitting and inspection of environmentally hazardous activities (EHAs). In the Ordinance is an appendix with a list of nearly 300 different types of EHAs for which it is mandatory to have a permit (EHAP). To each type of activity a fee is connected, which must be paid each year to the state (the national treasury). There is one sum if the national authorities (the CA) has responsibility for inspection and enforcement and another sum if the LA has the responsibility. For many types of activities there are different sums for different sizes of production. According to the Ordinance the local government (council)

³¹ see <http://www.umweltbundesamt.org/fpdf-1/2520.pdf>

has the right to decide fees for inspection and enforcement by themselves, and those fees go to the municipality, in order to finance part of the inspection and enforcement.

The following table gives some examples of the fees to the state:

	F_{ca} ³²	F_{la} ³³
Farm with > 200 cows	3 000	1 300 SEK ³⁴
Slaughter house for > 50 000 tons/year	74 000	26 000
Dairy for > 50 000 tons/year	25 000	8 800
Sawmill for > 200 000 m ³ /year	52 000	18 000
Pulp and paper plant	250 000	87 000
Electric power station > 200 MW	113 000	40 000
Wastewater plant > 100 000 pe	113 000	40 000
Solid waste landfill < 50 tons/year	5 200	1 800
Harbours for ships > 1 350 tons	52 000	18 000
Airports > 1 200 m, > 50 000 landings	187 000	66 000

The difference between the two sums is intended (in the work foregoing the Ordinance³⁵) to be a rough measure of the cost for operational inspection and enforcement if the CA has the responsibility for that activity, whereas the sums in the last column is a measure of, a) The cost for permits, which is given by either a special organization within the CA, or in the Environmental Courts for the largest plants, and b) Guidance of operational inspection and enforcement, given by the SEPA and the CA.

When the CA has the responsibility for inspection and enforcement, the enterprises must pay the fee in column F_{ca} to the state. If the LA has the responsibility for inspection and enforcement, the enterprises must pay to the state according to column F_{la} , and to the municipality according to what the municipality has decided. For EHAs operated by military defence, the Surgeon General has the responsibility for inspection and enforcement.

The CA has a database in which data about EHAs is registered. Almost all EHAs for which a permit is mandatory (EHAP) is registered. Most of the CAs register data about how much the EHAP holder has to pay every year. That makes it possible to calculate the sums of F_{la} and $(F_{ca}-F_{la})$, shown in the following table.

	Nr of objects	Sum F_{la}	Sum $(F_{ca}-F_{la})$
Objects for which the CA is responsible	2 000	27	50 M SEK
Objects for which the LA is responsible	4 000	30	54 "
Objects under the Surgeon General's responsibility	100	0.5	0.3 "
Total nr of objects ³⁶	6 100	58	104 "

The sum of 58M SEK is what the national authorities' work with permits and guidance of operational inspection and enforcement would have cost in the year 2003 if the intentions behind the Ordinance were correct. Fifty and 58M SEK are the costs for operational inspection and enforcement for the CA and LA respectively. The sum of these two figures, *i.e.* 108M SEK, is also a rough estimate of how much the EHAPs

³² Fee to the state if the CA is responsible for supervision/enforcement.

³³ Fee to the state if the LA is responsible for supervision/enforcement.

³⁴ One SEK is about 0.14 US\$ or 0.11 Euros.

³⁵ Swedish Environmental Protection Agency, Report 4790, October 1997.

³⁶ There are 5 678 plants, but for some plants, two or more fees must be paid.

should have brought in payments to the state. The real sum paid to the national treasury in 2003 was, however, 101M SEK³⁷.

The fees for the **national authorities'** work with operational inspection and enforcement were intended to be 50M SEK, whereas the fees for permits and guidance of operational inspection and enforcement were intended to be 58M SEK, making the sum of 108M SEK. According to the annual reports for 2003 the total amount of work carried out by the CA on inspection and enforcement (guidance, and operational inspection and enforcement) was calculated to be 69 man-years.

Using this figure, we can estimate the cost for inspection and enforcement as follows: Sixty-nine years corresponds roughly to $69 \times 250 \times 8 = 138\,000$ hours. With a price per hour of 800 SEK (salary, social costs, overhead, rent for premises, etc.) this time corresponds to 110M SEK. The work on guidance on inspection and enforcement at the SEPA, according to internal time-reporting, was 0.75 in the year 2003, equal to one million SEK. The cost for inspection and enforcement at the CA and the SEPA can thus be estimated to be 111M SEK. To that sum must be added the cost for permitting before comparison with the sum actually paid to the state, *i.e.* 110M SEK. The cost for permitting is unknown, but an estimate is that it is not very much less than the intended cost for permitting and guidance, *i.e.* 58M SEK, according to the table.

For the **municipalities** there are no data on the central level for the year 2003. There is however data from 1999, when the LA had an estimated cost of 340M SEK for inspection and enforcement of EHAs and got 105M SEK in fees³⁸, which is only 31 per cent. This inspection and enforcement not only covers the above-mentioned EHAPs, it includes also many thousands of smaller EHAs, certainly more than 10 000 objects altogether.

The degree of self-financing varies greatly between different municipalities. On the one hand, there are municipalities that covered nearly 100 per cent of their costs, while on the other hand some municipalities have a much lower degree of self-financing. The latter is often the case in sparsely populated municipalities with very little industry and weak finances; it is understandable that they are keen on keeping the industry they have.

United Kingdom

The Environmental Protection Agency of England and Wales is required by the Government to recover relevant costs of regulation from the holders of its licences and permits. This requires particular transparency and the Agency consults widely on proposals involving changes to charging, all of which must be approved by ministers. Environmental protection charge increases in 2002/3, except discharge consents, ranged from zero to 1.1 per cent, less than the rate of inflation, largely due to costs being offset by efficiency savings. Charges for discharge consents rose by 1.4 per cent and for water abstraction by 1.0-2.5 per cent, mainly as the result of extra work from implementing EU directives. It is interesting to note that one reason that the Agency is in favour of its budget being supported by charging is that this is a stable form of income, unlike government grants.

The legal basis for charging in the UK is based on the Environment Act 1995 which states that income recovered through charging schemes is that which "...taking one year with another", needs to be recovered to meet revenue and capital costs and expenses, which the Environment Agency incurs in carrying out its functions³⁹. These "conditions" are further explained below:

³⁷ A sum paid to the state and reported from the CA to The Swedish National Financial Management Authority (ESV).

³⁸ Data from The Swedish Association of Local Authorities.

³⁹ Further Details of EA charges can be found at: <http://www.environment-agency.gov.uk/business/444669/587179/504799/?version=1&lang=e>

- "...taking one year with another" - offset deficits or surpluses incurred in any one financial year, during the following financial year;
- Costs and expenses - recovery of all costs associated with granting and monitoring of environmental licences;
- Costs incurred in carrying out its functions - income raised through charges must only be applied to the function to which it relates.

This means that charges relating to one type of permit cannot be used to cross-subsidise the activities relating to another type of permit (for example income from water discharge consent charges cannot be used to fund activities undertaken in regulating IPPC permits). The Agency therefore records income and expenditure separately for each charging scheme and uses this as a basis for setting charges, which are designed to be a fair reflection of the cost of regulating a licence holder. The schemes are generally therefore based on a series of factors reflecting the likely cost of regulation, rather than on a time and materials basis. This is because the calculation of actual costs for each licence or permit, through recording and billing of time and materials, would be resource intensive, requiring:

- Time recording against an individual licence;
- IT system changes to allow individual charge calculations and billing;
- Large amount of data input, increasing risk of operator error;
- Provision of additional information to explain bill calculations with a likely increase in queries from charge payers.

Associated costs would have to be included in the charges levied on licence holders and would be likely to far outweigh any potential benefit to charge payers from individually calculated bills. So, in practice, charges to licence holders can only on average fairly reflect the cost of regulating them.

ANNEX 2. EXAMPLES OF FUNDING FROM GENERAL TAXATION

Belgium

The Brussels Inspectorate for Management of the Environment (BIME) annual budget was €30M for 2002 of which €5M was for inspection and permitting. This was funded directly from Regional Government funds that include income from environmental taxes on classified installations, permit application fees, and administrative fines, although none of these are reserved specifically for funding BIME.

France

In France⁴⁰, inspection activities are funded wholly by the State by way of general taxation, which includes the environmental fees and charges levied on industrial installations. Previously, these inspection activities were funded in part, and directly, by these fees and charges. The fees and charges do not cover the full regulatory costs, however, and no attempt is made to match fees and charges to the costs of regulation.

The State levies charges for the issue of new permits and modifications requiring a public inquiry. It also makes an associated annual subsistence charge. The charge for a permit or modification is typically €2 000. Annual subsistence charges are based on plant complexity. A large chemical plant would typically be charged about €30 000 and a small, simple plant €300. The cost of discharge sampling and monitoring required by a permit is borne directly by the relevant operator.

In cases of non-compliance with the conditions of a permit, administrative costs include a requirement for the operator to deposit of a sum of money with the DRIRE (*Direction Régionale de l'Industrie et de la Recherche*) as a guarantee against completion of any plant improvement or remedial work required to secure compliance. This is reimbursed if the operator carries out the necessary works.

The⁴¹ actual costs of DRIRE regulatory activities are reflected primarily by the staff and facilities deployed. The Ministry reviews total national requirements annually, and allocation of available national resources to individual regions is based on the relative level of industrialisation of the region. The DRIREs do not maintain records of time spent on individual activities for accounting purposes. The Ministry holds the budget for research, although relevant industries might be invited to fund studies in areas specific to their regulation. Research on behalf of the Ministry is carried out by the National Institute for the Industrial Environment and Risks (INERIS), which, amongst other things, maintains the Ministry's website.

⁴⁰ IMPEL Review Initiative (IRI) (2002), *Testing of the Review Scheme*, 4th Review: Douai, France, 14-18 October 2002. See: http://europa.eu.int/comm/environment/impel/pdf/iri_france.pdf (accessed 23 March 2004).

⁴¹ IMPEL Review Initiative (IRI) (2002), *Testing of the Review Scheme*, 4th Review: Douai, France, 14-18 October 2002. See: http://europa.eu.int/comm/environment/impel/pdf/iri_france.pdf (accessed 23 March 2004).

Netherlands

In the Netherlands, municipalities and provinces get most of the money from central government. Provinces and municipalities have some “own income”, though this is much less important than central funds. Note that income from administrative sanctions goes directly to the provinces, and sometimes can be used for inspectorates – though generally this is not applied. There used to be special funding for provinces and municipalities, with money directly linked to inspections, but this was a short-lived budget to give extra money to ensure that inspections were brought up to the right level. This ceased once inspection coverage and quality was regarded as sufficient, but then authorities faced a problem of continuing service with a lower budget, leading to some departments decreasing the number of inspectors. Furthermore, there used to be permit fees, but this was stopped many years ago – to encourage operators to obtain permits.

In the water sector of the Netherlands, inspection charges have not been adopted because the primary responsibility of the Water Inspectorate is to promote compliance through stimulating regional authorities to apply the same methods and procedures everywhere. However the primary responsibility for compliance rests with the regional authorities. Compliance promotion is therefore mainly stimulated with voluntary instruments like co-ordinated compliance responses, communication activities, and scientific studies. There are no legal obligations for the water inspectorate to include full cost recovery. Since the water inspectorate provides its services to the regional water authorities there is a legal obligation to provide this service without costs.

The budget for the provinces and municipalities is decided nationally. Almost all funding is from general taxation though the municipalities have revenues from minor taxes on the possession of houses and the collection of waste, and the provinces are able to retain a small part of the tax on the possession of a car.

There are no charges for issuing or maintaining a permit, nor for monitoring or sampling. It is not possible to recover costs of enforcement action through the courts, except where action is undertaken on behalf of an operator, which the operator himself should have done. The budget for monitoring is €200 000 and it has been suggested that the provinces might want to consider other methods for funding monitoring.

Municipalities and provinces are able to carry out their inspection roles independently of economic pressures but on the other hand they have found that the number of spurious applications has increased. The province may wish to consider the possibility of discussing with the Environment Ministry (VROM), the benefits of and scope for small level fees for permits and for subsistence to prevent spurious applications.⁴²

United States

In the USA, the EPA’s budget – of around \$475 million - comes straight from the government. This is despite some revenues being raised from activities (*e.g.* fines/penalties), as the law requires that all revenues raised must go to the US Treasury. There is therefore no direct funding, nor indeed are raised funds earmarked to go back to the EPA. Note that in 2002, EPA fines and penalties amounted to around \$88M, of which \$26M were for administrative monetary penalties, and \$62M from criminal fines, complemented by 215 years of prison time for environmental crimes. As regards “other sources”, the US questionnaire made the interesting observation that the EPA’s activities (together with those of the State bodies), can arguably be seen as leading to high levels of public and private environmental expenditure. US environmental expenditure amounts to around two per cent of GDP and hence around \$200 billion a year. This percentage of GDP figure is more or less typical for OECD country environmental expenditure.

⁴² IMPEL Review Initiative (IRI) (2002), *Testing of the Review Scheme*, 5th Review: Zwolle, The Netherlands, 18-22 November 2002. See: http://europa.eu.int/comm/environment/impel/pdf/iri_netherlands_report.pdf (accessed 23 March 2004).

ANNEX 3. EXAMPLES OF FUNDING FROM COMBINED SOURCES OF REVENUE

Australia

In South Australia, the EPA's sources of funds consist of monies appropriated by Parliament together with income derived primarily from fees, levies, and licenses to the public and industry. Fees and charges for the reporting period (ending 30 June 2003) comprised:

Fees and licences	4 725 000 AUS\$	42%
Waste levies	6 131 000 AUS\$	54%
Fines and penalties	139 000 AUS\$	1%
Section 7 enquiries	275 000 AUS\$	2%
Sale of products and other services	77 000 AUS\$	1%
Total	11 347 000 AUS\$	

In Victoria, Australia, the EPA is predominantly funded by accrual-based parliamentary appropriations for the provision of outputs (around 80 per cent) as well as revenue from levies on landfill deposits and licenses (around 20 per cent):

Budget line	Revenue	% Share
Revenue from Government	40 763 000 AUS\$	79.1 %
Resources received free of charge	300 000 AUD\$	0.5 %
Revenue from the Resource Recovery Fund	26 000 AUS\$	0.1 %
Revenue from the Environment Protection Fund:	10 447 000 AUS\$	20.3 %
Landfill levy	3 419 000 AUS\$	
Landfill levy penalty interest	1 000 AUS\$	
Licence levy	339 000 AUS\$	
Prescribed Industrial Waste levy	4 221 000 AUS\$	
Prescribed Industrial Waste Penalty Interest	3 000 AUS\$	
Temporary levy	66 000 AUS\$	
Interest on investments	616 000 AUS\$	
Litter fines	1 714 000 AUS\$	
Environment Audit fees	108 000 AUS\$	
Total	51 566 000 AUS\$	

The Authority has access to user charges where retention has been approved under Section 29 of the **Financial Management Act** 1994. The EPA does not gain control over assets arising from taxes and fines, which are collected on behalf of the government. Accordingly, the amounts are disclosed as revenues in the schedule of administered revenues and expenses. Formerly, only one twelfth of administered licence and permit revenue was recognised as revenue each month, the bulk was treated as unearned. From 1 July 2002, the Authority elected to treat licence and permit revenue as earned when invoiced. This change resulted in

AUS\$7 193 106, previously recognised as unearned licences, being recognised as revenue, and AUS\$343 139 from unearned permits being recognised as revenue.

Canada

Part of Environment Canada's revenue comes from external user charges⁴³. Regulatory services include application, permits and fees for ocean disposal, chemical notifications, and hunting permits and stamps. For ocean disposal, application fees are based on an estimate of 1992 costs for assessing applications for permits (\$2 500 per application for any substance allowed). Permit fees are based on value of right and privilege, which is assumed to be equivalent to the cost of representative monitoring of ocean disposal sites. The fee is \$470/1 000 cubic meters of dredged or excavated material. For chemical notification, revenues received equate to 22 per cent of programme costs and full cost recovery is not seen as practical because some services benefit all Canadians and fees are therefore based on specific notification types. Ceilings are placed on fees (not to exceed the maximum fee in the US) to avoid trade impacts. With regard to hunting permits, fees are established historically and revenues generated from sale of stamps are provided to Wildlife Habitat Canada (WHC) to fund programmes.

Czech Republic

In the Czech Republic, the Environmental Inspection is funded fully by government funds, which is a legal requirement. However, the permitting authority (14 regions) receives €1 000 for each Integrated Pollution Prevention and Control (IPPC) application. This was a relative arbitrary figure agreed when the law was developed and is viewed as too small. Overall fees will pay for about 1.5 staff in a region. The remainder of their budget is provided by Central Government (there is no local taxation). Inspection is undertaken by the Czech Environmental Inspection, which charges no fees and is entirely funded by the Government. Where fees are imposed on polluters these funds are transferred to the State Environmental Fund, which funds specific environmental projects, but not the work of the inspectorate.

Ireland

In Ireland, the EPA receives funding from the following sources as indicated for 2001 and 2002. For IPC, €444 863 was derived from the licensing activity and €3 066 166 from inspection and enforcement charges, etc.

Source	2002		2001	
	EUR	%	EUR	%
Central government grants	16 920 734	69.2%	18 161 400	70.3%
Surveys, advisory services, and tests	19 813	0.1%	52 115	0.2%
Income from regional laboratories	1 570 215	6.4%	1 403 266	5.4%
Licensing activities (Integrated Pollution Control) – fees paid by operators	3 511 029	14.4%	3 574 898	13.8%
Licensing activities (waste) – fees paid by operators	2 144 786	8.8%	1 735 664	6.7%
PHARE project income	114 531	0.5%	586 471	2.3%
Other	183 821	0.8%	311 747	1.2%
Total	24 464 929	100.0%	25 825 561	100.0%

Source: Environmental Protection Agency Annual Report 2003

⁴³ http://www.ec.gc.ca/dpr/EC_DPR_March_31_2003_EN-Oct6.pdf

From its budget, 11M€ is for salaries, 7M€ is for research and 5.4M€ is for IPC regulation. Of these 5.4M€, about 3.9M€ is recovered by way of cost recovery charges to operators for permits and for subsequent monitoring and compliance checking. Application fees for permits were set in licensing regulations and have been fixed since 1994. Other annual license maintenance charges are set by the EPA Board and are subject to appeal, by operators, to that Board. Residual funding of EPA activities is by Government, from general taxation. The allocation of charges for monitoring and compliance checking of IPC processes is decided on a priority basis, between industry sectors, by inspectors, but ultimately final charges are set by the Board.

Provision is made in law for the Agency to recover regulatory costs by way of charges to operators in addition to permit application fees. These costs, including salary costs as a daily rate, are calculated by way of a standardised spreadsheet covering all regulatory activities. It is reviewed annually by inspectors for each installation under EPA control and is linked to a major database holding details of these installations.

In addition, the EPA requires certain operators to maintain or guarantee availability of funds for dealing with environmental liabilities, including consequences of accidents, plant decommissioning, and the management of long-term “residuals” such as contaminated land or waste disposal facilities. The scale of necessary funds is judged by external specialist consultants whose findings in the form of published reports are assessed by the EPA. Prosecution costs are also recovered, where possible, as are special costs arising, for example, from action taken by the EPA to remedy environmental harm caused by any identifiable party.⁴⁴

Malta

In Malta, funding to date is mainly from Central Government. Local councils are involved in environmental project/initiatives as required, but the funding here tends to be limited, and cannot be categorised in a reliable manner. Although (at the present moment) minimal revenue is collected via permitting, inspection fees, etc., a schedule of fees is currently in the process of being developed. Sources of revenue are currently restricted to a limited number of permit fees, and enforcement costs recovered through legal action. Other sources of income are from EU funding that contributes to the training of staff, development of permitting, and enforcement procedures, etc.

Norway

In Norway, an additional minor funding source is the registration fee for hazardous substances for the Norwegian Product Register. The inspectorate (SFT) does not receive funds accrued through compulsory fines issued as a result of non-compliance. SFT has recently revised its Control Strategy which, together with other relevant policies and strategies, guides its planning and performing of control. Public funding makes up 91 per cent of SFT's funding. This, and the estimated additional funding, is taken into consideration when drafting its annual control or inspection plans. The scope and use of fees is established through regulations:

- Applicants pay a fee for new or renewed discharge permits;
- SFT can only charge inspection fees when inspecting permit holders;
- EMAS and ISO 14000 registered enterprises pay only half the inspection fee, but full permit fee, thus acting as an incentive to take up these measures;
- Enterprises have to perform a certain degree of self auditing (Internal Control).

⁴⁴IMPEL Review Initiative (IRI) (2002), *Testing of the Review Scheme*, 2nd Review: Wexford, Ireland, 4-8 March 2002, IMPEL, Brussels. See: http://europa.eu.int/comm/environment/impel/pdf/iri_report.pdf (accessed 23 March 2004).

United Kingdom

In the UK, the Environment Agency (EA) of England and Wales derives its income from three main sources: Income raised from charging schemes (34 per cent); levies raised on local authorities to fund flood defence activities (39 per cent); and government grants (27 per cent).

Since 1996/7 an increasing proportion of total income has been raised from charging schemes and flood defence levies. In 2002/3 government grants provided 27 per cent of total income, compared to 30 per cent in 1996/7. In 2002/3 the Government provided a grant of £115.8 million to help finance the Agency's pollution prevention and control activities, as well as recreation, conservation, and navigation. Six point three million pounds was also provided to fund the Agency's fisheries activities, £62.2 million was provided for flood defence capital schemes, and £4.4 million was provided to cover the cost of river catchment flood management, and contributions to other national initiatives. Any surpluses or deficits from one year to the next are recovered/repaid through the subsequent year's charges. Enforcement against illegal activities is currently funded through government grants.

ANNEX 4. EXAMPLES OF TRANSITIONAL SOURCES OF FUNDING

Bulgaria

In Bulgaria, additional funds are provided by the Enterprise for Management of Environmental Protection Activities (the environment fund). These funds go towards monitoring, equipment, and training, not to general running costs. Certain activities (*e.g.* non-compliance responses) are not separately calculated and some activities, *e.g.* research, are out-sourced to the Academy of Sciences.

The regulators are subsidiary masters of budget credits and their budget, including the so-called “own revenues”, are centrally allocated by the Ministry’s Budget Division. It is very important to note that Bulgaria is in a Currency Board arrangement with the International Monetary Fund, according to which a specific budget deficit is fixed, and therefore **no government institution is flexible enough in determining new areas of revenues or expenditures that would enhance the budget deficit limits.**

Each Regional Inspectorate has a well-equipped laboratory complex. Most laboratories are accredited, while others are in the procedure of accreditation by the National Standardization and Accreditation Service.

Until December 2003 the Regional Inspectorates were able to realize their own revenues by providing contracted laboratory services to local operators. This was deemed to create “conflict of interest” situations, and since January 2004 the administrative supervision of laboratory activities has been shifted to the Executive Environment Agency.

Thus the Agency is currently supervising the contract arrangements for laboratory services. These “own revenues” from laboratory services are allocated back to the laboratories to support their activities. The State Budget Act requires government institutions (including the Ministry of Environment and Water, the Regional Inspectorates, and the Executive Environment Agency) to generate “own revenues” to cover part of the relevant activities they are performing.

Poland

In Poland, funds for the Chief Inspectorate for Environmental Protection mainly come from the national budget and the National Environmental Protection Fund. Funds for *Voivodeship* Inspectorates for Environmental Protection mainly come from regional budgets (previously, Governors had this role in each province), and the *Voivodeship* Environmental Protection Funds.

The environmental protection funds (National and *Voivod* funds) contribute around 22 per cent of the inspectorates’ budget, so are very significant, though secondary to the regional budget for the national inspectorate (for *Voivodship* Inspectorates, the most important sources of financing are regional budgets approximately 75 per cent; sources coming from regional and national funds are of minor importance – 15 per cent). However, funds from the environment funds are only spent on capital equipment, not routine running costs.

Furthermore, firms are obliged to bear inspection costs if they are not in compliance with the law (this is an important feature, similar to the UK). In 2001 (2000), 3 612 (3 567) firms were obliged to pay 1.3 million USD (0.8 million USD), with collection rates of 92.8 per cent (90.1 per cent)⁴⁵.

Only 20 per cent of the non-compliance fees charged (but not imposed) are a source of Inspectorate funding (this is added as a “special source”).

“Special sources” consist of 20 per cent of executed non-compliance cash fines (mentioned above), plus environmental studies and surveys conducted for the external client revenues – in the budgetary law for 2004 it is stated that 40 per cent of all incomes related to special sources should be transferred to the national budget (in 2003 it was only five per cent). This means that the Inspectorate will have a lower amount of funds to spend on its activities, such as making the inspection performance more effective, bonuses for the staff, and for covering the cost of environmental studies and surveys. In addition, 20 per cent of executed fines are added to the Inspectorates’ budget. The EU’s PHARE funds also contribute, though to a lesser extent.

⁴⁵ Panek-Gondek K (2002), *Experience of the Inspectorate for Environmental Protection in implementation and enforcement of environmental law in Poland*, Paper presented at the 6th International Conference on Environmental Compliance and Enforcement, April 2002. See: http://www.inece.org/conf/proceedings6th_2.html#2 (accessed 29 March 2004).

ANNEX 5. EXAMPLES OF HISTORICAL ESTIMATES TO ASSESS THE WORKLOAD

Belgium

At the Brussels Inspectorate for Management of the Environment (BIME), an integrated permit for a site containing an IPPC installation may take between 15 and 25 days of staff time. An annual record of Permitting Department activities shows that about 75% of the time devoted to permitting is spent on dealing with applications for new installations or for substantial modifications to existing ones. The remainder of the time is divided more or less equally between dealing with applications for minor changes to existing permits and providing advice on issues associated with contaminated soil and asbestos.

The time spent on pre-application discussion with operators is strictly limited, with the exception of cases involving the potential for soil contamination and groundwater contamination. In these cases assistance is provided in order to facilitate quick introduction of effective controls. Otherwise, operators are referred to the Regional Development Agency, which has a responsibility for assisting enterprises to prepare permit applications.

All IPPC sites are inspected at least once per year. In this context, an inspection takes about 5 days but this includes the time for preparation for site inspection, for follow-up actions in maintaining the file and for any enforcement action.

Unplanned or non-routine inspections are generally associated with responding to public complaints. A relatively small proportion of the BIME's time on this activity is attributable to site incidents or emergencies. BIME encourages complainants to make complaints initially to local authorities, but the BIME is invited to deal with those that cannot be handled effectively by these authorities. About 20% of inspection time is spent on the administration of complaints. The time for this activity is programmed formally into work plans on the basis of previous experience, and the system is carefully administered by creation of complaint files that are closed only upon satisfactory resolution of the complaint. In addition, complaint statistics are analysed in order to plan the deployment of effort to best effect.

Ireland

The time taken for all the activities necessary to produce an Integrated Pollution Control (IPC) permit is estimated, for the purpose of work planning, to be about 60 person-days. As regards pre-application contact with operators, the EPA prefers to limit this to ensuring that the operators are informed by scoping out what is required to comply with the IPC legislation. It does not advise on the detailed contents of an application. This may be reflected in the substantial amount of time spent in seeking and receiving further information after the application is made, with the overall permitting process taking over 20 months in some cases, instead of the statutory 7 months. The time for the activities associated with monitoring, auditing and enforcement is estimated to be about 10 person-days per site per year on average.

The frequency of general site inspection of IPC processes is at least once per year but it may be more frequent depending upon the site inspector's judgment of the environmental performance of individual processes. One and a half person-days is allocated in work plans for each such inspection. In addition, there are separate site visits for the purpose of sampling, analysis or monitoring and one person-day is allocated for each such inspection. Audit inspections are carried out less frequently, at approximately three yearly

intervals. These take three person-days, on average, and are carried out by two inspectors. The audit is led by an inspector who is not the usual site inspector.

The ratio of inspector time spent on sites to the time spent in the office is determined by the pattern of activities shown in detailed work plans and is, broadly, about 1:4. The time required for unplanned or reactive inspection is regarded as unpredictable and no specific provision for this is made in work plans. The rate of complaint against sites controlled by EPA has fallen by 40% per site over two years to about 1500 per year in 2000, with most being concerned with the rendering of slaughterhouse wastes. Experience leads to provision in the annual work plans for a total of about 15 person/days to deal with about 1500 complaints.

Germany

The *Staatliches Gewerbeaufsichtsamt* (GAA) (Trade and Factory Supervisory Office) of Mannheim is responsible for the full range of activities comprising “environmental inspections” defined in the MCEI, except for monitoring of the environment and assessment of environmental management systems. The GAA monitors releases from IPPC installations. A separate Land body, the Environment Protection Advisory Body (EPA) is responsible for monitoring achievement of environmental quality standards. Their results are communicated to the relevant GAA in case of any breach resulting from an identifiable installation, and otherwise to the UVM.

Of the 63 inspectors in the GAA Mannheim around ten are involved in the inspection of IPPC installations. Between 60% and 80% of their time is devoted to environmental regulation and Major Accident Prevention (Seveso II). In the absence of more detailed management information it has been estimated that between 6 and 8 full-time equivalent members of staff are devoted to the inspection of IPPC installations and to provision of advice to the permitting authorities. Of this effort, around 90% is office-based work and 10% is on-site work.

Generally, inspections take about one “inspector day”, but in some cases may be more. A team of inspectors may carry out inspections of larger installations. When an IPPC permit is being revised or reviewed, the inspection may include staff of the relevant permitting authority and supporting technical experts.

Planning and prioritisation of the inspectors’ workloads, in order to optimise the use of resources, is left to individual inspectors on the grounds that they are well-qualified professionals and are best placed to make such judgements. Their plans are coordinated by the Department Heads.

Netherlands

An inspector has 1,350 hours available in a year. Roughly 1,000 hours will be spent on inspections and the rest on other activities. Roughly 70% of inspections are planned and 30% are unplanned. There are targets for the inspection of large installations that fall under the IPPC Annex 1 categories. The target is that these sites should be inspected four times a year except for the metal industry (twice a year) and the chemical industry (twelve times a year).

The assumption is that each inspection should take twelve hours and the Province’s policy is that it is acceptable for, say, two inspections to be carried out on a site which should have four but with two inspectors taking part in each. Half of the twelve hours allocated for a typical installation of an installation will be spent in the office for preparatory work and for writing a report. The rest of the time will be divided between travelling to the site and the actual inspection.

In practice the targets are ambitious given the amount of staff time available. Instead of forty eight hours being spent on inspecting an installation that should have four visits a year, the figure was likely to be between twenty and thirty hours.

The current target for producing a permit is 25 days, but the time-recording system will give an opportunity for looking at the various stages in the development of permits more closely. The time recording system suggests that 30 hours is needed to issue a Performance Bond. Administrative prosecutions require a total of 32 hours (12 hours from the Inspection Department and 20 hours from the Enforcement Department).

ANNEX 6. EXAMPLES OF BUDGET ALLOCATION APPROACHES

Australia

In South Australia, the Statement of Financial Performance for the EPA (for the year ending 30 June 2003) showed that expenses were allocated according to the following table:

Budget line	Expenditure	Share %
Salaries and wages and other employee-related expenses	13 768 000 AUS\$	58%
Goods and services	7 669 000 AUS\$	32%
Grants and Contributions	1 395 000 AUS\$	6%
Depreciation and amortisation	923 000 AUS\$	4%
Other expenses	29 000 AUS\$	0.1%
Total expenses from ordinary activities	23 784 000 AUS\$	

In Victoria, Australia, the Statement of Financial Performance for the EPA (for the year ending 30 June 2003) showed that expenses from ordinary activities were allocated to the following:

Budget line	Expenditure	Share %
Employee benefits	24 341 000 AUS\$	48%
Depreciation	1 031 000 AUS\$	2%
Other expenses including supplies and services	13 742 000 AUS\$	27%
Grants	11 334 000 AUS\$	22%
Capital asset charge	525 000 AUS\$	1%
Audit fees, Auditor General	44 000 AUS\$	
Total expenses from ordinary activities	50 999 000 AUS \$	

Germany

In the State of Brandenburg, the main expenses are personnel expenses. Forty per cent relate to permitting, 10 per cent monitoring, 35 per cent inspection, 13 per cent non compliance response, of which six per cent is for administrative mechanisms and seven per cent for judicial mechanisms. Two per cent go to specific scientific studies. Note that the *Landesumbeltamt Brandenburg* is responsible for industrial plans and air pollution, and other issues such as waste are partially dealt with on a communal level.

Ireland

In Ireland, the expenditure of the EPA in 2002 was allocated according to the following table:

Budget line	Expenditure €	Share
Salaries, pensions, etc.	11 873 061	47.5%
Travelling expenses	988 105	4.0%
Laboratory and field costs	742 785	3.0%
Accommodation costs	801 662	3.2%
Other administrative costs	3 078 625	12.3%
Share of common costs	117 102	0.5%
Consultants and grants	653 605	2.6%
Environmental research	5 009 798	20.1%
Depreciation of assets	1 720 046	6.9%
Total	24 984 789	100.0%

Source: Environmental Protection Agency Annual Report 2003; percentages calculated

For Integrated Pollution Control Activities the expenditure of different budget lines for permitting and enforcement is given in the table below. This compares with incomes from fees of €444 863 and €3 066 166 for permitting and enforcement, illustrating that fees provided only a minor proportion of expenditure, significantly less than staff costs alone.

Budget line	Licensing (EUR)	Share (%)	Enforcement (EUR)	Share (%)
Salaries	783 821	42.9%	1 605 438	37.6%
Travel and subsistence	57 453	3.1%	251 188	5.9%
Laboratory and field expenses	25 996	1.4%	48 749	1.1%
Equipment repairs, maintenance, etc.	9 366	0.5%		0.0%
Legal fees	177 653	9.7%	2 899	0.1%
Books and periodicals	2 584	0.1%	3 379	0.1%
Consultants	40 049	2.2%	100 326	2.3%
Printing and stationary	10 521	0.6%	6 140	0.1%
Staff development and courses	36 305	2.0%	49 075	1.1%
Advertising	38 314	2.1%	8 344	0.2%
Public relations and subscriptions	662	0.0%	746	0.0%
Cost of PHARE project	103 065	5.6%	-	
Depreciation	37 342	2.0%	94 022	2.2%
Share of overheads	502 959	27.5%	1 008 589	23.6%
Compliance laboratory testing	-		1 081 642	25.3%
Total	1 826 072	100.0%	4 275 374	100.0%

Source: Environmental Protection Agency Annual Report 2002; percentages calculated

Finland

In Finland, the funds for the state authorities are not allocated across budget lines, although subsidies to water sewerage and purification are allocated separately.

United Kingdom

In the UK, the Environment Agency expenditure on different budget lines is given in the table below, which also demonstrates the sources of funding in each budget line. Data are for the financial year April 2002 to March 2003, all in millions of pounds sterling, covering all of the Agency's functions.

Budget line	Receipts			Payments	
	Operating receipts	Grants and contributions	Total	Total	Share (%)
Environmental protection	128.4	100.0	228.4	228.4	29.3%
Flood defence	293.8	684	362.2	382.9	49.1%
Water resources	108.2	1.4	109.6	108.2	13.9%
Fisheries	17.3	9.8	27.1	26.8	3.4%
Navigation	4.2	7.0	11.2	11.2	1.4%
Recreation and conservation	1.1	8.3	9.4	9.4	1.2%
Sub-total	553.0	194.9	747.9	766.9	98.4%
Unfounded pensions	-	12.8	12.8	12.8	1.6%
Total	553.0	207.7	760.7	779.7	100.0%

Source: Environment Agency Annual Report and Accounts 2002/3; percentages calculated

About half of the Agency's expenditure is on staff costs. Changes in the operating costs (millions of pounds sterling) are given in the following table.

Expenditure	2001/2		2002/3	
	£million	Share	£million	Share
Staff costs	314.3	40.9%	293.8	41.6%
Depreciation and capital works expensed in year	206.6	26.9%	181.9	25.7%
Other operating costs	247.2	32.2%	231	32.7%
Total	768.1	100.0%	706.7	100.0%

Source: Environment Agency Annual Report and Accounts 2002/3; percentages calculated

ANNEX 7. EXAMPLES OF PROCEDURES TO APPROVE BUDGETS

Australia

In Victoria, Australia, the Parliament provides the Environment Protection Authority with a yearly allocation for output groups relating to air, water, groundwater, land, noise, waste, and neighbourhood environment improvement. The Authority's internal budget process then allocates resources within these output groups to its wide range of environmental responsibilities.

Bulgaria

The Regional Inspectorates give proposals for their budgets, taking into account an expenditure ceiling fixed by the Ministry. These proposals are evaluated and approved by the Ministry's Budget Division. The main strength of this procedure is the relatively fairer allocation of funds among the 15 regional inspectorates, according to their size and the activities to be performed. The main weakness of this procedure is merely that there are not enough funds. In order to change funds between budget lines, external approval is always required, either by the Ministry's Budget Division (for the governmental funds), or by the Enterprise for Management of Environmental Protection Activities (when funds are thereby provided).

Canada

The Environment Department's suggestions/recommendations for the budget are, each year, presented to the cabinet. Final decision-making power belongs to the Finance Minister.

Czech Republic

The Inspectorate provides a proposal to the Ministry of Environment, which passes this to the Ministry of Finance. It then forms part of the overall State budget to be approved by Parliament. For 2004, the Inspection was given a five per cent increase, although this is insufficient to cover estimated costs. Once the budget is allocated, it is not possible to change funds between budget lines.

Finland

In Finland, the units estimate their budgets and the ministry adjusts them to meet the budget framework of the environmental sector (of the government). This has strengths in that the funds of the state authorities are not allocated across budget lines which allows them to allocate flexibly between staff, operating costs, investments, etc. However, it also has a weakness in that the overall budget framework is inflexible.

Germany

In Germany, the budget approval is based on a proposal by the administration, a decision by the State government, and a formal legislative process in Parliament.

Netherlands

In the Netherlands, in principle there are two parallel procedures (top-down and bottom-up). In the top-down, Parliament sets priorities and budgets for the activities of ministries (at the moment these are almost entirely budget cuts). The ministries themselves look at how burden sharing is achieved when possible. Parallel to this, the various departments of the ministries (including the inspectorates) estimate and approve their own budget. If this conflicts with the top-down approach, problems are solved by adjusting the priority setting and sometimes by budget shifts or the approval of additional funds. It is possible to change between budget lines as long as the required products are still delivered (internal shifts are relatively easy; shifts between departments of the same ministry are more complicated). Note that for inspectorates to propose budget increases they must give a rationale for the need (*e.g.* new EU Directive to comply with), and the central authorities will check whether the assessment is appropriate and allocate, or not, additional funds accordingly.

Poland

In Poland, the budgetary procedure is as follows:

- From May of each year the Inspection for Environmental Protection works on the preliminary budget;
- After this the preliminary budget is passed on to the Ministry of Environment for its acceptance;
- By the end of June the Ministry of Environment is obliged to pass on the preliminary budget for the following year, for all environmental public administrations supervised by the Ministry of Environment, to the Ministry of Finance. All preliminary budgets from different public administration institutions are aggregated to form the budget bill;
- By the end of September the budgetary bill should be delivered to Parliament to be discussed;
- By the end of each year the budgetary bill should be passed and accepted/signed by the President;
- Twenty-one days after the acceptance of the budget, the foreseen needs should be adjusted to the amount of money allocated for expenditures in the final budget law;
- By the end of October of the following year the Ministry of Finance, together with other Ministries (in this case the Ministry of Environment), can change the allocation of the amount of money allocated previously as “a reserve for special aim”. The amount of money can be spent for different purposes.

In the Chief Inspectorate for Environmental Protection the budget appraisal and approval process is undertaken in the Ministry of Environment, as a precedent unit. The Chief Inspector for Environmental Protection is obliged to give an account of the budget performance to the Ministry of Environment, which is then assessed. Note that the Chief Inspector for Environmental Protection cannot change the allocation of funds between different budget lines without external (Ministry of Environment) permission.

Slovakia

In Slovakia, the budget of the Inspectorate of Environment is derived from budget of the Ministry of Environment, which is a part of the State budget approved by Parliament.

Spain

In Spain (Galicia), the budget proposal is submitted to the Ministry of Environment in the late summer and it is adopted in a meeting at the Ministry with the agreement of all General Directors and the General Secretary. This agreement is a political one and is discussed at the meeting of all the Ministries and the President. Changing funds between budget lines does not usually occur. However, it may occur either for urgent reasons (as happened due to the Prestige oil disaster), or for political reasons following elections.

United Kingdom

In the UK, plans are developed by local (Area and Regional) staff of the Environment Agency, approved by Regional Directors, and then Head Office Directors. They are based on priorities agreed at a national level and detail functional activities and the resources required to undertake them. Approval for the consolidated national Corporate Plan is sought from the Department for Environment, Food, and Rural Affairs (DEFRA) and the National Assembly for Wales (NAW), and ultimately the Minister.

The plans are based on key priorities (including statutory) and are based on frontline experience and knowledge of the effort required for effective environmental regulation. The approval process ensures that efficiencies have been properly included. Approval at the national level ensures that local plans reflect a consistent and proportionate approach to regulation.

The procedure is, of necessity, complex and time-consuming. Funds received from charge payers (*e.g.* licence holders), are “ring-fenced”. This means that the income raised to regulate one type of permit cannot be used to cross-subsidise the regulation of another type of permit (*e.g.* income from water discharge consent charges cannot be used to fund activities undertaken in regulating PPC permits). For activities funded through government grants, the Agency has discretion to apply these funds as it deems most appropriate. In most cases, reallocation of budgets requires internal approval only. However, reallocation of larger amounts is agreed with the Agency’s government sponsors, DEFRA, and NAW (where applicable to Wales).

ANNEX 8. EXAMPLES OF APPROACHES TO TRACK REVENUE AND EXPENDITURE

Australia

As part of a renewed focus on governance arrangements within the EPA in Victoria, Australia, a new independent Audit Committee was formed in May 2003. The primary objective of the Committee is to assist the EPA in maintaining good governance, including the conduct of its responsibilities for financial reporting, management of risk, maintaining a reliable system of internal controls, monitoring organisational performance and facilitating the organisation's continued ethical development.

Bulgaria

In Bulgaria, revenue and expenditure-tracking and a check on the efficiency of the use of resources is undertaken centrally by the Ministry's (financial) Inspectorate. Independent checks are carried out periodically by the Chamber of Accounts. Expenditure analysis against the achievement of individual programme goals is undertaken within the framework of the Programme Budgeting, where specific indicators for such analysis are identified. The first report is expected by the end of March 2004 for the year 2003.

Canada

Environment Canada has an "Internal Control Policy Framework" to ensure that "adequate resources are available, assets are safeguarded, information is reliable, operations are monitored, controlled and conducted with prudence and probity, and the organization meets statutory and regulatory reporting requirements." Moreover, Environment Canada conducts a series of internal audits, evaluations, and other reviews each year, and produces reports, which present findings on strengths and weaknesses, along with recommendations for remedial measures that need to be implemented. The Treasury Board delivers external audits⁴⁶.

Belgium

At the Flemish Environmental Inspectorate (EIS), the model of the European Foundation for Quality Management (the EFQM model) is used to ensure that the desired results are reached. The EIS carried out a self-evaluation according to the EFQM Excellence model in November 2000. This rapid diagnosis was carried out under the supervision of an external consultant and was part of the Service's ongoing improvement drive. Based on this rapid diagnosis, a number of improvement actions were defined for the following criteria: Leadership, policy and strategy, personnel, partners and resources, processes and customer results. The EIS has evaluated the results of this rapid diagnosis and in 2002 continued to work on substantial improvement actions in which the aspect of "Inspecting and taking measures" was better and more comprehensively documented. It is expected that the implementation of these improvement actions will yield "outstanding" results⁴⁷.

⁴⁶ http://www.tbs-sct.gc.ca/cmo_mfc/resources2/projects_projets/received/EC/ICF_CCI/ICF_e.pdf

⁴⁷ http://www.mina.be/uploads/mhr_2002_ch01.pdf

Ireland

In Ireland the Board of the EPA undertakes the following steps as part of its financial control procedures:

- Publishing a Strategy Statement;
- Agreeing on a detailed work programme for each year, and monitoring and evaluating progress against the work programme;
- Implementing weekly Board meetings to manage and supervise the work of the Agency;
- Implementing a Performance Management and Development System for all staff;
- Clearly defining management responsibilities;
- Maintaining a comprehensive schedule of insurances to protect the Agency's interests;
- Establishing and operating procedural regulations and standing orders for conducting the business of the Board;
- Ensuring declaration and disclosure of interests;
- Reviewing and approving all Agency policies and procedures.

Internal financial controls include:

- A comprehensive budgeting system within an annual budget which is reviewed and approved by the Board;
- The assignment of budgets and budgetary authority and responsibility for specific functions to selected managers;
- Restricting authority for authorising all disbursement of Agency funds, payment of salaries, pensions, creditors, and expenses to Directors and two named Programme Managers;
- Regular and ongoing review of all payments by senior management;
- Regular reviews by the Board of periodic and annual financial information and reports which indicate financial performance against budget;
- Setting targets to measure financial and other performance;
- Project management disciplines in respect to building programmes and major consultancy projects;
- Modern computerised financial accounting, payroll and fixed asset register software systems to underpin the internal financial controls of the Agency;
- Detailed procedures for engaging consultants.

Finland

In Finland, tracking involves cost accounting and working time accounting. The contribution of the revenues of the permit fees is followed annually. Operational efficiency is evaluated by using the EFQM (European Foundation for Quality Management) model.

Malta

In Malta, revenue and expenditure are tracked by the Accounts Section - audited accounts are presented every year and published as an annual report. The assessment of programme goals occurs when

the annual report is generated, and through the performance assessment of individual staff and teams, who have their performance objectives. The latter are related to the objectives defined in the business plan.

Netherlands

In the Netherlands, budget tracking is achieved by using indicators. Performance indicators are an important instrument for this. The current situation is assessed through an initial inventory. Subsequently, through regular monitoring of the indicators, efficiency is verified. Performance indicators can be the number of permits issued by the inspectorate or the number of site visits compared to the number of inspectors, etc. The complexity of the process depends on the diversity of the delivered products.

In addition, internal management reports are drawn up by the in-house managers during the course of the year. These are checked by the Control Department with the emphasis on the activities promised in the budget. On the basis of these checks, the Inspector General and the directors concerned meet regularly and management plans are adjusted where necessary. Following certain incidents, some new choices are made and other activities are discontinued. This assessment system is reported to have worked well in 2003⁴⁸.

Norway

In Norway, data from a time management system is imported monthly to a business planning database. This, combined with accounting data, allows the regulator to appraise its efficiency. In addition these data are compared to the annual control plan.

Poland

In Poland, the following procedure is implemented: By the end of each year, the analysis of budget execution has to be completed and the report on the use of resources is presented to the Ministry of Environment. In addition, there are different control processes:

- Internal procedures conducted by an internal controller from the Chief Inspectorate for Environmental Protection or Ministry of Environment;
- Audit undertaken by external auditors from the Ministry of Finance;
- External audit conducted by the Supreme Chamber of Control. Its aim is to check the legality, effectiveness, purposefulness, and solidity of Inspection activities and usage of funds.

United Kingdom

In the UK, the Agency uses time recording and management and financial accounting systems to record income and expenditure. Monthly management financial and operational reports are produced which enable monitoring against budgets and key performance indicators. Individual business cases are required to include planned efficiency savings and methods of reporting these. The Agency also has an overall efficiency programme which is incorporated into its Corporate Plan.

⁴⁸ <http://www2.vrom.nl/docs/internationaal/InspectorateAnnualRep2003nw.pdf>

ANNEX 9. EXAMPLES OF BUDGET ALLOCATION FOR CAPITAL INVESTMENT

Canada

Environment Canada's capital assets are focussed on research and other scientific activities and include four broad categories of capital assets:

- Specialized facilities and land holdings to conduct environmental science research, develop technologies, and protect critical wildlife areas;
- Scientific equipment to conduct laboratory analyses and monitor the status and trends in the environment;
- Information technology infrastructure and equipment to run scientific equipment and facilitate communications;
- Fleet, including off-road vehicles, to transport personnel to study sites and allow needs for a speedy response to programmes.

Czech Republic

In the Czech Republic, the budget for capital investment is estimated for five years ahead. This has been assisted through a twinning project.

Ireland

In Ireland, the needs for fixed assets of the EPA are met from a combination of capital grants, approved borrowing, and allocations from current revenue. Funding sourced from grants is transferred to a capital account which is amortised in line with the depreciation of the related assets. Depreciation is estimated on a straight line basis at the rates stated below:

- 2% Buildings;
- 10% Furniture and fittings;
- 15% Laboratory and field equipment;
- 25% IT and computer equipment;
- 20% Motor vehicles.

Finland

In Finland, capital investments for the activities of the state authorities are so small that they are not allocated to a separate budget line. Subsidies to water sewerage and purification are allocated separately.

Netherlands

In the Netherlands, capital investments are undertaken through an annual enforcement programme and through (risk) impact assessments. Multi-year budgeting is applied. Replacement costs are based on lifetime estimates which are laid down in governmental rules.

Norway

In Norway, the need for capital investments related to inspections is minimal. Multi-year budgeting will be difficult as Norway has a single-year budget system. However, it is considering multi-year planning of inspections as a means of improving its efficiency.

Poland

In Poland, there is no specific multi-year budgeting applied to estimate future needs in capital investments. Funds for capital investments (laboratory equipment, etc.) come from:

- Environmental protection funds – 8.4 per cent of the whole inspection budget;
- National budget – 1.5 per cent of the whole inspection budget;
- “Special source” – 0.5 per cent of the whole inspection budget.

United Kingdom

In the UK, a business case is required for all significant capital investment, making an assessment of the available options and the costs, risks and benefits. An approval structure is in place, where the level of approval (from local management through to the Government Minister) is dependent on the total cost of the investment. Business cases are assessed over a five year period and there are set rules for determining the life of an asset, depending on the type of asset.

ANNEX 10. EXAMPLES OF APPROACHES TO DEAL WITH NEW BURDENS

Czech Republic

In the Czech Republic, the Inspection has to operate within its allocated budget, so it is not possible (within the current year) to obtain additional funds for new burdens (or, as stated above, change budget lines).

Finland

In Finland, when a new law is enacted the assessment of the necessary resources is obligatory. The assessment of required resources is made on the basis of the new tasks.

Netherlands

In the Netherlands, the assessment is made by analysing burdens resulting from new regulations in the past (historic data), and estimating the amount of additional effort which would be needed for implementation and enforcement of expected new regulations in the work areas. Generally, inspectorates try to track developments so as to plan three years ahead (at least). Two areas of particularly important new burdens include the Seveso Directive – that deals with accidents from hazardous installations – and the Integrated Pollution Prevention Control Directive. The former required a new approach, moving away from just setting permits and inspecting sites, but also required coordination with health and safety authorities and the fire brigade about required skills in assessing safety plans and report. This engaged a new process, new links, and new skills. For IPPC this also implies a new approach, of integrated permits and inspections (or at least appropriately coordinated), as well as entailing significant new demands for new permits.

United Kingdom

In the UK, a regulatory impact assessment (by the Ministry, supported by the Environment Agency) is carried out, which assesses the cost and benefits of proposed regulations. This is based on an assessment of Agency costs and the agreed method of funding (in the majority of cases, environmental regulation is funded through charges to licence holders). The Agency calculates its costs based on its experience of regulating similar activities and/or by building up costs of the individual activities/resources required for regulation. The scale of the “new burden” of IPPC was assessed relatively early, noting the likely complexity of the permit and inspection needs, and building on this and experience with permitting and inspection, “costs of permits” were estimated.

ANNEX 11. EXAMPLES OF TRADITIONAL AND INNOVATIVE APPROACHES TO CLOSE BUDGET GAPS

Bulgaria

In Bulgaria, there is a gap between projected and actual funding requirements. Financing of (mainly) monitoring activities through the Enterprise for Management of Environmental Protection Activities and realization of some “own revenues” through monitoring and laboratory activities are providing measures to close this gap. The first priority for dealing with shortfalls is to adapt existing tools and take other measures to raise the efficiency of work under the current budget. Bulgaria is in a Currency Board arrangement with the International Monetary Fund, according to which a specific budget deficit is fixed, and therefore no government institution is flexible enough in determining new areas of revenues or expenditures that would enhance the budget deficit limits. Due to the Currency Board arrangements, as a government institution, there is limited flexibility in choosing alternative financial sources. In this respect the establishment of the Enterprise for Management of Environmental Protection Activities is considered the most appropriate approach to close the gap.

Finland

In Finland, there are some budget shortfalls. The operations are adjusted to meet the budget. The permit procedure is the highest priority. Inspection and monitoring are secondary. The authorities would first look to the increasing of operations. The operations are adjusted to meet the budget. Examples of major challenges were the new legislation for environmental protection implementing the IPPC Directive (year 2000) and the redistribution of authority between local and regional authorities and reorganising the Water Courts to Permit Authorities (also year 2000). Permit fees have been raised to the target of covering 50 per cent of the costs, based however, on anterior costs .

Malta

In Malta, there is expected growth in permits and inspections and the MEPA is expected to have to grow from a turnover of around four million Maltese Pounds (LM) to around six or even seven million LM in due course, when all legislation is implemented and full permit and inspection activities are underway. There is expected to be a deficit in the future if, as seems realistically possible, government funding does not grow at the same pace. The measure most likely to achieve narrowing of the funding gap is cost recovery via permitting and enforcement. This is based on a policy decision to implement the polluter-pays principle. Malta is also hoping to continue to attract European Union money for key capacity building/training activities. In addition, the MEPA is looking at a number of ways of increasing efficiency:

- Standard operating protocols need to be developed to ensure that operations are carried out with improved efficiency. It is expected that a regular review of operations will indicate areas where performance can be improved, as was the case with the handling of planning permits and enforcements;
- The possibility of cooperation between agencies with respect to longer-term issues are being explored. There is significant local interest in a one-stop shop with respect to regulation, and the effect of regulation on competitiveness.

Netherlands

In the Netherlands, there is no deficit for the water inspectorate, but if deficits arise, the following measures would be available to close the gap:

- Increasing efficiency of inspection activities (internal);
- Renewed priority setting;
- Re-allocation of funds;
- Attempting to increase the budget (internal);
- Attempting to increase the budget (external).

For the other inspectorates, there are sometimes concerns raised that the planned budget will be insufficient to deal with the (growing) burden of tasks. The local authorities submit requests for funding increases from VROM to ensure sufficient funds are available. VROM explores the scope for efficiency gains first, then negotiates what is a sensible budget increase, if any.

There are priorities for increasing efficiency of inspection activities (internal) and renewed priority setting. Many provinces set up their own ranking systems based on environmental emissions/impact (prime ranking indicator), level of “environmental care” (*e.g.* attitude, use of EMS), and (non)compliance record. In some provinces this leads to a ranking being given to each company/installation, ranging from zero points (worst) to 10 (best) with six being the standard level. Above six can lead to fewer inspections and below to higher inspections, ensuring that resources are allocated to where the likely benefits from efforts are greatest. It was found that compliance records should not be the most important indicator, but rather than environmental impact should be, as practice in the Netherlands showed some cases where the benefits of focusing on bad compliance records but low impact installations were a lot lower than higher impact installations where the compliance record was average.

Norway

In Norway, there is no shortfall in the budget. If a funding deficit were to occur, costs would be cut in secondary activities. The SFT performs inspections/audits in all parts of Norway. Distances between enterprises can be great. Thus it is important to ensure that there is co-ordination and/or combined inspections in (distant) regions. The SFT also organises controls in projects or clusters according to lines of industry, etc. There is also formalised co-operation with seven other inspectorates such as the Norwegian Labour Inspection Authority, and the Directorate for Civil Protection and Emergency Planning. For example, the latter has assisted the SFT in mapping PCB when inspecting the electrical safety of fluorescent tubes. The SFT also seeks improved co-operation with the County Governors.

Out-sourcing, such as greater use of third party auditors, is also under consideration. As previously stated, lack of funding is not a problem. If public funding remains at the same level as today, it will also not become a problem in the foreseeable future. In an international context, “the Norwegian system” works fairly well and has done so for a number of years. There are several reasons for this:

- The SFT has sufficient public funding, *i.e.* the national environmental policy is reflected in the national budget;

- There are the legal and financial means to implement the full regulatory cycle: Issuing permits, controlling, **and** responding to non-compliance. Over the 30 years since the SFT was founded, it has established a good working relationship with industry.

Poland

In Poland, there is a gap between projected and actual funding requirements. To close the gap the Inspectorate tries to use sources from environmental protection funds or to apply for sources from the special budget reserve. The funds that come from environmental funds are the most promising sources for closing the deficit of financing. On the issue of efficiency, the Polish Inspectorate recognises that it is important to improve efficiency of work, but in practice, the Inspectorate finds this difficult, as individual inspections can sometimes take a lot of time and the next inspection does not. It is trying to develop indicators, but wishes to base these on wider internationally-accepted work.

In 1990, a “List of 80” was established, which lists eighty industries identified as being particularly serious polluters, and requiring strict inspection and control – this risk-based list of 80 was not only based on inspectorate analysis but also had strong political and public input, so that NGOs, etc, focus on them. This, therefore, helps the Inspectorate’s work. By ensuring compliance with adjustment programmes specified for the individual firm, the companies may be removed from the list. Following this approach, 52 firms complied and were taken off the list by 2001, others were added, leaving in total 40 firms on the list in 2002⁴⁹. Inspection costs are covered by the state if a firm is in compliance while, if not, the firm has to cover the costs. Poland also operates a “fine suspension system” by which, if a firm undertakes investments that eliminate the cause of the fine, it can avoid paying the fine or the share that equals the cost of the undertaken investment. In 2000 and 2001 respectively, 94 per cent and 99 per cent of firms that invested instead of paying a fine, met the compliance targets.

Slovakia

In Slovakia, dealing with gaps in funding can be problematic. Usually there is no possibility of obtaining additional government grants, etc. Raising fees and charges is also not a practical option as these are transferred to the overall state budget, so would provide no immediate access for the Inspectorate.

Spain

In Spain, the limited budget is a constraint, and a requirement for additional funds would result in seeking these from central sources. The first option for tackling a funding problem would be to adapt existing tools to look for the problems and then to study what kind of measures should be taken.

Sweden

In Sweden, there is a gap between the cost of the work with permits and inspection and enforcement done by the authorities, and the sums paid for EHAs. There are several reasons for this gap. First, it was very difficult to estimate relevant fees for all the different activities listed in the Ordinance for Fees for Permits and Inspection. One reason for that was that the Environmental Code and its ordinances added a new dimension to the concept of inspection and enforcement. Second, the fees were published in 1997, and since then the general level of costs has risen.

⁴⁹ Panek-Gondek K (2002), *Experience of the Inspectorate for Environmental Protection in implementation and enforcement of environmental law in Poland*, Paper presented at the 6th International Conference on Environmental Compliance and Enforcement, April 2002. See: http://www.inece.org/conf/proceedings6th_2.html#2 (accessed 29 March 2004).

The SEPA report number 4790 pointed out the necessity of evaluating the system and adjusting the fees, if necessary. The decisions necessary to make evaluations and adjustments must be taken on all levels - local, regional, and central - and in a political context, where different opinions on who must pay what in society are at stake.

United Kingdom

In the UK, the Government allocates grants and agrees resources through its Spending Review process. For England and Wales, this occurs every two years and covers a three year period. The allocation of resources results from a needs-based appraisal and once a settlement has been agreed, the Environment Agency may re-prioritise its allocation of grant-funded resources to activities.

There are constraints on the Agency's ability to increase its revenue to fund additional resources, in that grants and funds from charges require allocation/approval by the Minister. This restricts the scope for addressing unplanned funding deficits through increases in charging revenue. The Agency therefore uses a risk-based approach for regulation of environmental licences. It currently applies this approach to several key regulatory regimes, such as Integrated Pollution Prevention and Control (IPPC), and is in the process of extending the approach to other regulatory regimes. The Agency continually seeks to improve efficiency, whether through re-structuring, revising the tools it employs or out-sourcing of activities.

Longer-term measures being implemented to increase efficiency include:

- Sharing the cost of the Agency's science programme with science institutions and other similar organisations;
- Sharing the costs of providing hydrometric information with the Meteorological Office;
- Reducing the net costs of the Agency's National Laboratory Service through undertaking commercial work for external clients.

The DEFRA and the Agency are also currently undertaking a joint review of the scope and mechanisms of the Agency's charging regimes. One of the aims of this review is to investigate the extent to which the polluter is paying for the costs of Agency regulation, to ensure that there is not an unnecessary burden on the taxpayer.

Efficiency enhancing measures to date include:

- Moving to a common permit format to obtain economies of scale;
- Having an electronic/on-line permit application form that will also tell operators the likely permit fees;
- Training external consultants who can then be accessed when there are "humps" in the workload, reducing risk of reduced quality if the same staff have to process more applications, or need for increasing staffing levels permanently for a short-term need;
- Using inspectors to help set permit conditions and review permits. This has a double benefit: Firstly, practical knowledge is brought to bear and only "what is inspectable" is noted in the permit; and secondly this adds additional resources to address the permitting "hump", and also arguably helps to avoid capacity-building leakage by using an "in-house" resource.

A process review has also been undertaken, which has identified more efficient means of delivering compliance assurance programmes. For example, the Agency has centralised the processing and

determination of IPPC permits, in three centres of expertise. Activity-based costing has recently been implemented which will enable the Agency to assess its efficiency through internal and external benchmarking.

United States

In the USA, as in many other countries, the EPA provides an annual report to the government (in this case to Congress), noting the results of its activities in each fiscal year. There is an Annual Performance Report, required under the Government Performance and Results Act (GPRA). This report forms the bridge between goals and objectives presented in the EPA strategic plan⁵⁰ and budget activities. Importantly, Chapter 8 of the plan, highlights areas that need further attention for the achievement of strategic goals⁵¹. There are also tools for evaluating the effectiveness and efficiency of operations, of compliance-assistance activities, and of criminal investigations and enforcement training programmes (see web pages⁵²).

⁵⁰ see <http://www.epa.gov/ocfo/plan/2000strategicplan.pdf>

⁵¹ see <http://www.epa.gov/compliance/planning/results/gpra.html>

⁵² see <http://www.epa.gov/compliance/planning/results/perfmeasdata.html> , <http://www.epa.gov/compliance/planning/results/tools> and <http://www.epa.gov/oeca/resources/reports/review/oceft-managementreview.pdf>

ANNEX 12. SUMMARY REPORT OF THE EXPERT MEETING ON FINANCING ENVIRONMENTAL COMPLIANCE ASSURANCE (4-5 MAY 2004, OECD HEADQUARTERS, PARIS)

Introduction

As part of the OECD/EAP Task Force project on financing environmental compliance assurance activities an expert meeting was organised on 4-5 May 2004, at the OECD Headquarters in Paris. The meeting had the following objectives:

- To review good international practice in assessing and meeting costs of regulatory compliance assurance, and
- To discuss the challenges in funding compliance assurance faced by environmental enforcement authorities in the region of Eastern Europe, Caucasus and Central Asia (EECCA).

During the meeting, experience from the OECD and Central European countries, as well as those from Balkan region and countries of Eastern Europe, Caucasus and Central Asia (EECCA), were presented. Although special attention was paid to challenges faced by the transition economies, the meeting and the findings of the workshop provided insights into financing of enforcement efforts in the OECD Member countries.

The discussion was based on a draft Background Report “Financing Environmental Compliance Assurance Activities in the OECD Countries” prepared on the basis of the OECD and CEE country responses to a questionnaire developed by the Secretariat. The report presented the results of analyses of the principles for funding enforcement efforts, sources of funding, funds allocation and budget management, as well as approaches to address the deficit in funding environmental compliance assurance activities by better using existing, and introducing innovative, means.

The current summary presents the points raised during the meeting that require further description and explanation in the final report. In addition, the summary presents information on the EECCA countries experience and challenges in funding enforcement efforts which should be addressed in the future, possibly through country-specific activities.

Key issues for further consideration

The participants considered that the analysis presented in the draft report shed more light on the mechanisms that exist in OECD countries for ensuring sufficient, stable and predictable funding of work performed by environmental enforcement agencies/inspectorates. The report was regarded as a useful reference in exploring ways to ensure better budget management and adequate responses in cases of funding gaps.

At the same time, the participants raised several issues which would require further better description in the final report. These included the following:

- **Interpretation and application of the key principles.** The findings of the report and the discussion during the meeting revealed that the interpretation of the Polluter Pays Principle in the context

of funding regulatory efforts vary between countries. In some countries, the principle is interpreted as allowing the governmental agencies to charge industry for carrying regulatory functions, including compliance assurance; in other countries administrative costs related to pollution control are considered as part of the general costs of administration, which should be funded from the state budget to which industry contributes through the general taxation.

The participants requested further exemplification of the different application of the Polluter/User Pays principles and its impact on the funding options. Further explanation was requested on the relations between the principle of full cost recovery and the Polluter/User Pays principles. The discussion also brought about questions related to the methods of calculating and collecting permitting/inspection charges, and the potential conflicts of interest while providing regulatory services, especially in cases where revenue raising goals of enforcement agencies may create perverse incentives for inspectors' action.

- **Influence of legally assigned responsibilities and institutional frameworks, especially at the sub-national level.** Environmental enforcement agencies can be responsible for enforcing a wide range of requirements: from industrial pollution to nature protection. As the scope of inspectors' work have an impact on funding and budgeting processes further explanation would be useful on the possible approaches to designing inspectorates' responsibilities which would allow better matching the tasks with the feasibility of carrying them out and optimising the overall administrative costs.

An important aspect which requires further attention is the influence of vertical structures within the inspectorates and their relation with public administration at the sub-national level. The sub-national units of environmental inspectorates are frequently linked to, or part of, the regional (or local) public administration. Sometimes, the economic development agendas of the public administration push environmental concerns to the end of priority tasks for funding. To enable an effective enforcement of environmental legislation at the sub-national level, mechanisms need to be established to secure stable funding and preventing redirecting the funds transferred from the state budget for compliance assurance to other purposes. This will also help to ensure the high and uniform quality of public service across the country. At the same time, the different roles of the Environment and Finance Ministries in the development of long-term budget planning, and approaching the budget management, requires further analysis. This is important to ensure longer term stable and predictable funding of enforcement agencies.

Priority setting of inspectors' actions, the application of risk-based calculation of regulatory burdens, performance-oriented budgeting and multiyear budget planning. The participants stressed that these approaches could have significant positive implications for strategic and operational planning and budgeting as they can help to manage workloads according to strategic goals and targets. In this connection, the approaches to the estimation of funds required to respond to new/additional regulations as well as to addressing budgetary problems arising from emergency events, such as accidents, need to be further analysed and discussed.

- **Addressing funding gaps internally and externally.** The report should present a broader range of options to close funding gaps in enforcement programmes. The possible approaches could include: revising work plans, increasing efficiency of operations, seeking additional government and non-governmental funds, outsourcing, seeking support of, and using synergies working with, other government authorities.

The participants agreed to provide additional comments on the draft report to the Secretariat by the 31st of May, 2004. It was agreed that the report, after the final revisions, will be disseminated in July 2004 to enforcement networks, including REPIN, BERCEN, Impel and INECE for comments.

Experience from transition economies, challenges and ways forward

During the meeting, the participants from the South East Europe (SEE) and EECCA countries presented their experience on funding environmental enforcement efforts. The participants also agreed that further in-depth analysis should be performed through country-specific projects. These can be carried as stand alone projects or can be integrated into larger technical assistance projects supporting enforcement agencies. These projects would aim at supporting selected countries in assessing resource-intensity and budget management of environmental enforcement agencies and optimise the agency funding.

The main points from the presentations of Armenia, Belarus, Kyrgyzstan, Ukraine, Uzbekistan as well as Croatia and Macedonia are summarised below.

Principles

The **polluter-pays-principle** is applied in the EECCA region through a system of pollution charges and taxes. Several participants reported that, since permitting and inspections are purely public functions, environmental authorities should be fully funded from the state budget. However, since the state budgets face severe deficits in many cases the revenue raised through pollution charges is used to support compliance assurance, mainly its infrastructure.

Several speakers stressed that the principle of **prevention of conflicts of interest** is not applied or applied partially. For example, in Belarus bonuses may be paid to inspectors from revenues collected through fines for non-compliance. In some countries, a greater focus on the implementation of this principle has been recently put under the pressure of International Financing Institutions (*e.g.* in Ukraine).

All government authorities develop annual budgetary programmes that comprehensively describe the planned use of funds. However, the principle of **performance-based budgeting** is slowly gaining ground in EECCA. Even though it has recently been applied in Ukraine the State Environmental Inspectorate finds this system difficult to implement since meaningful indicators of performance have not been yet established.

Nature of inspectorates and institutional framework

In the EECCA region, as in OECD countries, the responsibilities of environmental inspectorates in the regulatory cycle and the sectoral coverage vary. Besides permitting and inspecting industrial operations, most of the EECCA authorities control nature protection. Merging inspection authorities into unified oversight institutions is a general trend in the EECCA region. However, in some countries separation of environmental enforcement authorities into smaller units is still the case, which can lead to inefficiencies. For example, in Kyrgyzstan since the separation of the forest inspection into an independent agency some duplication of functions occurred and high initial investment into facilities and personnel training was required without clear benefits for the environment. In addition, ambient monitoring is seldom part of the inspectorate which may bring the problems of access to sufficient data and its interpretation.

Environmental compliance assurance can also be assigned to different levels of government. In some countries **local public authorities** have recently received the mandate to regulate local industry. Although this is a positive trend but in most cases the inspectorates at the sub-national level do not receive adequate resources to perform their operations as they depend on the regional administration's budgets.

A number of speakers referred to **frequent structural reforms** as a detracting factor in ensuring stable funding of compliance assurance. The high frequency of institutional changes results in some organisations being “paralyzed” for several weeks or months. The frequent changes which occur at all levels of the institutions stimulate high staff rotation. This leads to lack of institutional continuity and the need to train new staff more frequently.

Financing sources

The main financing sources for environmental enforcement agencies in the EECCA region are:

- Grants from state budget and regional/local budgets;
- Provision of services (*e.g.* laboratory analysis, or advice and actual development of applications for permits, in particular calculation of Emission Limit Values);
- Budgetary or extra-budgetary environmental funds.

In addition, permit fees are applied and provide revenue for some inspectorates. The calculation of these fees proceeds from the assessment of resource-intensity of the permitting process. For example, in Kyrgyzstan an index of resource-intensity of permitting is calculated every year which gives the basis for assessing facility-specific fees. None of the EECCA countries uses inspection fees. Participants requested further analysis of the feasibility of introducing administrative charges on permitting and inspection, as well as on their calculation.

Legal limitations to the use of certain sources of financing exist in some EECCA countries. These limitations aim to avoid perverse incentives and corruption. For example, the law on financing sources for governmental authorities of Ukraine require that the salaries of the public administration staff are provided by the state budget. In Armenia, a higher budget discipline has been achieved after the government banned the inspectorate’s right to establish extra-budgetary accounts.

Budgeting process

The budgeting process in the EECCA inspectorates usually follows the procedures applied for the whole public administration which is provided by the Ministries of Finance. In Armenia the Environment Ministry calculates operational budgets per one staff member on the annual basis. Projection of revenues is based on the information on collection of pollution charges or monetary penalties in previous years. It is believed that **political agenda and the political connections** have stronger impact on the access to finance than a robust cost analysis. At the same time, when the political will is supported by well-developed technical documentation it can help leaders to defend the requests for increased funding.

Some countries (*e.g.* Ukraine and Armenia) introduced multi-year indicative budgeting. Strategic planning, based on concrete targets (*e.g.* compliance rates to be achieved), has not been yet introduced. In Kyrgyzstan (and some other countries) the assessment of human resources required would not have any impact on the budget, since the number of Full Time Units is calculated by the Ministry of Finance and communicated to sectoral ministries. In Ukraine, the restriction on staff number applies only to the central authority.

Salaries and social payments are the only **“protected” budget lines**. Thus it may happen that due to general budget cuts the enforcement authorities do not have any other funds than for paying their staff without any “activity” money. Despite this fact, they still are accountable for the implementation of their work programmes and go as far as applying innovative though informal approaches such as, for example, requesting industry to cover travel costs related to on-site inspections.

The participants signalled a problem of high administrative **resource-intensity** of the compliance assurance system due to the lack of automation possibilities and effective information management procedures and tools. This is aggravated by the fact that inspectors are requested to perform such tasks as checks of the correctitude of calculations for pollution taxes and, sometimes, collection of these taxes.

Presenters pointed out that the duration of procedures to receive **emergency funding** prevents inspectorates from reacting timely to pollution accidents. For example, even though the Ukrainian environmental fund can finance emergency situations its procedures are not adapted at all to fulfil this function effectively.

Recently, a strong link has been established between **fighting corruption** and institutional capacity building of environmental inspectorates and allocation of adequate resources. For example in Armenia a programme of institutional building, including staff training, of the environment inspectorate has been included in the poverty reduction strategy.

Addressing budget deficit

Budget deficits are addressed using such approaches as: requesting support from environmental funds, increasing the provision of paid services, raising external technical assistance and outsourcing some tasks. Often inspectorates proceed to cuts in their operations and investment in infrastructure. As a result of such cuts, for several years in the majority of EECCA countries capital investments into facilities were completely eliminated. In the laboratories which still exist; operational costs are at a “symbolic” level. The participants requested further support to analyse and establish innovative mechanisms for addressing funding gaps.