Administrative Capacity for Implementation and Enforcement of EU Environmental Policy in the 13 Candidate Countries

SUB-STUDY ASSIGNMENT REQUEST N°6

DGENV CONTRACT: ENVIRONMENTAL POLICY IN THE CANDIDATE COUNTRIES AND THEIR PREPARATIONS FOR ACCESSION

A Final Report to DG Environment

Service Contract B7-8110 / 2000 / 159960 / MAR / H1

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DG ENVIRONMENT Service Contract B7-8110/2000/159960/MAR/H1

SUB-STUDY 6

Administrative Capacity for Implementation and Enforcement of EU Environmental Policy in the 13 Candidate Countries

1 Introduction

This is the Final Report of the sub-study assignment request No. 6 on the *Administrative Capacity for Implementation and Enforcement of EU Environmental Policy in the 13 Candidate Countries,* as part of the DGENV contract on environmental policy in the Candidate countries and their preparations for accession, Service Contract B7-8110 / 2000 / 159960 / MAR / H1.

This sub-study has been carried out by Dr Andrew Farmer of the Institute for European Environmental Policy, London (Team Leader), ECOTEC and FEI, supported by experts and organisations from across the Candidate Countries.

1.1 Aim and scope of the study

The implementation of the EU environmental *acquis* is a necessary condition for each Candidate Country that is seeking membership of the Union. While much emphasis has been placed upon the transposition of EU legislation into the national law of these countries, the European Commission has made it clear that such laws must be clearly implemented. In order to ensure that implementation is effective, it is necessary to have administrative structures with an adequate capacity to ensure compliance. Various studies have been undertaken to analyse such systems in individual Candidate Countries, usually for specific parts of the *acquis*. However, this report provides an overview of the current status of these administrations in order to assist in future capacity enhancement. The sub-study was commissioned by DG Environment with the following aims:

- To provide a clear overview of implementation and enforcement structures of the candidate countries in the field of environment;
- To provide detailed information on the administrative arrangements for inspection, including the capacity of the relevant institutions;

- To provide a description and analysis of the processes of permitting and inspection;
- To identify strengths and weakness in administrative structures and processes for the implementation and enforcement of EU environmental Directives;
- To produce recommendations as to how these weaknesses can be addressed;
- To identify the extent to which current and planned initiatives will contribute to this task.

1.2 Method of approach of the study

This study was undertaken between January and May 2001. The work was largely undertaken as a desk exercise. The research involved the following steps:

- Collation of information on the institutional requirements derived from the EU environmental *acquis*, necessary to ensure effective and complete compliance.
- Collation of information from existing studies (PHARE projects, DISAE projects, PEPA studies, NPAAs, other sub-studies, etc) to provide an initial overview of the institutional arrangements in each candidate country.
- Further work by country experts in each Candidate Country to update and elaborate on each of the initial assessments.
- Analysis of the results to determine both specific and common conclusions.

The analyses sought specifically to identify the institutional structural arrangements and processes in view of the implementation and enforcement of the *acquis*. These included an assessment of capacity, eg staff numbers, and had a particular emphasis on:

- Institutional structures;
- Permitting;
- Monitoring;
- Inspection.

These assessments were devised not only to seek basic descriptive information concerning institutional capacity, but also to obtain some understanding on the effectiveness of those institutions. In particular, they point out both strengths and weaknesses in view of EU environmental directives and make clear recommendations as to how these weaknesses can be addressed.

The level of detail available for each Candidate Country proved to be variable. While basic information on administrative structures and competencies is generally available, the degree of existing analysis that has been undertaken on their systems and effectiveness is highly variable. This is reflected in the information presented in this report.

1.3 Structure of the report

The report begins by providing a summary of the requirements for enforcement institutions that can be derived from assessment of the EU environmental *acquis* itself and with some principles derived from a general assessment of effective systems in Member States. It then provides a country by country analysis in four sections, covering administrative structures, permitting, monitoring and inspection. Each of these sections includes some concluding analysis and in particular highlights strengths and weaknesses. Strengths and weaknesses specific to individual countries are highlighted and discussed within the country sections, while more generic strengths and weaknesses are analysed in the general conclusions. Finally, the report concludes with overall conclusions and analysis, making recommendations for further action.

2 Directive requirements for institutional roles and responsibilities

2.1 Institutional requirements specified in EU legislation

This section will provide some general comments on institutional issues relating to the permitting, inspection and enforcement issues within the EU environmental *acquis*. It is important to note that the EU environmental *acquis* makes very few explicit references to detailed institutional arrangements. The legislation establishes standards to be met, procedures to be followed, etc. It is generally left to Member States[1] to ensure that institutions are informed, modified or established to meet these. Thus such institutions reflect not only the need to meet EU legal requirements, but also the particular institutional culture of the Member State concerned. As a result, this analysis will show few direct requirements derived from EU legislation, with most being indirect or appropriate. The analysis below of the institutional requirements of the acquis is of particular relevance to the institutional capacity development in the Candidate Countries in their progress towards accession.

Characteristics of competent authorities

- The environmental *acquis* makes little reference to whether competent authorities should be established at a national or local scale. However, there are certain functions which are best carried out by a national authority and others which need to be undertaken at the local level. For example, the administration and testing of vehicle type approval is best undertaken by a national authority, whereas river basin management would be best undertaken at a regional level and inspections of petrol stations best undertaken locally.

- Competent authorities have a range of tasks to perform, including planning, monitoring, reporting, licensing, quality assurance, designations, inspection, public information, enforcement and dealing with emergencies.

- At the national level, there is a need for a range of competent institutions to be responsible for different aspects of the environmental *acquis* as there is a need for a range of specialisms.

- If local authorities are not under a legal obligation to fulfil certain functions, then the national government will need reserve powers to intervene if they fail to act appropriately.

Institutional aspects of permitting and inspection

- An important task of competent authorities, prior to individual permitting, is planning and general management programmes. This often set the context for regulatory requirements for individual activities. Such programmes are required by many Directives, such as the dangerous substances, groundwater, air framework, waste framework, water framework and strategic environmental assessment Directives. Competent authorities must take a strategic view of processes that impact on the environment and of particular sensitive components of the environment, as well as developing programmes with close public consultation.

- A vital task of the competent authority is permitting. Permits are required under any EU legislation which established specific limits to emissions from processes. This includes process specific Directives, such as incineration, urban waste water treatment and landfill Directives, as well as IPPC. It also includes medium specific Directives that require processes to be regulated, such as the water framework Directive. Permitting requires systematic and transparent procedures to be adopted which ensure the regulated organisations understand what is required and that those undertaking the permitting can process applications in a fair manner and in a comparable way in different parts of the country. Permits must clearly state what is and what is not permitted and what improvement programme may be required. An important issue is the need for integrated permits under IPPC. Indeed there would be advantage for common permits/applications with other areas of legislation (see below). It is not necessary that one institution is responsible for assessing all of the conditions of the permit (air, water, waste, energy efficiency, etc). However, co-ordination is essential to produce a result which minimises impacts on the environment as a whole and industry would seek to liase with one institution as the main point of contact. A general institution that could cover most of the aspects of IPPC would certainly be an advantage.

- If an enforcement institution is separate from that issuing permits, it is necessary that both work closely together so that information from inspections can be used in revision of permits. A separation of functions is useful in a legal sense. However, it becomes much harder to operate where the conditions in permits are closely linked to local environmental conditions (ie not just following national/EU standards). In this case inspectors, those undertaking environmental monitoring and those issuing permits must work closely to determine what is required and what is achievable.

[1] Legislation applies to Member States and through the accession process to the Candidate Countries.

- The institution may undertake a considerable amount of monitoring itself (or contract out such work) as much of this cannot be undertaken by self-monitoring polluters, etc. This requires skilled field and laboratory technical staff, analytical facilities and data manipulation skills. However, in the area of industrial regulation much of this function may be passed on to the operators themselves.

- It is also clear that the competent authority would have significant interaction with the public. This will be both on the need for individual consultations, but also in informing the public of general environmental information, eg collated from the institutional monitoring. This requires skills in presentation and communication. It may also be useful to establish electronic systems for public consultation (eg a website on the internet).

- An additional issue relating to permitting concerns the potential separation of the functions of permitting and inspection between different institutions. The *acquis* itself does not address this issue. This is because the separation of such functions into different institutions is not common across the EU. It is a matter of individual choice within Member States.

- The key question is how important is information received from inspection and enforcement activity in determining permit requirements? A second question is where does environmental monitoring information play a role? If a common standard is applied to a particular process (eg an emission limit established under the large combustion plants Directive), there is little need for feedback, other than to indicate that an operator does or does not comply (and therefor affects future applications for authorisation). However, if the details of the permit depend on detailed environmental and technical issues, then the inspector is likely to understand the process and its impacts more clearly and this information must be fed into the determination process. In this case the permitting authority has the final say, but is heavily reliant on the enforcement authority. Finally there is a need for environmental monitoring information in both permitting and enforcement and it is usual that this function is attached to the enforcement authority, not least so that it can assess whether changes in the environment are taking place. Again such information must be available to the permitting authority.

- There is, therefore, an over-riding need for the two authorities to be in close communication. Monitoring information should be routinely available to the permitting authority. It is also appropriate for the enforcement authority to establish guidelines for environmental objectives in a given area that may be referred to by the permitting authority.

- If the two authorities are the same institution (even if there are many such institutions at a local level), the problem of communication largely disappears, as it is usual for the inspector to be involved in the permit determination.

Supporting institutions

- It is important for all environmental enforcement to be based on sound science. Most of the industrial *acquis* requires extensive monitoring and research institutions can undertake this on behalf of a competent authority, provided they undertake monitoring according to specified standards in EU legislation and that they are subject to an accreditation procedure to ensure high standards are maintained.

- However, where action under IPPC is taken to meet environmental quality objectives (eg air quality standards), research is necessary to determine what those objectives may be, ie what the local environmental quality should be. This is the task of research. A particular concern of IPPC would be to develop assessment tools to determine ways of comparing impacts of processes to different media in order to inform the choices open to the regulator, eg the relative impacts of emissions to air and water.

- Such institutions should be quality controlled by the competent authority/ies to ensure that they are able to complete the tasks required of them.

- At the national level, the co-ordination of air quality information and quality control needs to be undertaken by a technically competent authority. This could either be a government laboratory, a department of the environmental protection authority or a specialist laboratory under contract to national government. It is often more cost effective to undertake analysis in this way rather than maintaining the necessary analytical and scientific expertise in house.

Co-ordinating structures and processes between institutions

- The range of institutions involved in implementing the industrial pollution control and risk management *acquis* varies considerably between Member States. However, the advent of IPPC and other more comprehensive EU legislation (eg the water framework Directive) may lead to the evolution of more integrated institutions covering a range of issues. However, it is extremely unlikely that any one institution would be responsible for implementation of the entire *acquis*, so it

is important mechanisms are established to enhance co-ordination between competent authorities in order to maximise environmental gain and to maximise efficiency.

- Co-ordination is essential as regulation must be viewed as an integrated activity. To issue a permit, it is usually important to understand the state of the ambient environment. Once permitted, monitoring is essential. Inspection ensures compliance with permits and provides information to feedback to revised permitting and also assists in monitoring. These steps may involve more than one institution. However, to improve efficiency, to improve environmental protection and to assist in relations with stakeholders (including operators) these steps must be seen as part of a whole process, not separate processes.

- One means to improve co-ordination may be to form joint bodies for supervision of issues of on-going mutual interest to more than one institution. If agreement between institutions is difficult, such joint bodies may be chaired by a Ministry official or other outside person. Joint inspections may be appropriate. It may also be appropriate to communicate with the public in a co-ordinated way or even through one channel. This not only ensures consistency of approach, but reduces public confusion. A similar approach should be taken with communication with industry.

- There is also a need for co-ordination between the local authorities and the law enforcement agencies (for example in respect of traffic control). Within local authorities, effective co-ordination between those who monitor air quality and those responsible for implementing emergency measures is essential. It is necessary to ensure that there are processes which ensure that authorities which are responsible for the implementation of environmental legislation are supported by the enforcement authorities.

Staff skills and experience and training

The implementation of the acquis requires a wide range of skills. These are:

- legal (interpreting and enforcing legislation)
- chemical (eg fuel analysis)
- engineering (vehicle type approval and roadworthiness testing, understanding industrial processes)
- analytical (for routine monitoring and sampling for incidents)
- quality assurance
- good record keeping
- technical

- communication (interaction with the public and remote, automated monitoring points)
- administrative
- planning (skills needed to develop integrated plans)
- diplomatic (for liaison on transboundary issues)

- The exact detail of the skills required can only be determined as legislation is implemented and the gaps in the skill base become apparent.

- Training should seek to meet any skill shortages from the list above. However, it is also important that staff are trained to operate the administrative systems adopted within the institutions, eg on how to issue permits or undertake inspections, to ensure common procedures across the country.

- Staff training in procedures, environmental understanding, customer relations is an important area. It is also possible that common themes in training needs within Accession States may be identified within AC-IMPEL and joint training sessions organised. More usefully, skill gaps in one Accession State may be met by exchange of experience with skilled staff in another Accession or Member State. This should be a preferred route to achieve staff training, although no more than a few staff could be involved in exchange or similar programmes.

General issues relating to monitoring and inspection

- Monitoring is an important component of much of the *acquis*. There are two types of monitoring - general monitoring of the ambient environment to observe changes (and compliance with EU environmental quality standards - EQS) and compliance monitoring, eg assessing whether pollutant emissions are within permit conditions. Much of this report is concerned with the latter, although the specific limits established in a permit may be required to achieve an EQS and ambient monitoring is needed to assess whether this has been successful. In order to meet the requirements for monitoring an institution must first establish clear procedures for monitoring. In particular, any monitoring relating to enforcement activity must follow objective procedures and use well calibrated equipment and trained personnel. Any monitoring that may relate to enforcement may also need to establish procedures (ie protocols for preservation of samples and record keeping) and facilities (eg secure storage that avoids degradation) for archiving of physical samples that may be required should a legal dispute arise.

- It is also necessary that all details of monitoring procedures established in EU legislation are compared closely with domestic practice and changes made. This may relate to the location of

sampling, sampling frequency, analytical procedures used or parameters monitored. However, while EU legislation does specify monitoring frequencies, etc, for much ambient monitoring, this is generally not the case for compliance monitoring. This requires judgement. Clearly use of continuous monitors is beneficial. However, inspectors must be have the flexibility to target monitoring at installations that they deem to be at most risk of non-compliance. Monitoring of installations must provide sufficient detail to assess whether permit conditions have been complied with. Thus it may require continuous monitoring of pollutant emissions, details of management practices, etc. This information is then available to the inspector during routine or surprise inspections. If insufficient information is produced during monitoring, then a full assessment of compliance may not be possible.

- It is likely that, in seeking to apply procedures obligatory under legislation or appropriate under legislation, gaps will be identified in some of the institutional aspects of monitoring. Some of these may be remedied by management changes (eg altering sampling points), although others may require significant investment and a plan should be drawn up to achieve this. The level of investment will depend upon the number of installations, types of pollutants to be monitored, current monitoring capacity and prevalence of self-monitoring (see below). Investment may include new equipment and training for staff to operate it. Funding must also ensure that there is an annual budget for necessary analytical supplies and regular calibration. In a few cases where monitoring capacity is very low some infrastructure investment may be needed.

- In all cases institutions need to adopt appropriate record keeping procedures to ensure consistency and to enable responses to legal or other inquiries. It is also important to ensure effective and efficient information flow between monitoring, permitting and enforcement institutions (either as separate institutions or departments within the same institution). Where monitoring institutions act to 'support' enforcement institutions (see above), they must have the information systems to achieve this. Information relating to individual installations must be collated in one place, together with local ambient environmental data. Computer based systems assist in this, but co-operation between staff remains the highest priority. It is also necessary to provide a means to provide information to the public. This may be through the operation of public registers which may be visited, some form of summary information more widely available and other means of obtaining environmental information itself.

Self-monitoring

- Self-monitoring is beneficial in that it readily passes costs of monitoring onto the operator, it ensures the operator is constantly reminded of the receiving environment and it meets the polluter pays principle. However, it is important that the enforcement institutions have confidence in those undertaking self-monitoring, eg through accreditation of companies or consultants. This obviously includes, initially, an analysis that they are able to do so, eg can they take samples and analyse them using correct procedures? Secondly, it is important that the self-monitoring is undertaken honestly. A company may be very careful of its public image and work carefully to ensure self-monitoring is objective, accurate and effective.

- It is always important to cross-check self-monitoring of environmental pressures with results from ambient environmental monitoring. Thus the latter should be in a form which may register changes and enable some ability to link these changes with potential pollution or other problems. Some companies may also pay for or aid in the monitoring of the environment.

Enforcement structures and processes

- The *acquis* does not set out enforcement structures and processes - this is very much determined by the Member States and reflects their own judicial history and traditions. Any enforcement procedure should aim to be effective, yet proportionate. A range of instruments should be established to provide different penalties, it should be clear to whom these apply and the application must be consistent.

- The enforcement institutions should work with legal institutions to establish appropriate penalties. It is common for environmental offences to be treated leniently by the courts and this is often due to a lack of understand of their seriousness.

- Fairness is vital and appeal processes for those subject to non-compliance responses must be available. In a judicial context, systems for appeals, etc, are usually already available. However, the enforcement institution may have a number of earlier tools available (eg formal warnings, requirements for reparation, the threat of the withdrawal of licences, seizure of property, fines, etc) which should also be open to appeal procedures.

- There may also be a role for the public in allowing appeals for action either to the enforcement institution or to the courts.

Institutional requirements identified in the EU environmental *acquis*

This table outlines the main institutional requirements (structural and process) required by the EU environmental *acquis*, arranged according to different environmental sectors. The information is, of necessity, brief. A full analysis is beyond the scope of this study and previous analyses (for the *acquis* or individual sectors) have been undertaken under previous projects. However, this outline does highlight the capacity issues against which the institutions of each Candidate Country need to be judged. It should be noted that many items of EU legislation make only limited explicit reference to these issues. Thus this table includes the following:

- those issues explicitly required in legislation;
- institutional requirements implicitly required in order to ensure full compliance.

Most EU Directives do not specify how a competent authority, for example, should be structured (eg whether it is national or local in character). They also do not often specify many capacity issues, eg staff numbers, quality control, etc. However, it is expected that Member States ensure that competent authorities have the necessary resources and procedures to ensure that implementation of EU Directives is achieved. Thus all features of an institution that could be considered as necessary in order for it to implement legislation effectively are always an implicit requirement of EU legislation.

Sector	Planning	Permitting	Monitoring	Inspection	Non-compliance response
Horizontal	EIA Directive requirements environmental assessments for certain classes of project.	EIA Directive links to provision of development consent.	EIA must include data on environmental impacts, using formal tools.	Few specific requirements, other than general monitoring of the quality of EIAs.	Failure to produce an EIA should prevent consideration of project proposals.
Air	Air framework Directive requires plans where limit values may be at risk of being exceeded.	New vehicles must receive type approval through a national certification agency. Fuel and VOC Directives do not require licences, but they are often a pre-requisite for effective monitoring.	Air framework Directive (and daughters) requires monitoring of urban air quality to specified requirements to determine if limit values are complied with. Authority might be local or national. Vehicle emission Directives require new vehicles to be tested by manufacturers, so a competent authority must oversee this. Fuel quality Directives also require industry to test fuel, overseen by a national competent authority.	Roadworthiness testing of vehicles requires local test centres, with an authority to ensure quality control. VOC Directive requires a competent authority to inspect petrol stations, etc, to ensure compliance.	Non-compliance with the air framework Directive requires a response, eg via IPPC or on transport (eg land use planning). Sanctions need to be in place for vehicles not achieving roadworthiness tests.

Water	The framework Directive is based on integrated river basin management and the development of programmes of measures, with significant institutional consequences. Other Directives, eg nitrates, UWWT, etc, require the development of plans to meet specific environmental objectives. The role of integrated planning is to be emphasised in the forthcoming new proposed bathing water Directive.	Discharges to water require permits. These are more obviously required by the dangerous substances Directive and UWWT Directive and, without specifying the sources, by the framework Directive. However, other constraints on pollution, such as nitrates, also require some for of notification or permit. Action to achieve quantitative water objectives under the framework Directive could involve permits for abstraction.	A wide range of monitoring requirements occur. The framework Directive requires a full assessment of water status for all surface and ground waters, based on ecology and chemistry. It includes general monitoring and monitoring targeted at problem areas. Monitoring is also required for UWWT, nitrates and bathing waters. The framework Directive provides links between ambient monitoring, discharge monitoring and permit conditions.	Inspection is an implied activity, as Member States must ensure compliance with discharge limits, eg UWWT or application of nitrogen on farms.	The framework Directive requires Member States to identify effective measures to achieve good status. This includes measures for non-compliance, as well as alternative approaches to direct regulation such as taxation. Non-compliance with drinking or bathing water standards also requires communication of this to the public, so effective action might be taken.
Waste	Member States must draw up plans for: type and quantity of waste, suitable disposal sites and arrangements for special wastes; plans for management	All facilities treating, storing or tipping waste require permits. Waste shipments require permits. Waste to be incinerated requires a permit.	Waste arisings and types must be monitored. Transport of hazardous waste and types of waste going to landfill or incineration should be monitored to	Facilities carrying out disposal or recovery of waste or hazardous waste must be inspected. Landfill sites must be inspected prior to use. Sites for disposal	Many Directives prohibit specific activities, eg fly-tipping, disposal of waste oils to soil, incineration of PCBs, mixing of waste types,

	of hazardous waste; plans for packaging waste; national strategy for reduction of biodegradable waste; plans for decontamination of waste containing PCBs.	Landfill sites require a permit containing specific minimum conditions. Disposal of waste oils requires a permit. All facilities managing waste with PCBs requires a permit. The use of untreated sludge requires authorisation.	ensure compliance with landfill and incineration Directives. Specific contaminants, eg PCBs or the content of sewage sludge, also must be monitored. The types and quantity of packaging also require monitoring.	of waste oils and sewage sludge also require inspection. Incinerators should be inspected. Many waste sites are included in the regulatory regime of IPPC (see below).	etc. Effective non-compliance responses are implied to ensure such activities cease. Illegal movement of waste requires Member States to take 'appropriate legal action to prohibit and punish illegal traffic'.
Industry and Risk Management	A variety of site plans are required, including those for accident prevention and management under Seveso and for site remediation under IPPC.	Industrial activities require permits, principally through IPPC. Permit conditions must be defined according to BAT (including ensuring full compliance with EU environmental standards). BAT encompasses many issues and is a technically demanding assessment. Permits under the solvents Directive may specify simple limits or good	Emissions from industry should be monitored to ensure compliance as well as to form the basis of an emissions inventory. Activities in the plant should be monitored to ensure safe practice. Under the solvents Directive emissions or mass-balance assessments are required.	Inspection is needed to ensure compliance with permits. These will be of variable complexity, given the nature of BAT. Inspection is also required by the Seveso and solvents Directives to ensure compliance.	Member States must ensure compliance and the *acquis* implies effective deterrence is in place. In particular, where an activity, through non-compliance, poses a threat to the environment, measures must be in place to prevent continuance of that activity.

		practice.			
Nature conservation	The emphasis in the *acquis* is on the development of plans for individual sites and species in order to achieve favourable conservation status. These must identify pressures on that status and measures to counteract them.	Most nature conservation legislation does not specify permits, although this might be good practice to ensure that activities on or near protected areas are controlled and do not pose a threat to favourable conservation status.	Sites and species must be monitored in order to determine current conservation status, trends towards targets and the impact of any threats to that status.	Inspection is necessary to implement CITES, ie to ensure that prohibited species do not enter or leave the country.	Damage to designated sites and species should result in a response against those which cause the damage. Such liability is proposed in the environmental liability white paper. Effective deterrence should also be introduced to ensure compliance with the CITES Regulation.

2.2 Specific requirements relating to inspections

In April 2001 the Recommendation (2001/331/EC) providing for minimum criteria for environmental inspections came into force. This Recommendation establishes a range of specific criteria for the operation of individual inspections. It is important that institutions charged with the responsibility of undertaking inspections within the Member States and Candidate Countries have sufficient capacity to meet these requirements. However, within the broad assessment of this study, it is not possible to judge the likely performance of the Candidate Countries against these more detailed requirements.

The Recommendation is, however, important for this study in that it provides the clearest rationale for undertaking inspections provided in EU legislation and it provides an outline of a framework for such inspections.

The Recommendation states 'the existence of inspection systems and the effective carrying out of inspections is a deterrent to environmental violations since it enables authorities to identify breaches and enforce environmental laws through sanctions or other means; thus inspections are an indispensable link in the regulatory chain'. In the review of legislation summarised above it was noted that specific *explicit* requirements for inspections were often lacking in a number of Directives. This Recommendation clarifies that such inspections are expected for much of the acquis: 'Community environmental legislation obliges Member States to apply requirements in relation to certain emissions, discharges and activities; minimum criteria on the organisation and carrying out of inspections should be met in the Member States, as a first stage, for all industrial installations and other enterprises and facilities whose air emissions and/or water discharges and/or waste disposal or recovery activities are subject to authorisations, permit or licensing requirements under Community law'. Thus, even if a Directive does not specify an inspection is required, installations covered by that Directive are now covered by the Recommendation.

While much of the Recommendation concerns the details of what an inspection consists of, it also requires that Member States have a plan or plans for environmental inspections, covering all of the territory of the Member State and all of the controlled installations within it. Such plans must include all relevant EU legal requirements, a register of all controlled installations, a general assessment of environmental issues and state of compliance and data from previous inspections. This plan (or plans) is a strategic document. It is important for this study in that it would identify capacity issues in the inspection system within a Member State. Without an overall plan it may be difficult to understand the nature and frequency of different types of inspection and to assess these against some common

standard. This sub-study will assess the current capacity of the candidate countries in their ability to comply with the requirements of such plans.

3 Roles and Responsibilities for the *acquis* in the Candidate Countries

3.1 Introduction

The effectiveness of institutions within a Candidate Country to implement the *acquis* depends upon:

- The administrative structures that are adopted. This includes the number and type of national ministries, whether implementation is undertaken by national, regional or local institutions and the relationship between these institutions.
- The structures within an institution, eg whether there are separate departments for each medium. This includes the ability of an institution to consider an integrated approach to environmental protection.
- The formal and informal communication and coordinating mechanisms that exist between institutions, eg to ensure feedback between policy and practice.
- The number of staff an institution has and how these are effectively deployed.
- Technical support, eg equipment resources.
- The expertise of the staff.
- Staff morale.

This section provides basic descriptive information concerning the institutional roles in the Candidate Countries for the implementation of the EU environmental *acquis*, addressing most of the issues listed above. Some are clearly open to objective description, eg the competencies of a national ministry. Many are more subjective, especially in any quantifiable fashion. However, in the brief descriptions below (set out country by country) clear and repeated messages occur.

3.2 Bulgaria

In Bulgaria the main national institution responsible for the implementation of environmental legislation is the Ministry of Environment and Water (MoEW). An overview of institutional responsibilities in Bulgaria is given in table 3.2.1. The role of MoEW is to:

- Develop environmental legislation (including the transposition of the EU environmental *acquis*)
- Develop and implement general and sectoral environmental policies, strategies and plans
- Develop economic instruments, such as charges, sanctions, etc. for implementation of the environmental policy.
- Manage and control the implementation of environmental projects, financed by external resources, incl. PHARE, ISPA, etc.
- Finance environmental projects through the National Environmental Protection Fund.
- Manage and control of protected areas.
- Protect biodiversity.
- Issue permits for use of natural and mineral resources.
- Decide on EIAs for large plants and activities of national importance.

Table 3.2.1. Overview of institutional responsibilities in Bulgaria

Sector/Directive	Legislative development	Strategic planning	Permitting	Monitoring	Inspection and enforcement	Reporting
Air quality						
Air framework	MoEW Protection of Air Quality and Waste Management Division		Regional Inspectorates	EEA	Regional Inspectorates	Regional Inspectorates
Fuel quality and VOCs petrol	MoT		MoT	MoT	MoT	MoT
Vehicle emissions	MoT		MoT	MoT	MoT	MoT
VOCs industry	MoEW Protection of Air Quality and Waste Management Division		Regional Inspectorates and local authorities	Regional Inspectorates and local authorities	Regional Inspectorates and local authorities	Regional Inspectorates and local authorities
Water quality						
Water framework and surface water standards	MoEW Water Division		Regional Inspectorates	Regional Inspectorates and EEA	Regional Inspectorates	Regional Inspectorates
Urban waste water	MoEW Water Division		MoRD	MoRD	MoRD	MoRD
Drinking water	MoH		MoH	MoH	MoH	MoH
Nitrates	MoAFLR		MoAFLR	MoAFLR	MoAFLR	MoAFLR
Waste management						
Waste framework	MoEW Protection of Air Quality and Waste Management Division		n/a	n/a	n/a	n/a
Landfill	MoRD		MoRD and local authorities	MoRD and local authorities	MoRD and local authorities	MoRD and local authorities
Hazardous waste	MoEW Protection of Air Quality and Waste Management Division		Regional inspectorates and local authorities	Regional inspectorates and local authorities	Regional inspectorates and local authorities	Regional inspectorates and local authorities

Incineration	MoEW Protection of Air Quality and Waste Management Division	Regional inspectorates	Regional inspectorates	Regional inspectorates	Regional inspectorates
Sewage sludge	MoAFLR	MoAFLR	MoAFLR	MoAFLR	MoAFLR
Industrial pollution control					
IPPC and other emission regulation	MoEW (and MI)	Regional Inspectorates	Regional Inspectorates	Regional Inspectorates	Regional Inspectorates
Industrial accidents	MoEW (and MI)	Regional Inspectorates	Regional Inspectorates	Regional Inspectorates	Regional Inspectorates
EMAS	MoEW	n/a	n/a	n/a	n/a
Nature conservation					
All	MoEW National Service for Nature Protection	Regional Inspectorates	Regional Inspectorates	Regional Inspectorates	Regional Inspectorates

- Issue permits for waste management activities, when they are conducted on the territory of more than one Regional Inspectorate for Environment and Water.
- Issue permits for import, export and transit shipment of waste.
- Issue permits for import of hazardous substances.
- Provide concessions on the use of mineral water, originating from sources with national importance.
- Approve the measures for liquidation of past environmental damages in privatized companies.
- Prepare an annual report on the state of environment (Green book).
- Coordinate the activities of regional bodies (RIEW) of the MEW.

The MoEW is divided into a number of departments/agencies covering specific areas:

- **Strategy, European Integration and International Cooperation Division**: project management and co-ordination of projects implementation; participation in the development of legislation and policies in all environmental sectors;
- **National Environmental Protection Fund**: main source of co-finance for environmental projects;
- **Water Division:** development and implementation of water quality legislation and policies;
- **Geology and Mineral Resources Division:** development and implementation of national legislation and policies for environmental protection regarding mining industry;
- **National Service for Nature Protection:** development and implementation of legislation in nature conservation sector;
- **Prevention, Protection of Air Quality and Waste Management Division:** development and implementation of horizontal, air quality and waste management legislation and policies;
- **General Division for Coordination of RIEW:** coordinates the activities of RIEWs, control and management of hazardous substances, implementation of legislation in the chemicals sector.

In addition the **Executive Environmental Agency (EEA)** is a specialised body within the MoEW responsible for:

- environmental monitoring.
- developing methodological guidelines for the Regional Inspectorates (see below) regarding measurement and analysis.
- collecting processing and disseminating environmental information about the state of the environment.
- preparing and publishing the Yearbook for the State of the Environment in Bulgaria.
- reporting to the European Environmental Agency.

Other national ministries also have environmental protection responsibilities and these include:

- **Ministry of Health (MoH):** monitoring of the implementation of drinking water standards. The Ministry together the National Centre on Hygiene, Medical Ecology and Nutrition and its regional

bodies - The Regional Hygienic Epidemiological Inspections (HEI) are the competent authorities on assessment of the health risk caused by industrial and other activities.

- **Ministry of Agriculture, Forests and Land Reform (MoAFLR):** protection, restoration and maintenance of soil fertility, protection of water from nitrates contamination, use and protection of forests. **MoAFLR** is the competent authority on management of the agricultural wastes and the chemicals applied for crop protection.

- **Ministry of Regional Development and Public Works (MoRD):** implementation of policy in the area of territorial planning and public works, development of water supply and sewerage systems (Urban Wastewater Treatment Directive), development of the National Plan for Regional Development. MoRD is the competent authority in regard to development of legislation that should be met by waste treatment facilities, requirements on the construction and operation of equipment and installation for disposal of municipal solid waste and the conditions and requirements for construction and operation of landfill sites. The MoRD together with the MoEW annually acquire funds from the state budget for construction of facilities and installations for treatment of municipal solid waste.

- **Ministry of Transport (MoT):** prepares standards for emissions from transport and regulates their implementation. MoT is also the competent authority on hazardous waste transportation.

- The **Ministry of Industry (MI)** is the competent authority for the management of waste at company level and issuing licenses for trade activities with ferrous and non-ferrous metals.

- The **National Statistical Institute** is the official public institution dealing with data collection and processing of quantities and sources of waste, environmental expenditures, information collected according specific questionnaires, etc. The aggregated data could be further utilized for statistical purposes, analysis and prognosis.

The main **regional level** responsibilities lies with the **15 Regional Inspectorates for Environment and Water (RIEW)** which are responsible to the MoEW and cover the following areas:

- Monitoring of implementation and enforcement of legislation.
- Supporting municipalities in developing and implementing environmental policy programs.
- Dissemination of environmental information to public.
- Issuing of decisions on EIAs for sites and activities of regional importance.
- Issuing of permits for activities and installations for treatment of waste.

3 Directorates of National Parks have also been recently established.

At the local level **Local authorities** also have the following responsibilities for implementing environmental legislation:

- Development of environmental protection programmes.

- Development and implementation of waste management programmes.
- Determination of local taxes and fees for waste management in regard to the requirements of the *Local Taxes and Fees Act.*
- Setting out the requirements towards natural and legal persons acting on their territory, considering different activities related to environmental protection.
- Approving guidelines, regulations and instructions on environmental issues, including Waste Management Ordinances.
- Approving measures aiming at improvement and restoration of the environment.
- Controlling of hazardous waste disposal in their territory.
- Construction, maintenance and operation of urban wastewater infrastructure.
- Public information.
- Monitoring of compliance with environmental regulations of small facilities of local importance.

The number of staff at the local level depends on the size of municipalities. Larger municipalities have Environmental Divisions, but in the smaller ones only a limited number of people are concerned with environmental management. There are often significant gaps in staff numbers and in their expertise in relation to what is needed to meet the requirements of the *acquis*.

Discussion of general capacity issues

Co-ordination between national level institutions

Although the MoEW has a very broad remit, it relies on the following other institutions for the implementation of specific environmental legislation, or to support its own work, but for which it is not in direct control:

- Provision of additional information for the state of Environment by the National Statistical Institute.
- Classification of waste in relation to their hazardous properties by the National Centre on Hygiene, Medical Ecology and Nutrition.
- Implementation of legislation for hazardous substances by the Ministry of Healthcare.
- Determination of the water qualities for mineral springs by the Ministry of Healthcare.
- Development of plans for the sewage systems from Ministry of Regional Development and Public Works.
- Development and approval of standards from the National Agency of Standardization and Metrology.
- Management of some specific waste such as animal carcasses, waste from meat processing from Ministry of Agriculture and Forests.
- Development and approval of State Budget by Ministry of Finance.
- Implementation of border control by the State Customs Agency.

Inter-Ministerial groups (see below) assist in co-ordination.

Co-ordination between levels of administration

The communication between different levels has recently significantly improved. In particular responsibilities considering implementation of the legislation are now distinguished clearly.

At present the regional level administration is subordinate to national ministries (principally the MoEW). However, regional administrations are under development and it is not yet clear what relationship these will have to the RIEWs. If these are in some way incorporated into the regional structures, this may affect their relationships with national Ministries and with each other. The Regional administrations are new structures, established through the requirements of The Regional Development Act. The Regional Governor is obliged to organise development, public discussion and implementation of Regional Plan for Development. This plan should incorporate concrete projects, including environmental projects.

Level of Integration across media

There is a well-established mechanism for integration of the opinion of all interested institutions during the development and final approval of every legislative proposal, policy document, etc. Through the 'Working Group 22 Environment' all documents are discussed which relate to the approximation of the EU environmental *acquis*. All Ministries have a representative in the working group. However, while inter-Ministerial groups improve the consistency of legislation and general policy development, there remain problems of co-ordination of implementation on the ground (see later sections). Co-ordination now avoids obvious conflicts between Ministries. However, additional co-ordination is necessary (eg between officials) to assist in beneficial synergistic policy development.

In general environmental media are treated separately in accordance with the sectoral laws for waste, water, air, etc. This is further expanded upon in later sections on permitting and inspection. However, at this point it should be noted that the apparent integrated institutional structure in Bulgaria (ie MoEW and Regional Inspectorates for much of the *acquis*) masks the poor co-ordination between some departments. It is essential that staff are brought together (formally and informally) to integrate their respective roles in approximation. The EIA procedure and environmental audits (EIA on existing enterprises) are an opportunity which allows implementation of an integrated approach within the framework of existing legislation. However, the proposed new Environmental Protection Act will introduce the integrated approach in dealing with environmental issues, including IPPC.

Resources and staff numbers

The process of integration of EU legislation poses serious problems for every institution. In particular these relate to workload (especially for transposition and more detailed regulation of industry, etc) and the need to accommodate novel EU requirements (eg ambient environmental monitoring). In this respect, development and enforcement of legislation requires additional human and technical resources. In general there is no lack of communication of information. However, there may be a delay in providing necessary information because of lack of human resources. The number of staff is not generally sufficient and, in particular, the adoption of new legislation does not usually take account of staff resource requirements. Additional staff can be appointed where necessary, but only following explicit approval as the number of staff is fixed for every institution by Decree of Council

of Ministers. While some additional staff are needed at the national level (for legislative development), the main resource requirements are at the regional and local level. Regional authorities will bear most of the workload of enforcement. The current structure provides a good base to build upon (eg the expertise and range of staff), but is not sufficient for full approximation. Local authorities present additional problems, especially in their role as regulators of smaller industries and waste management sites. Current standards of regulation fall well short of that required in the *acquis* and financial constraints on local government present serious problems in improving staff numbers, training and equipment.

The annual budget is co-ordinated with the Ministry of Finance (Council of Ministers) and approved by the Parliament with the State Budget Act. The MoEW can decide on the budget expenditure within an approved annual budget. Overall, the budget is limited, especially on training, software development and equipment (for example, some RIEWs have significant IT resource problems).

Usually there are administrative fees for permits. These are paid once with submission of the application for permit. Usually such fees do not cover monitoring and inspection costs of the institution. There are proposals for the fees for permits to be increased and to be determined on annual basis. Such charges should include all expenditures of the competent authorities on the issuing of permit, inspection and monitoring.

Skills and training

There are well educated staff in most of the institutions. Sometimes there is a lack of long-term experience in the area of the environment, usually for younger staff. However, in general, for positions such as head of sector, department and division, people are appointed with long- term experience. Having said this there is a need for training on environmental project preparation and presentation (especially at municipal levels) and a general requirement for training on implementation of EU legislation. The latter particularly includes the enhancement of procedures for enforcement and compliance and in the environmental assessment of industrial and other activities in relation to EU environmental standards. While experience on specific environmental issues can be strong, the capacity to make economic and financial evaluations related to implementation of the *acquis* is very limited.

General

A number of institutional capacity problems exist in Bulgaria. However, it is important to note that the institutional arrangement is relatively integrated and efforts are being made to improve co-ordination. Key problems include:

- Resources are a major concern. This relates to staffing and equipment and affects most institutions. It is probably the largest constraint on development.
- Co-ordination still needs improving. However, it is important to support current trends in national level activity in this regard. The new river basin structures will also require co-ordination structures to ensure effective implementation.
- Integration of environmental protection deserves more emphasis, especially given that this should be achieved within a single institution.

3.3 Cyprus

Responsibilities within Cyprus are extremely complex for such a small country. The key government departments with roles in implementation and enforcement include:

- The **Ministry of Agriculture, Natural Resources and Environment** (MANRE), which has prime responsibility for many aspects of the environment discharged through its Environment Service and several other Departments;
- The **Ministry of the Interior** (MoI), which is responsible for town and country planning, including related environmental issues. **The Department of Town Planning and Housing (DTPH)** of the MoI is responsible for policy and legislation in this area and also acts as the planning authority outside the four major conurbations of Nicosia, Larnaca, Limasol, and Paphos. It is responsible for imposing environmental conditions (based on recommendations of the ES and the EIA Technical Committee) through the planning permit, and participates in the EIA Technical Committee.
- The **Ministry of Finance** (MoF), with responsibility for financial planning and budgetary control (including the staffing of other Ministries). **The Planning Bureau (PB)** of the MoF has a specific role in relation to the accession process, and reports through the Minister of Finance Directly to the President. The PB is responsible for ensuring that the accession targets are met, and has access to a dedicated harmonisation budget that can be drawn on by various departments, not only for infrastructure investments but also for technical assistance (experts, studies, training). The PB also advises the Ministry of Finance (Personnel Service) on future needs for staff and resources within government departments and agencies.
- **The Ministry of Labour and Social Insurance** (MLSI) has primary responsibility for industry 'inside the factory gate'. This covers environmental issues as well as safety, health and dangerous substances (including asbestos).
- The **Ministry of Health** (MoH), which has responsibility for many aspects of water quality.
- The **Ministry of Commerce Industry and Tourism** (MCIT) is the 'sponsoring' department for industry and is also responsible for energy.
- **Local Authorities** (Municipalities and Communities) are not as well established as in many countries and (with the exception of the Metropolitan Sewage Boards in key urban areas) have only a limited environmental role.

There are also two **Technical Committees** relating to the environment, one responsible for evaluating **Environmental Impact Assessments** and the other for reviewing the **Licensing of Discharges and the Registration of Processes** under the laws (respectively) for the Protection of Water and the Protection of Air.

Responsibilities in relation to different media include:

Water:

- The Water Development Department (WDD) of MANRE is responsible for most aspects of the implementation of water policy and the management of water resources (supply and use). The WDD's role includes the mapping of water resources (hydrological and hydrogeological data), the planning, design, construction and operation of water supply infrastructure (including domestic

water supply and irrigation systems), sewerage and wastewater treatment (outside the major urban areas) and the monitoring of water resources (quality and quantity).

- The Geological Survey Department (GSD) of MANRE is responsible for mineral and groundwater exploration and hydrogeological/geotechnical data. Its main environmental roles relate to the impact of pollution on groundwater, including impacts of hazardous waste, landfilling and geotechnical investigations, and programmes on the monitoring of nitrates and PCB decontamination.
- The Department of Fishery and Marine Resources (DFMR) of MANRE is responsible for controlling and combating marine pollution, and for monitoring water quality in dams.
- The Public Health Service (PHS) of the MoH has an inspectorate responsible for the monitoring of drinking water quality and other environment-related aspects of public health (including the monitoring of groundwater quality where it is used for drinking water, seawater quality (bathing beaches) and swimming pools.
- Municipalities are nominally responsible for water supply, sewerage and wastewater treatment and rainwater drainage (under the Municipalities Law). The major Municipalities discharge their responsibilities for wastewater collection, treatment and disposal through Municipal Sewage Boards (MSBs), which are established as separate entities but linked to the Municipalities.

Responsibilities for Permitting are:

- General/Urban Waste Water: MANRE Environment Service and Water Development Department.
- Agricultural Pollution: MANRE Department of Agriculture.
- Drinking Water/Bathing Waters/Groundwater: MoH Public Health Service.
- Fisheries Waters: MANRE Dept of Fisheries & Marine Resources.

Responsibilities for Monitoring are:

- Water Quality/Drinking Water: MoH Public Health Service/State General Laboratory.
- Urban Waste Water: MANRE Environment Service and Water Development Department.
- Agricultural Pollution: MANRE Water Development Department, Environment Service, Department of Agriculture.
- Fisheries Waters : MANRE Dept of Fisheries & Marine Resources

Responsibilities for Inspection and Enforcement are similar to those for Monitoring, except that MANRE's Water Development Department and Environment Service play a stronger role.

Waste Management:

The inspectorate of the Public Health Service (PHS) of the MoH is responsible for public health aspects of waste management (including, along with the ES and WDD, landfill site inspection). The Cyprus Ports Authority (CPA) handles oily waters and refuse from ships in port areas.

Municipalities are nominally responsible for water supply, sewerage and wastewater treatment, rainwater drainage, street cleaning, refuse collection and disposal and 'the protection of the natural environment' (under the Municipalities Law). The major Municipalities (greater Nicosia, Limasol, Larnaca, Paphos) are also Town Planning Authorities, responsible for issuing permits for the construction and operation of new developments in their areas.

In general, the responsibilities of individual organisations with respect to the waste sector cover Permitting, Monitoring and Inspection/Enforcement, although different organisations are responsible for different aspects:

- MANRE's Environment Service is the competent authority for most aspects of waste management;
- MoI's Department of Town Planning and Housing is responsible for structural planning aspects, and shares responsibility for EIA with the Environment Service;
- MLSI's Department of Labour Inspectorate is responsible for many aspects of operation, and particularly for air quality aspects (e.g. incinerator emissions);
- MCIT is responsible for industrial operations such as battery recycling and packaging waste;
- MoH's Public Health Service and State General Laboratory play a limited role with respect mainly to monitoring.

Air:

Responsibilities for most aspects of Permitting, Monitoring and Inspection/Enforcement in relation to air pollution control and air quality rest with the MLSI's Department of Labour Inspection. The MOH's State General Laboratory also plays a role in monitoring. The MCIT is responsible for refinery operations and fuels.

Industrial Pollution Control:

- The MLSI's Department of Labour Inspectorate (DLI) also has primary responsibility for many environmental issues relating to industrial pollution control across Permitting, Monitoring and Inspection/Enforcement.
- The Ministry of Commerce, Industry and Tourism (MCIT) is responsible for industrial development and energy issues, including industrial pollution prevention (such as grant support for the installation of wastewater treatment and air pollution control systems at industrial plants).
- The Cyprus Electricity Authority (CEA), the state-owned power-generation utility, has some responsibilities relating to demand-side management and CO_2 reduction targets from its plants.

Nature Protection:

- The Department of Forests (DoF) of MANRE is responsible for the management and exploitation of state forests (which account for 19% of the area of Cyprus) and can declare nature reserves and national forest parks within those forests. The DoF also assesses the impacts of atmospheric pollution on the forests.
- The MoI's Game Fund (GF) is responsible for the enforcement of the Game and Wild Birds Law and for the regulation of hunting.
- MANRE's Environment Service has a role in relation to international conventions such as CITES.

Table 3.3.1: Staff Numbers at Key Ministries/Agencies

Ministry/ Agency	*Total Staff*	*Staff Responsible For Environmental Issues*
Ministry of Agriculture, Natural Resources and Environment:		
Environment Service	7	7
Water Development Department	400	<100
Department of Agriculture	150	<20
Department of Forests	276	<26
Department of Fishery and Marine Resources (DFMR)	65	10
Department of Veterinary Service	12	<3
Department of Mines and Quarries	12	3
Geological Survey Department	50	<20
Ministry of Labour and Social Security		
Department of Labour Inspectorate	n/a	31
Ministry of the Interior		
Department of Town Planning and Housing (DTPH)	n/a	<20
Ministry of Finance		
Planning Bureau	n/a	2
Ministry of Health		
Public Health Service	n/a	50
State General Laboratory	n/a	2
Municipalities *	n/a	n/a
Communities **	n/a	Very few

Note *: There are a total of 24 municipalities in Cyprus

Note **: There are a total of 352 communities in Cyprus

Table 3.3.2: Responsibilities for Implementation and Enforcement In Cyprus

SECTOR/Directive	Legislative Development	Strategic Planning	Permitting	Monitoring	Inspection & Enforcement	Reporting
Air Quality						
Air Quality Framework	MLSI (DLI)		MLSI (DLI)	MLSI (DLI) MoH (SL)	MLSI (DLI)	MLSI (DLI)
Fuel Quality	MCIT for refinery operations/fuels MLSI for industrial fuels/combustion MCW for vehicle emissions		MCIT for refinery operations & fuels MLSI for industrial fuels used for combustion MCW for vehicle emissions			
Emissions from Mobile Machinery	MLSI (DLI)		MCW (DEMS) will be Type Approval Authority			
VOC Emissions (Petrol)	MLSI for terminals/fuel stations MCW for trucks		MLSI for terminals/fuel stations MCW for trucks			
VOC Emissions (Solvents)	MLSI (DLI)		MLSI (DLI)			
Water Quality						
Framework	MANRE (WDD)		MANRE (ES) MANRE(WDD)	MoH (PHS) MoH (SGL) MANRE (WDD)	MANRE(WDD)	MANRE
Surface Water Quality	MANRE (WDD)		MANRE(ES) MANRE(WDD)	MoH (PHS) MoH (SGL) MANRE (ES)	MANRE(WDD) MANRE (ES)	MANRE
Urban Waste Water	MANRE(WDD) MANRE (ES)	MoI (planning) MANRE(WDD) MSBs	MANRE (WDD), MANRE (ES) for environ. issues MoI (DTPH) for planning MSBs for implementation in municipalities			MANRE (WDD)

Nitrate Pollution from Agriculture	MANRE (DoA) MANRE (WDD) MANRE (GSD) MANRE (ES)	MANRE (DoA)	MANRE (WDD) MANRE (ES) MANRE (GSD) MANRE (DoA) MANRE (DFMR)		MANRE
Drinking Water	MoH (PHS) MANRE (WDD)	MoH (PHS)	MoH (PHS) MoH (SGL)		MoH (PHS)
Bathing Waters/Fish Waters/Shellfish Waters	MANRE (ES) MANRE(DFMR)	MoH (PHS) MANRE (DFMR)	MoH (PHS) MoH (SGL) MANRE (DFMR)		MoH (PHS) MANRE (DFMR)
Groundwater	MANRE (ES) MANRE (WDD) MANRE (GSD)	MoH (PHS) MANRE(WDD) MANRE (GSD)	MoH (PHS) MoH (SGL) MANRE (WDD) MANRE (GSD)		MANRE
Waste Management					
Framework Directive	MANRE (ES)	MANRE (ES) as competent authority MoI (DTPH) & MANRE (ES) for planning aspects MCIT for industrial aspects			MANRE (ES)
Landfill of Waste	MANRE (ES) MoI (DTPH)	MANRE (ES) MoI (DTPH)	MANRE (ES) MLSI (DLI) MoI (DTPH)	MANRE (ES) MLSI (DLI) MoH (PHS)	MANRE (ES) MLSI (DLI)	MANRE (ES) MoI
Waste Oils/PCBs/PCTs	MANRE (ES)	MANRE (ES) as competent authority/discharges MLSI (DLI) for incineration MANRE (GSD) for PCB decontamination				MANRE (ES)
Hazardous Waste	MANRE (ES)	MANRE (ES) as competent authority MLSI (DLI) for incineration				MANRE (ES)

Use of Sewage Sludge in Agriculture	MANRE (ES)	MANRE (DoA) MANRE (ES)	MANRE (DoA)	
Batteries & Accumulators	MANRE (ES)		MANRE (ES) as competent authority MCIT	MANRE (ES)
Shipments of Waste	MANRE (ES)		MANRE (ES) as competent authority MoF (CED) for enforcement	MANRE (ES)
Hazardous/Municipal Waste Incineration (NB No plants in Cyprus at present)	MLSI (DLI)		MLSI (DLI) for air pollution aspects MANRE (ES) for water & waste aspects MoH (SGL) for analysis	MLSI (DLI)
Packaging & Packaging Waste	MANRE (ES)		MANRE (ES) MCIT	MANRE (ES)
Industrial Pollution Control				
Air Pollution from Industrial Plants	MLSI (DLI)		MLSI (DLI)	
Integrated Pollution Prevention & Control	MLSI (DLI) for air pollution MANRE (ES) for water & waste MCIT for energy conservation		MLSI (DLI) for air pollution MANRE (ES) and MLSI (DLI) for water pollution MANRE (ES) for waste management/disposal	
Large Combustion Plants	MLSI (DLI) MCIT for energy issues		MLSI (DLI)	
Titanium Dioxide (NB No relevant plants in Cyprus)	MLSI (DLI) for air pollution MANRE (ES) for water & waste		MLSI (DLI) for air pollution MANRE (ES) and MLSI (DLI) for water pollution MANRE (ES) for waste management/disposal	
Industrial Accidents	MLSI (DLI) for industrial safety MoI (DTPH) for planning issues		MLSI (DLI) for industrial safety MoI (DTPH) for planning issues	
Eco-Label/EMAS/Audit	MANRE (ES) as competent authority		MANRE as competent authority COSCQ for accreditation	
Nature Protection				

Habitats	MANRE (ES) for co-ordination MANRE (DoF) for forests MANRE (DFMR) for marine MoI (DTPH) for planning MoI (GF) for hunting issues	MANRE (DoF) for forests MANRE (DFMR) for marine MoI (DTPH) for planning MoI (GF) for hunting issues
Wild Birds	MoI (GF) for hunting issues MANRE for wildlife man. Issues	MoI (GF) for hunting issues MANRE for wildlife management issues
CITES (Trade in Endangered Species)	MANRE (ES)	MANRE (ES) MANRE (DVS) MoF (CED) MoI
Whales, Seals, Traps	MoI for hunting issues MANRE for wildlife man. Issues	MoI for hunting issues MANRE for wildlife management issues

Discussion of general capacity issues

Co-ordination and communication

Complex administrative structures and responsibilities are a problem in Cyprus. This is emphasised by the number of ministries, departments and agencies involved in environmental implementation and enforcement (around 30) and by the fact that their individual responsibilities are not always clearly defined (or, indeed, understood by those involved). This leads to some uncertainty, duplication of effort and 'gaps' in implementation, as well as (in some cases) 'turf' issues where those responsible for an area feel threatened by others. Furthermore, the divisions between different units often result in shortages of appropriately qualified and experienced staff, even where overall numbers are adequate and the appropriate staff (in other areas) may not always be fully occupied.

Despite this, responsibilities and decision-making are also more centralised than might be expected for a free market country. In particular, the role of local authorities is very limited, and most decisions (including those relating to investment in environmental infrastructure) are taken within central government.

At a national level, the **Council of Ministers** has overall responsibility for the formulation of environmental policy. The **Council for the Environment**, with wide representation from inside and outside government, advises the Minister of the Environment (and, through him, the Council of Ministers) on legislation and policy relating to the environment and sustainable development. In addition, the **Environment Committee**, comprising representatives of all the ministries and government services involved in environmental issues, assists in the co-ordination and implementation of environmental policy.

Staffing and resources

There are pressures to reduce rather than increase the size of the public administration in Cyprus, which means that it is difficult to get approval to recruit new staff. However, even when such approval is obtained, there is intense competition (often leading to legal action by unsuccessful candidates) and excessive delays. It can take two years or more from approval being given to the new appointee for a permanent post arriving 'in the office'. The procedure for temporary posts is much speedier and simpler, and this approach has already been adopted by a number of agencies (but not the Environment Service). Estimates have been made of the additional staff in the government service that will be needed to secure full implementation of the *acquis*. These include:

- 7 additional staff at the Department of Labour Inspectorate of DLSS;
- 6 additional staff in the Water Development Department of MANRE;
- 6 additional staff immediately in the Environment Service of MANRE;
- 20 additional staff within the Environment Service of MANRE to meet all future needs.

The total recurring cost of these staff (including overheads) has been estimated at CY£880,000. In addition, the cost of training both new and existing staff has been estimated at CY£146,000.

The Ministry of Finance (MoF) is responsible for all aspects of financial planning, budgetary control and the management of financial resources, including staffing issues and the allocation of budgets to departments. There is very little autonomy, with budgets being highly centralised. In terms of income generation charges are very limited at present and are administrative only and revenue is likely to accrue to the general budget.

Under the Municipalities Law, the Municipalities are nominally responsible for a range of environmental services (water supply, sewerage and wastewater treatment, rainwater drainage, street cleaning, refuse collection and disposal etc). In practice however, neither the Municipalities nor the Communities have the financial resources or the staff to discharge their environmental responsibilities effectively. It follows that responsibility for infrastructure investment required by the local authorities generally falls to central government, for example MANRE's Water Development Department. MANRE's Environment Service has access to only very limited resources, despite its very wide role and responsibilities. Local authorities (Municipalities and Communities) have an almost complete lack of environmental resources available (other than through the Municipal Sewage Boards).

Integration of environmental protection

Responsibilities for different media often lie with different departments, which creates deficiencies for Directives such as IPPC, and this creates problems of communication that would be very much worse were it not for the informal networks that operate effectively in Cyprus. Despite the relatively large amounts of information that exist, communication on environmental issues within Cyprus has not been as effective and comprehensive as it might have been. This relates both to communication between ministries/departments, and to communication with the 'outside world'. This may result in part from the more centralised approach to accession/investment planning, which undoubtedly fails to create 'ownership' of projects and other initiatives outside the department originating them.

General

Overall the strengths of the institutions in Cyprus are that there is a high level of technical competence and that, in many cases, the same organisation(s) is responsible for permitting, monitoring and inspection/enforcement. However, weaknesses occur due to complex and overlapping responsibilities, the number of Ministries/ Departments involved, the medium-based approach to all aspects of environment protection and difficulties recruiting new staff. While Cyprus has some advantages over other candidate countries, its institutional structures result in a number of significant problems that should be addressed:

- Too many organisations with overlapping, unclear responsibilities. It is, therefore, imperative that additional co-ordination procedures are adopted.
- Generally high level of competence, but problems in terms of capacity (exacerbated by complex and time-consuming recruitment procedures).
- Capacity-related competence issues at local level (Communities and some Municipalities), where environmental resources simply do not exist.
- Staffing levels are generally inadequate (especially within the Environment Service of MANRE) but the staff which are in place are generally very competent.

- Problems with experience at local level, where environmental capacity does not generally exist.

3.4 Czech Republic

At present four different levels of administration need to be considered, although these will be reduced to three from 1/1/2003:

- **Central Government**, and particularly the Ministry of the Environment (MoE) which is responsible for preparing laws, issuing regulations, supervising legal meetings, and permitting internationally oriented issues (waste export/import, import of hazardous substances etc.);
- **Regional Authorities**: 14 Regional Offices, including Prague City Hall *(krajsky urad, pl. krajske urady*) have been active only since 1/1/2000 and at present have only limited jurisdiction, but will fully take over from District Offices with effect from 1/1/2003;
- **District Authorities**: 76 District Offices (*okresni urad, pl. okresni urady*), with Prague City Hall, currently have responsibilities in some areas, but will be replaced by the Regional Authorities from 1/1/2003. They report to the Ministry of the Interior;
- **Local Authorities**: 6,242 municipalities (*obec, pl. obce*), represented by Municipal Offices (*obecni urad, pl. obecni urady*) or by Town Offices (*mestsky urad, pl. mestske urady*) have responsibilities at a local level.

Responsibilities of these different administrations relating to the separate media are as follows:

Water:

- The Ministry of Environment (MoE) is the responsible authority for the protection of ground and surface waters.
- The MoE has established five Rive Basin Administrations as state enterprises covering the whole of the country : they are responsible for investment projects, participate in permitting and levy charges on water users;
- The MoE has also established the Czech Hydrometeorological Institute as the expert body covering meteorological and hydrological issues and ambient air monitoring;
- The Ministry of Agriculture is the authority responsible for water management (including urban wastewater).
- A new section for water management was established at the Ministry of Agriculture in April 2000.
- The Ministry of Health, through its Health Offices, is the responsible authority for drinking water and bathing water quality both as a supervisory/regulatory authority and through its laboratories.
- Permitting, inspection and enforcement are the responsibility of the District Offices and Prague City Hall (Regional Offices from 1/1/2003). The Czech Environmental Inspectorate also has a role in inspection and enforcement. Inspection and enforcement relating to drinking water and bathing water quality is the responsibility of the Ministry of Health.

These institutional arrangements for environmental protection and enforcement in the water sector have been in place for a relatively long time. Some water services are now provided by private companies (including foreign ones). The water sector remains the most problematic area of the environmental *acquis*, mainly because of the high level of investment needed to comply with the UWWT and Drinking Water Directives.

Waste Management:

- The MoE has overall responsibility for waste management, and issues permits for waste exports, imports and transit.
- The environmental departments of the 76 District Authorities and Prague City Hall have responsibility for municipal waste management, including the permitting of landfills and most other waste operations;
- The 14 Regional Authorities are responsible for the permitting of operations involving more hazardous wastes;
- The 76 District Authorities, Prague City Hall and the Czech Environmental Inspectorate are responsible for inspection and enforcement.
- Waste disposal facilities (landfills) were formerly operated by municipalities through their Technical Services (which also covered waste collection), but these operations have almost all been privatised.

Air:

- The MoE has overall responsibility for the protection of air quality.
- The Air Quality Control Division of the Czech Hydrometeorological Institute undertakes air quality monitoring.
- The Czech Environmental Inspectorate is responsible for permitting large sources (>50MW), while the 76 District Authorities and Prague City Hall are responsible for permitting medium-sized sources (0.2-50 MW);
- The Czech Environmental Inspectorate is responsible for inspection and enforcement for large and medium-sized sources;
- Local authorities (municipalities and towns) are responsible only for the smallest sources (<0.2MW).

Industrial Pollution Control:

It is necessary to establish administrative structures in the field of industrial pollution control and decide which institution will be responsible (Regular Report 2000). It is likely however that the Czech Environmental Inspectorate will have a central role in implementing and then enforcing the industrial pollution control sector (especially IPPC). In particular, it remains unclear how responsibilities are (will be) divided between the Inspectorate and the Regional Authorities, particularly in relation to water and waste.

Nature Protection:

- The MoE has overall responsibility for nature protection and for gamekeeping, fishing and forest management in national parks (these roles outside of national parks are performed by the Ministry of Agriculture).

- More generally, responsibility for nature protection rests mainly at District Authority (and Prague City Hall) level.
- The Ministries of Finance and Agriculture participate in the obligations under the Act on Trade in Endangered Species (CITES).
- The Agency for the Protection of Nature and the Landscape provides information related to nature protection and professional care for nature and landscape. It is in charge of the central register of nature protection and the Property Land Fund in specially protected areas.
- The Czech Environmental Inspectorate is responsible for the establishment and implementation of a system to monitor compliance with Natura 2000 measures.

Tables 3.4.1 to 3.4.3 provide an overview of the responsibilities of institutions in the Czech Republic and the CEI in particular. Table 3.4.1 provides basic information indicating the sectors for which institutions play a role, table 3.4.2 takes this further by examining the activities that the Czech Environmental Inspection has, including permitting, inspection, sanctions, etc. This demonstrates the complex role of this institution, whereby its responsibilities vary depending on the sector being addressed. Thus for the air sector it is the primary institution responsible for permitting, inspection and sanctions, while for water and waste management, permitting is undertaken by other institutions. This complexity poses problems for fully integrated permitting under IPPC.

Table 3.4.1: Primary Implementation and Enforcement Responsibilities in the Czech Republic:

ENVIRONMENTAL MEDIUM	Preparation of Legislation	Preparation of Strategies & Plans	Issue of (Environmental) Permits	Monitoring (Background and Sites)	Inspection & Enforcement	Preparation of Reports
Air Pollution Control	• MoE	• MoE	• Large sources: CEI • Medium sources: District Offices	• Czech Hydrometeorological Institute	• Large Sources: CEI • Medium Sources: District Offices • Small Sources: Municipalities	• MoE
Water Protection	• MoE (protection of ground/surface waters) • MoA (water management, including UWWT) • MoH (drinking water quality)	• MoE – protection • MoA – management • MoH – hygiene	• District Offices • Ministry of Health	• Czech Hydrometeorological Institute	• CEI • District Offices • Ministry of Health	• MoE – quality • MoA – management • MoH - hygiene
Waste Management	• MoE	• MoE	• District Offices • Regional Offices (haz.) • MoE (intl.)	• Self monitoring by enterprises and waste man. firms (for District Offices)	• CEI • District Offices	• MoE
Industrial Pollution Control	• MoE	• MoE	Competent authorities not yet defined	Competent authorities not yet defined	Competent authorities not yet defined	Competent authorities not yet defined

Nature Protection	• MoE	• MoE in co-op. with Agency for Protection of Nature and the Landscape	• District Offices • NP/PLA-Admin. • M/TO-Felling	Local Level Protected Area and National Park Administrations	• District Offices • NP/PLA-Admin. • M/TO-Felling • CEI – Forest Protection	• MoE in co-op. with Agency for the Protection of Nature and the Landscape

Table 3.4.2: FUNCTIONS and RESPONSIBILITIES of CZECH ENVIRONMENTAL INSPECTION in INDIVIDUAL SECTORS of ENVIRONMENTAL ADMINISTRATION

Competency	Activity/sector	Air Protection	Water Management	Waste Management	Nature Protection	Forest Protection
Controls/ Compliance	Inspections/controls	*	*	*	*	*
Sanctions	Sanctions-imposing fines to Official body	*	*	*	*	*
	Sanctions-imposing fines to Physical bodies				*	*
	Sanctions-stop or limited Function of installation or Activity	*	*		*	*
	Sanctions-confiscation of Illegal items (endangered Species)				*	
Measures	Imposing remedies	*	*	*		*
	Solving of long-lasting Contaminations		*			
	Participation in accident Solving		*			
Fees	Imposing charges/fees	*		*		
Permits	Permits-new installations, New technologies etc.	*				
	Permits - emission limits	*				
	Authorization for emissions/ /imissions measurement	*				
	Accident plans	*				
Standpoints	Official standpoints for other State administration offices	*	*	*	*	*
Complaints	Public complaints solving	*	*	*	*	*

Table 3.4.3: Staff Numbers at Key Ministries/Agencies

Ministry/ Agency	***Total Staff***	***Staff Responsible For Environmental Issues***	***Notes:***
Ministry of the Environment	397 (or 545 incl. regional environmental departments).	397 (or 545)	Staff numbers have been increased in recent years and are set to be increased further.
Ministry of Agriculture	Not available	Not available	MoA has responsibility for water systems (sewerage and water supply mains)
Ministry of Health	Not available	Not available	MoH has responsibility for drinking water and bathing water quality, including hygiene and epidemiological issues
Ministry of the Interior	Not available	Not available	The Ministry of the Interior controls the 76 District Authorities
Czech Environmental Inspectorate	491	491	The Inspectorate has one national office and nine regional ones. It's staff numbers have been increased in recent years.
The Czech Hydrometeorological Institute	Not available	Not available	Meteorological and hydrological forecasting and ambient air monitoring agency
Regional Authorities	Not available	148	There are 14 Regional Authorities (including Prague City Hall)
District Authorities	Not available	Not available	There are 76 District Authorities (plus Prague City Hall).
Local Authorities	Not available	Not available	There are 6,242 municipalities (municipal offices and town offices)

Other Key Institutions:

The following agencies/institutions are all controlled by the MoE, but are expert organisations rather than executive bodies:

- **The Czech Environmental Institute** is an environmental research institute providing services mainly to the MoE and public objectives;

- **The Agency for the Protection of Nature and the Landscape** is responsible for providing technical support to the state administration in the entire spectrum of nature conservation and landscape protection;
- **The Water Management Research Institute;**
- **The Czech Hydrometeorological Institute** undertakes air quality and hydrological monitoring.

Discussion of general capacity issues

Competence

The distribution of competencies between national, regional and local bodies is currently under review. This will have an impact on environmental administration. In the period to 1/1/2003, many of the (environmental) responsibilities of the District Authorities will move to the recently established Regional Authorities, which have closer (more direct) links with MoE.

Staff numbers

Though they have been increased in recent years, staffing levels in the MoE are still recognised as being insufficient by the Ministry, although it is unclear on what basis this is measured. Based on the Czech Government Decision 772/2000 the MoE developed its Environmental Implementation Plan, which includes two chapters on human resource requirements. This states that 1000-1500 new staff members will be needed in the Czech public administration to ensure implementation of the environmental *acquis*. The cost of this institutional strengthening is estimated at approximately 70 million Euros up to the year 2003. Plans are in place, however, to increase the staff complement further. In 2000, approval was given to increase the staff in the MoE and in the Czech Environmental Inspectorate. It was planned gradually to employ an additional 36 people within the Ministry and an additional 76 people within the Inspectorate for approximation related issues during 2000. Staffing levels are centrally limited, mainly by salary constraints. This makes recruitment difficult and time consuming

Effectiveness

In general, the effectiveness of personnel and technical equipment in the environmental field in the Czech Republic are below that of the EU. There are particular problems in the recently established Regional Authorities (Offices), where basic problems of staffing accommodation, equipment and logistics have still to be addressed. At present most staff are 'clerks' rather than (environmental) professionals. In contrast, District Authorities and Central Government are relatively well served at present.

Responsibilities

Environmental media are generally handled by different organisations (although the CEI has a broader role in inspection and enforcement). This presents problems in implementing the IPPC Directive, which will come into force in the Czech Republic during 2003, as responsibilities and procedures have not yet been established.

Two further areas where institutional responsibilities need clarifying are water and forestry, with the overlapping roles of MoE, Ministry of Agriculture and Ministry of Health in relation to water. The management of water will be defined following the passage of the Water Act, which is currently

before Parliament. MoE is the environmental supervisory body and flood prevention body, MoA controls issues associated with state water management policy and planning, river basin administration, technical works and amelioration, sewerage and water mains. MoHC has clear and logic role in hygienic control. Forestry is regulated under the Forestry Management Act and the main responsibility lies with the MoA, except Natural Parks (MoE), MoE has only supervisory role over the environmental protection issues, commenting upon Forestry Management Plans.

Administrative capacity is weakened by a lack of clear division of competencies within and between institutions. In addition, there are administrative capacity fears relating to ongoing administrative reform, which will have major implications on the environmental sector. Budgeting is in general decided by the Deputy Assembly of the Parliament, although in practice the budget is negotiated between the Ministry of Finance and the Ministry of Interior. Economic autonomy is partially in municipalities, but only for external expenditures (fines and fees are partially incomes of municipalities as all environmental charges are revenues are equally split between the State Environmental Fund and the respective municipality).

General

In conclusion major uncertainties remain regarding the restructuring of local government and roles with respect to environment. However, current institutions do have significant technical capabilities and most organisations have procedures that are well established. Weaknesses that remain are that:

- There are different responsibilities for different media;
- There are three ministries responsible for the environmental *acquis* (Environment, Agriculture, Health);
- Responsibilities are not always clearly defined;
- Further development of co-ordination procedures is necessary;
- Permitting capacity requires enhancing;
- There are limitations on capacity (particularly for the Regional Authorities).

3.5 Estonia

The **Ministry of the Environment (MoE)** has overall responsibility for the implementation of the environmental *acquis*. It develops national strategies (i.e. the National Environmental Strategy, the National Waste Management Strategy, the National Environmental Action Plan) and co-ordinates the implementation of regional environmental plans. MoE also takes decisions on EIA and permits of projects of state importance. MoE will concentrate more on environmental policy and legislation drafting. Practical arrangements are delegated to regional level. Additional to planning and granting construction permits, local municipalities have been given more decision making power regarding environmental issues. The MoE sub-ordinates the following institutions responsible for implementation and enforcement:

- **15 County (Regional) Environmental Departments (CEDs):** the Estonian environmental administration was reformed during 2000. The previous environmental departments under county administrations (Ministry of Interior) were subordinated to MoE. Counties no longer have environmental staff or functions.

- **Local authorities (LAs)*:*** responsibility for developing Air Quality Improvement Plans and waste management plans and for operating water supply, wastewater treatment and waste management utilities. Waste management plans are drawn up as part of municipal development plans. By 2000, most municipalities have developed waste management plans. Only larger cities have staff working on environmental issues. The rural municipalities have very limited capacity.
- **Environmental Protection Inspectorate (EPI):** overall inspection and enforcement responsibilities, and drafting legislation (air protection).
- **Environment Information Centre (EIC*)***: coordination of the implementation of the environmental monitoring programme, environmental data management and reporting.

At the central level, the MoE shares its responsibility with several other ministries:

Air Quality:

- **Ministry of Foreign Affairs (MoFA)**: enforcement and/or supervision of legislation that addresses transboundary pollution.
- **Ministry of Economic Affairs (MoEA):** drafting legislation.
- **Ministry of Social Affairs (MoSA):** drafting legislation.

Waste management:

- **MoEA:** Packaging and Packaging Waste Directive: establishes a list returnable packaging and specifies deposits.

Water quality:

- **Ministry of Agriculture (MoA):** Nitrates Directive: designation of vulnerable zones.
- **MoSA:** enforcement of water quality standards for drinking and bathing water.
- **Health Protection Inspectorate (HPI)** (sub-ordinated to the MoSA): inspection and enforcement of the water *acquis.*

Table 3.5.1: Primary Implementation and Enforcement Responsibilities in Estonia

MEDIUM	Preparation of Legislation	Preparation of Strategies and Plans	Issuing Environmental Permits	Monitoring (Background and Sites)	Inspection and Enforcement	Preparation of Reports
Air Pollution Control	MoE MoFA MoEA MoSA EPI	MoE Local authorities	EPI CEDs	EIC EPI	EPI CEDs	EPI EIC
Water Protection	MoE MoA MoSA	MoE MoA	EPI HPI CED Local authorities	EIC HPI EPI	HPI	HPI
Waste Management	MoE MoEA	MoE EPI CEDs Local authorities	EPI CEDs Local authorities	EPI EIC CEDs Local authorities	EPI CEDs Local authorities	EPI HPI
Industrial Pollution Control	MoE MoEA	MoE EPI	EPI CEDs	EPI EIC CEDs	EPI CEDs	EPI EIC
Nature Protection	MoE MoA	MoE	EPI	EPI CEDs	EPI CEDs	HPI

Discussion of general capacity issues

Staff numbers

In 1998, the MoE (including the institutions it oversees) employed 895 full-time staff. The total staff needed for implementing the short-term actions of the National Action Plan (1998-2000) was estimated at an annual average of 1,007 full-time equivalent persons. In 1998, 112 people per year were anticipated to be recruited. No information has been available on whether these staff has been recruited. The MoE estimated that in 2000, 150 new staff was needed in the ministry (NPAA, 2000). No more up-to-date information on whether recruitment has taken place was available. County Environmental Departments employ approximately 300 staff (NPAA, 2000). In January 1999 the EIC employed 60 people. There are, however, many small municipalities which do not have the capacity to implement environmental legislation. A significant problem is that some institutions do not have environmental specialists and any staff have short time experience due to the high turnover of employees in the government sector.

Training and skills

Training needs (i.e. related to transposition) have been partially covered under programmes developed with support from Finland, Sweden, Denmark and the Baltic Environmental Forum. Training on hazardous waste management (i.e. batteries, PCBs/PCTs) has been the subject of Danish assistance projects. Twinning Programmes have been available in the areas of water protection (i.e. the Swedish-French twinning assistance project preparation), air protection (German - Finnish), ISPA (Irish - Finnish). These Programmes are important in enhancing the skills of enforcement institutions in Estonia. There are still training needs to be covered in the areas of developing an integral system for collection and recycling of packaging waste, economic instruments and packaging related databases (i.e. National Packaging Register). The target group will be the Chairing Committee of the Packaging Programme (MoE: NPAA, 2000). Other target groups that need training in the area of waste management are customs workers, enterprises staff and landfill operators (MoE: NPAA, 2000).

Integration

The context of an integrated approach across the different media is the National Environmental Strategy which is introducing integrated measures to steer production and consumption in environmentally sustainable direction. A New National Environmental Action Plan is also under preparation. An integrated approach is only partly reflected in the structure of the Ministry of the Environment. Each of the media has its own department. However, the Department of Environmental Management and Technology will be in charge of the integrated approach (IPPC, EIA, SEA). The present permit system treats media separately. However, the EIA law approved during 2000 handles issues in integrated fashion. In the near future the IPPC law will bring the media together in permitting. However, smaller enterprises which are not regulated under IPPC will still be permitted on a media specific basis.

Co-ordination

The transfer of regional administrative functions for environmental enforcement from the counties to the CEDs subordinated to the MoE was undertaken to enhance co-ordination. As this reform only took place during 2000, it is too early to assess whether co-ordination has indeed improved. However, the structure should overcome some of the national/regional communication problems that exist in

some other candidate countries. However, merely altering the reporting responsibilities of an institution is not sufficient. There is still a need to ensure adequate procedures for communication of decision making (including technical supporting information) in both directions. The co-ordination between these administrations and local authorities is more problematic and, while Estonian authorities report reasonable staff and technical capacity within the MoE, EPI and CEDs, there is a problem of capacity at the local level. There is a history of autonomous decision making at the local level and, together with stretched resources; this may lead to poor or unco-ordinated decision making. The MoE needs to gives this urgent attention.

General
In conclusion the following main capacity building problems remain:

- The need to develop technical and administrative procedures for tackling an integrated cross-media approach to environmental protection;
- Co-ordination procedures need to be established between the national and newly created regional environmental administrative structures;
- Local authorities need additional resources and their roles, particularly in relation to implementation of EU legislation, need clear explanation and assistance from MoE/CEDs;
- Training of staff at all levels requires support.

3.6 Hungary

The National Environment Programme is adopted on a six-year cycle and identifies responsibilities for the Ministry of Environment and other Ministries. In general the principles underlying the division of responsibilities between Ministries and other relevant institutions is clear, in practice this becomes complex, due to fact that the precise definition is identified to a very detailed level. While this practice does present a somewhat opaque view to external observers, it does assist in reducing duplication.

The primary Ministry responsible for implementing the environmental *acquis* is the Ministry of Environment. This contains five main units, including units for drafting legislation, for approximation, for administration and an Office for Environmental Protection and an Office for Nature Protection. The two Offices each supervise the national inspectorate for environment and nature protection, as well as, respectively, the 12 regional environmental inspectorates and the nine regional national park directorates.

The environmental *acquis* in Hungary is administered through the following institutions:

Water:
Responsibility for water management, especially wastewater management, is shared between the Ministry of Environment and the Ministry of Transport, Telecommunications and Water Management. There are 12 Water Management Authorities that come under the responsibility of the Ministry of Transport, Telecommunications and Water Management. The 12 Regional Environmental Inspectorates have permitting, monitoring and inspection/enforcement responsibilities. The Ministry of Health is responsible for drinking and bathing water.

Waste Management:

The Ministry of Environment has responsibility for waste management policy formulation. However, much of the implementation is managed by the Ministry of Economic Affairs, where these affect economic issues, including packaging, waste oils, PCBs and batteries and accumulators. The National Public Health and Medical Officer's Service (NPHMOS) deals with public health issues related to waste. Municipalities (under the control of the Interior Ministry) are responsible for household waste management, including implementation of the landfill Directive. The 12 Regional Environmental Inspectorates have permitting, monitoring and inspection/enforcement responsibilities.

Air:
The Ministry of Health is responsible for air quality. The 12 Regional Environmental Inspectorates have permitting, monitoring and inspection/enforcement responsibilities. Legislation aimed at regulating transport emissions and fuel quality is the responsibility of the Ministry of Transport and Water Management.

Industrial Pollution Control:
Responsibility for emissions from industrial plants is shared by the Ministry of Environment, with other agencies – Ministry of Health (air quality and chemicals); Ministry of Interior (industrial risks, eg the Seveso Directive). The 12 Regional Environmental Inspectorates have permitting, monitoring and inspection/enforcement responsibilities. The recently established National General Directorate for the Prevention of Disasters is responsible for authorising establishments in which dangerous substances are produced, used, handled or stored. The new body includes the National Command for Civic Defence and the National Command of the Fire Brigade. This Directorate is responsible to the Ministry of Interior.

Nature Protection:
The Ministry of Environment has overall responsibility for nature protection. The Nature Conservation Agency and its 9 National Park Directorates has operational responsibility for nature protection.

Land Use Planning:
The Ministry of Interior and the Ministry of Agriculture share oversight responsibilities for land use planning. However, primary responsibility for this, including implementation of the EIA Directive, is delegated to municipalities, with County Offices acting as second instance institutions on this issue.

Table 3.6.1: Primary Implementation and Enforcement Responsibilities in Hungary:

ENVIRONMENTAL MEDIUM	Preparation of Legislation	Preparation of Strategies & Plans	Issue of (Environmental) Permits	Monitoring (Background and Sites)	Inspection & Enforcement
Air Pollution Control	Ministry of Environment Ministry of Health Ministry of Transport, Telecommunications and Water Management	REIs	REIs	REIs	REIs
Water Protection	Ministry of Environment, Ministry of Transport, Telecommunications and Water Management	Regional Water Management Authorities REIs	REIs Regional Water Management Authorities Local self-governments	REIs Regional Water Management Authorities	REIs Regional Water Management Authorities Local self-governments
Waste Management	Ministry of Environment	Ministry of Environment, Municipalities National Public Health and Medical Officers' Service	REIs Local self-governments	REIs	REIs Local self-governments
Industrial Pollution Control	Ministry of Health (air quality and chemicals) Ministry of the Interior (industrial risks)		REIs National General Directorate for the Prevention of Disasters	REIs	REIs
Nature Protection	Ministry of Environment	Nature Conservation Agency	Nature Conservation Agency and the 9 National Park Directorates	Nature Conservation Agency and the 9 National Park Directorates	Nature Conservation Agency and the 9 National Park Directorates

Discussion of general capacity issues

Staff numbers

Currently, some 1,337 persons are employed at the REIs. They were planning to hire an additional 59 people in 2000. The number of staff employed at the Nature Conservation Authority and its 9 National Park Directorates was be complemented by an additional 39 in 2000 (current staff number being about 540). A major restructuring programme was initiated in MEP in 1998. This led to staff changes in a number of departments, with a number of experienced people being replaced by less experienced personnel. This had a major impact on institutional capability in the environment in Hungary.

In general in the REIs the staff numbers are considered to be sufficient for most purposes. Indeed for monitoring (see below) there might be some over-capacity. However, there are problems in attracting staff of sufficient quality given the level of salaries. The REAP Hungarian report states that staff see themselves as 'overburdened and relatively underpaid' and there is no possibility for external fee support as this is expressly forbidden.

Training and skills

The skills of many staff are excellent. However, there is concern about the quality of new staff and the ability to retain good staff given the level of salaries. However, there are also significant training needs, particularly to stimulate an integrated approach to permitting and inspection, and to tackle the integrated water management requirements of the water framework Directive.

Integration

This is poor. Even though the REIs cover a wide range of environmental issues – air, water and waste – this is all undertaken on a medium-specific basis. Some attempt has been made to introduce integrated inspections, but this is limited and not entirely successful (see below). Staff work independently of those addressing different media for the same installation. This must be changed.

Co-ordination

The 2000 Regular Report states that the position of MEP remains weak due to the wide distribution of responsibilities related to environmental issues. There is a significant degree of legislative fragmentation in the environmental field in Hungary, and there is very little co-ordination or information sharing between MEP and the REIs. At a central level, co-ordination between ministries dealing with environmental issues needs to be improved.

The number of institutions involved in permitting and inspection at a regional level is far to complex. There is extensive consultation and, as a result, co-ordination. In particular the REIs are well informed about other activities by other institutions. However, while co-ordination is important in this instance, it would be more beneficial to reform the institutional structures involved. An example of the complex institutional responsibilities involved in permitting is given later.

General

In conclusion the strengths of the administrative structures in Hungary are:

- The competencies of environmental management are clearly defined and assigned in law to different institutions;
- There is relatively good communication between institutions;
- There is a reasonable capacity of staff to undertake the activities required.

However, weaknesses that need to be addressed include:

- The administrative structures are too complex;
- There are problems with recruitment and retention due to poor salaries;
- There is a problem due to the lack of an integrated approach to permitting and inspection, especially in the REIs.

3.7 Latvia

The principal Ministry with responsibility for the enforcement of environmental legislation in Latvia is the Ministry of Environmental Protection and Regional Development (MEPRD). It has a number of national departments and institutions sub-ordinated to it which have regional structures of the their own. The primary sub-ordinated institutions are:

The leading institutions in the field of environmental compliance control in Latvia are the State Environmental Inspectorate on the national level and Regional Environmental Boards and Marine Environmental Board at the regional level. All institutions are subordinated to the Ministry of Environmental Protection and Regional Development. The environmental *acquis* in Latvia is administered through the following institutions:

The **Environmental State Inspectorate (ESI)** controls and supervises the implementation of legislation in the field of environmental protection and natural resources use. It also supervises and guides the activities of Regional Environmental Boards, Marine Environmental Board and environmental inspectors at state reserves and other protected nature areas. In cases where decisions of MEB or REB inspectors do not comply with legislation and regulations ESI has the right to suspend or repeal the decision. ESI has the responsibility of providing the methodology for inspections, coordination role in major accidents and permitting function for routes of transportation of hazardous products and radiation safety. Radiation matters are planned to be transferred to the Radiation Safety Centre (to be founded) in near future.

The **Latvian Environment Agency (LEA)** is a government institution subordinated to the MEPRD. The aim of the LEA is to implement governmental policy in the area of environmental data and information compilation, processing and dissemination. The Laboratory of the LEA is also national reference laboratory. It was created following the merger of the **Environment Consultation and Monitoring Centre** and the **Environmental Data Centre**.

There are 8 **Regional Environmental Boards (REB)** subordinate to the MEPRD – the Daugavpils, Jelgava, Metropolitan Riga, Liepaja, Madona, Rezekne, Valmiera and Ventspils Boards. The REBs carry out the main functions in enforcement of environmental legislation. The most important functions of REBs are expertise (permitting) and inspection. In addition they participate in monitoring task on their area. They compile the monitoring data and forward it to the LEA. Each REB has a laboratory which serves the, inspection and monitoring functions.

The **State Environmental Impact Assessment Bureau (SEIAB)** is the body responsible for Environmental Impact assessment procedure. Their role is to co-ordinate the screening procedure together with REBs, prepare the EIA programme and give expert statements on EIA reports. They also participate in the public consultations in EIA procedure. SEIAB keeps a database on EIA cases and archives on EIA documentation and has responsibility on EIA training issues and development of methodology. SEIAB will be the central institution in charge of the industrial pollution sector according to the proposed Law on Pollution.

Other Actors:
Apart from the MEPRD, the following bodies also play a role in implementation of the EU environmental *acquis*:

Ministry of Agriculture – Has a role in non point source pollution to waters (preventing nutrient run off by introducing environmentally friendly farming practises under Rural Development Plan (SAPARD) and regional Agriculture Development Plans). Control on forestry and hunting. Role in nature protection (Gauja National Park).

Ministry of the Interior – Responsible for civil defence, in case of emergencies; combating the environmental consequences.

Ministry of Transport – A role in the transportation of hazardous goods. Marine Administration under the MoTr is responsible to carry out activities in cases of pollution at sea.
Ministry of Finance - Responsible for preparation of National Development Plan which includes also environmental measures. Supervises the Regional Development Agencies.

Ministry of Economics – Has a role in the air quality sector in connection to energy issues. Development of Environmental Management Systems together with MEPRD.

Ministry of Welfare – Overall responsibility for the Drinking Water and Bathing Water Directives, "indoor" environmental issues, safety and health. Subordinated institutions: National Environmental Health Centre and Regional Environmental Health Centres.

National Environmental Health Centre and their regional offices (26): They are sub-ordinate to the Ministry of Welfare and are responsible for monitoring drinking and bathing waters and hygiene and food inspection. They participate to EIA procedure by commenting at the programme stage and the draft final report. These centres also participate to the environmental permit procedure by commenting the permit application.

The **Latvian Hydrometeorological Agency** carries out applied hydrometeorological, oceanographic, geophysical and agro-meteorological research and ensures monitoring of environmental quality. The Agency provides information on general meteorological, hydrological and environmental quality, forecasts to national and municipal institutions and the media and to any other interested parties.

Regional Development Agencies: There are five Regional Development Agencies, subordinated to the Ministry of Finance. These agencies are responsible for producing Regional Development Plans. Only one plan has been prepared (Latgale region) as a pilot. This plan contains also measures for environmental protection. The role of the RDAs in environmental protection is, however, limited, with much of the regional level activity being undertaken by the REBs. However, it is expected that the Regional Development Plans would be subject to the new strategic environmental assessment Directive and this may increase the profile of environmental planning within the RDAs. The fact that there are five RDAs and eight REBs indicates that there is the potential for confusion in seeking good co-ordination between these regional bodies.

Municipalities: There are 564 municipalities in Latvia. They are the final decision makers concerning projects since they issue building permit. Municipalities participate in environmental permit procedure by giving their comments on the application. Larger municipalities may employ environmental specialists. However, for the vast majority there are insufficient resources to do this. Local authorities have various roles in environmental protection, including issuing permits for waste facilities, local management of air quality and some aspects of nature protection. The very large number of such authorities presents clear problems for communication, either from the regional or national level.

Responsibilities by sector

Latvia, therefore, has a range of institutions with different responsibilities for regulating activities for the different media. The following paragraphs illustrate how the different responsibilities relate to enforcing legislation in these sectors.

Water:

The MEPRD is responsible for water protection and use. For large installations (listed in water regulations) MEPRD is responsible for setting up a water permit commission. The Regional Environmental Board prepares the permit and the commission takes the decision. The Environmental State Inspectorate participates in the work of the commission. The Ministry of Welfare is responsible for drinking water and bathing water. Municipalities are responsible for providing water and sewerage services. The Regional Environment Boards (REBs) issue permits for water use and wastewater discharges. The applications must be reviewed by municipality prior to sending the application to REB. REBs carry out (inspection divisions) inspections on water use. The Marine Environment Board (MEB) is responsible of inspections at sea areas. The Latvian Environment Agency and Latvian Hydrometeorological Agency undertake monitoring activities. The Environmental State Inspectorate (ESI) is responsible for supervision (of Marine Environment Board, REB's) of inspection duties in the water sector.

Waste Management:

The MEPRD has overall responsibility for the waste management sector. Municipalities are responsible for municipal waste management. Central Government is responsible for hazardous waste management. The REBs and municipalities issue permits for waste activities. The ESI issues permits for transport of hazardous waste if it transported over two or more regions. The REB's are responsible for inspections on waste issues.

Air:

Overall responsibility lies with the MEPRD. Other ministries involved are the Ministry of Transport, the Ministry of Economics and the Ministry of Agriculture. The Air Control Division of the ESI has an important supervision /enforcement role. Permits for activities which pollute air are issued by REB. Inspecting and compliance enforcement for air quality legislation is also conducted by the REBs. The Latvian Environment Agency and Latvian Hydrometeorological Agency undertake monitoring activities. Local authorities are responsible for preparing Air Quality Improvement Action Plans.

Industrial Pollution Control:

The MEPRD has overall responsibility for this sector of the *acquis*. The law on pollution control (in handling of the parliament at the moment) will stipulate the responsibilities in the sector. A decision has been taken that the State Environmental Impact Assessment Bureau (SEIAB) will be the central institution in charge of the industrial pollution sector (Regular Report 2000). The tasks of SEIAB will be to review the complaints made on REB permit decisions, to inform other states in cases of transboundary pollution, keep database of BAT (BREFs), keep register of permits (proposed law on pollution). The REBs are responsible for issuing permits. The Environmental State Inspectorate will carry out an inspection function in the future.

Nature Protection:

The MEPRD (Nature Protection Department) is the overall competent authority in the nature protection sector. The State Reserves (under MEPRD) have the responsibility for enforcement of nature protection on their areas. The REBs issue permits for the felling of trees not covered by the forestry fund.

Table 3.7.1: Staff Numbers of key institutions

Ministry/ Agency	***Total Staff***	***Staff Responsible For Environmental Issues***	***Notes:***
MEPRD	118	100	
Regional Environmental Boards	400		Estimated 70 – 80 persons are working as experts – permitting functions
Latvian Environment Agency	~55	~55	Of the ~55 staff: - 32 work in the Laboratory Dept; - 19 work in the Data Processing Unit; and - 4 work in the Environmental Data Centre.
Environmental State Inspectorate	~40	~34	Of the ~ 34 staff: - 11 work in the Nature protection Department; - 3 work in the Hazardous waste and chemicals control department; - 5 work in the Nuclear safety department; - 3 work in the Water control department; - 3 work in the Soil control department; - 3 work in the Subsoil resources control department; - 2 work in the Air control department.
State Environmental Impact Assessment Bureau	10	10	8 persons are responsible for EIA matters, 2 (+ 1 open) are appointed to the coming integrated permitting tasks,
Latvian Hydrometeorological Agency		I will clarify	
Local Authorities		Information not available	There are 564 'self-government units' (i.e. municipalities or local authorities). Municipalities of the biggest cities and towns like Ventspils, Riga, Jelgava, Jekabpils, Liepaja have environmental divisions that comprise from 1 – 3 experts.

Table 3.7.2: Primary Implementation and Enforcement Responsibilities in Latvia:

ENVIRONMENTAL MEDIUM	Preparation of Legislation	Preparation of Strategies & Plans	Issue of (Environmental) Permits	Monitoring (Background and Sites)	Inspection & Enforcement	Preparation of Reports
Air Pollution Control	MEPRD	Local authorities are responsible for preparing air quality improvement action plans. MEPRD	REBs, statements by municipalities and Regional Public Health Centre	REBs Latvian Environment Agency (LEA)	Supervision: Air Control Division of the Environmental State Inspectorate (ESI) Inspection: REBs	LEA is responsible for preparation of the National Environmental Status Report and maintenance of databases. Enterprises for statistical report "Air –2"
Water Protection	MEPRD	MEPRD Local authorities for management plans of water bodies	REBs, statement by municipalities The *Licensing Department* of the *State Geological Survey* issues permits for groundwater abstractions.	REBs LEA Latvian Hydrometeorological Agency Regional Public Health Centres of the Ministry of Welfare for drinking and bathing water	Supervision: ESI – the *Water Control, Land Control* (activities in the protective belts of the Baltic Sea/Gulf of Riga and inland water bodies) and *Nature Protection Control* (protection/exploitation of water resources in Latvia and the Gulf of Riga) Divisions. Inspection REBs.	Enterprises for statistical report "Water –2"

ENVIRONMENTAL MEDIUM	Preparation of Legislation	Preparation of Strategies & Plans	Issue of (Environmental) Permits	Monitoring (Background and Sites)	Inspection & Enforcement	Preparation of Reports
Waste Management	MEPRD	MEPRD	Municipalities (based on judgement of REBs) Haz Waste and Chemical Substances Control Division of ESI issues permits for waste transport.	REBs	Supervision: Land Control Division of the ESI (monitors adherence to land/soil protection regulations and management of residential waste. Inspection: REBs	Enterprises for statistical report "Hazardous waste – 3"
Industrial Pollution Control	MEPRD	MEPRD	REBs	State Environmental Impact Assessment Bureau (in future)	IPPC permits: Environmental State Inspectorate (in future) Smaller installations: REBs	
Nature Protection	MEPRD	MEPRD Local municipalities, administrations of nature protection reserves	REBs		The *Nature Protection Control Division* of the ESI inspects adherence of regulations for wildlife protection, exploitation and renewal, including protective habitats and plant species. It also supervises the observation of nature protection norms in forests and protected nature territories. REBs	

Discussion of general capacity issues

Communication and co-ordination

A number of mechanisms exist to ensure effective coordination at the national level:

- In preparing legal documents, prior to submission of a proposal, it is discussed in the state secretaries' meeting. The proposal is circulated among those ministries, which indicate an interest to comment the draft. Any proposal for act or government regulation is always circulated to the Ministry of Justice and the Ministry of Finance.

- Inter ministerial working groups address issues concerning the competence of several ministries. There have been several established for environmental issues. Some of these are for a limited period and a specific task, while some are permanent. Examples of these include EU integration, the POPs convention, biodiversity (permanent) and the water monitoring programme.

- There is also an inter ministerial council for monitoring the enforcement of environmental legislation which meets four times per year.

Each of the ministries has Internet homepages for the distribution of information. Communication happens normally through meetings on different levels. The state secretaries have regular meetings. In environmental sector weekly meeting on ministry executives and directors of subordinate institutions takes place. Each institution has weekly internal meeting in which participate the executives and heads of divisions or all staff depending on the size of institute.

Integration

The Regional Environmental Boards are directly under MEPRD, they are not subordinated to agencies. However in some matters the agencies have a superior role to REBs. The coming law on pollution gives the responsibility of issuing integrated permits to REBs. There are estimated to be about 130 installations which will need an integrated permit. The distribution of these installations will not be spatially even across country. The less developed areas will have only few compared to Riga metropolitan area which will have many. This raises the question of whether the REBs of less developed areas will be able to develop the capacity to prepare proper permits and whether the capacity of the REBs in economically active areas will be sufficient.

The Proposed Pollution law (transposing IPPC) will bring some changes. Currently the REBs are mainly responsible for inspection. In case of complaint the ESI has the right to change the decision of a regional inspector. REBs are directly subordinated to MEPRD as well as ESI. The communication in these cases goes through MEPRD not directly from REB to ESI. This might cause delay and

misunderstandings. So far the claims / complaints have been rare. The SEIAB will be the first level appeal body for permits. If the claim is considered as rectifying the decision, there is no problem. However the appeal body should always be independent of the permitting authority. In the case of SEIAB this independence can be questioned as it has certain supervisory functions concerning integrated permits, but is subordinated to the MEPRD. Second instance for appeals concerning integrated permits is the civil court. Appeals on permits according to present legislation are very rare.

Administrative change

The 1999 Accession Partnership had as one of its short term priorities 'the strengthening of the environmental administration both at national and regional level'. A decision has been taken to reinforce the **State Environmental Impact Assessment Bureau** (also with a view to the additional functions the Bureau will assume in the area of pollution control), to strengthen the **Regional Environmental Boards**, and to establish a radiation safety centre as a matter of priority. Funds for this purpose have been earmarked in the national budget for 2000. In September 2000, a decision was taken to rationalise the collection and reporting of environmental data. Two existing institutions, the **Environment Consultation and Monitoring Centre** and the **Environmental Data Centre**, were merged to create a new body, the **Latvian Environment Agency**. At the moment it is still unclear whether some other institutions subordinated to MEPRD will be merged to LEA.

There is some discussion over possible future changes to administrative structures. One possibility is that the LEA will be strengthened and REBs will be subordinated to LEA. This will create a three level state environmental administration in a country of 2.4 million inhabitants. It may be questioned whether this is efficient way of arranging the environmental administration.

Another possibility is that LEA's main role will not be as an enforcement authority, but to carry out the responsibilities of monitoring, research and development and training of authorities. At the moment there is no institution which would have the responsibility of training of staff of the environmental administration. At present training is carried out through development projects. The Latvian University, Institute for Environmental Science and Management (IESAM) arranges some training courses for environmental authorities.

A further possible reform would be to separate the Inspection Departments of REBs from the REB and form them into regional departments of ESI. This would improve the communication between regional inspectors and ESI. However, it is necessary to ensure that communication between REB's permitting authorities, monitoring personnel and the inspectors is maintained, at least at the present level.

In total, about 30 different bodies are subordinated to MEPRD with varying levels of independence. The high number of different institutions and the lack of clarity over their respective responsibilities have been identified as a problem area. Some tasks are delegated to local municipalities – the most important of which are the management of non-hazardous waste and organising the water supply and waste water treatment. There are 564 self governments (municipalities or local authorities) in Latvia. This is a considerable number for a country with only 2.4 million inhabitants and means that municipalities often have, at best, only one person for a given environmental sector. This is of concern given that municipalities have responsibility for implementing several important sections of the environmental *acquis*. Municipal reform has been under discussion for some years but no

progress has occurred.

Capacity enhancement in Latvia is limited by the availability of funding sources. Although the general reform described above has funds identified in the general budget, there are further pressing problems. Most emphasis to date has been placed on national level institutions and some assistance is now in place for the REBs. However, some REBs still require additional resources and municipalities are unable to meet the requirements for environmental protection from their own limited budgets.

General

Latvia has an administrative structure based largely on national institutions and regional divisions of the MoE. A range of communication and co-ordination systems have been introduced at the national level. In structural terms these should be sufficient. However, their effectiveness should be kept under review. Capacity issues that require addressing include:

- A need to ensure effective co-ordination between the REBs and RDAs;
- The problem of co-ordination and communication between local authorities and REBs/national institutions;
- The need for enhanced capacity (staffing, technical support, etc) for some REBs and local authorities - thus requiring adequate funding;
- Reform of internal mechanisms to improve the integration of cross-media environmental protection.

3.8 Lithuania

The **Ministry of Environment (MoE)** is the main institution responsible for environmental protection. Main duties include development of legislation, environmental management, co-ordination of other institutions/stakeholders with role in implementing environmental legislation and policies, implementation of the environmental *acquis*. The MoE sub-ordinates:

- **State Environmental Protection Inspection (SEPI):** the main institution responsible for inspection and enforcement. The Regional Environmental Protection Departments are subordinate to SEPI concerning permitting and inspection.
- **8 Regional Environmental Protection Departments (REPDs)**. The regional departments main responsibilities concern permitting, environmental impact assessment, laboratory control and enforcement of environmental regulations. To carry out those functions, regional departments have a centrally-based core staff and district Environmental Protection Agencies. Inspectors have access to plants and installations. Operators have to keep inspectors informed. Inspectors can order laboratories to monitor pollution, and they can impose penalties if regulations or permit conditions are violated.
- **56 Environmental Protection Agencies** (City or district level, administered by the REPDs): are responsible for inspection, enforcement, monitoring.
- **Joint Research Centre (JRC):** is responsible for environmental monitoring. The laboratories of REPDs receives methodological support from the JRC.

Local government also has an important role in environmental protection with responsibilities to:

- organise the implementation of laws and governmental decisions on environmental protection;
- prepare, approve and implement the programmes, plans and projects concerning environmental protection and use of natural resources within their jurisdictions;
- permit the use of natural resources, within established limits.

The LAs could (if agreed with the Government) set stricter environmental standards in their own jurisdiction.

Sectoral implementation responsibilities are shared by the above institutions with:

Water quality:

- **REPDs** are responsible for permitting.
- **REPDs** and their agencies are responsible for inspection.
- **REPDs** and their laboratories with **JRC** are responsible for monitoring.
- **Ministry of Health**: approximation of requirements related to drinking and bathing water.
- **State Nutrition Centre** (SNC): data analysis and development of methods.
- **Public Health Centre** (PHC): drinking water monitoring and inspection.
- **42 Water companies** (owned by municipalities): management of water infrastructure.

Waste management:

- **REPDs** are responsible for permitting.
- **REPDs** and their agencies are responsible for inspection.
- **REPDs** and their laboratories with **JRC** are responsible for monitoring.
- **Ministry of Economy (MoEc):** hazardous waste management and waste recovery.

Air quality:

- **REPDs** are responsible for permitting.
- **REPDs** and their agencies are responsible for inspection.
- **REPDs** and their laboratories with **JRC** are responsible for monitoring.
- **Ministry of Economy:** fuel standards.
- **Ministry of Transport and Communications:** implementation of legislation that regulates pollution from mobile sources.

Industrial Pollution:

- **REPDs** are responsible for permitting.
- **REPDs** and their agencies are responsible for inspection.
- **REPDs** and their laboratories with **JRC** are responsible for monitoring.
- **Civil Protection Department, State Labour Inspectorate** and the **Ministry of Social Security** have responsibility for the area of prevention of industrial accidents.

There has been an initiative to merge the REPDs with the county administration. County administration in Lithuania is part of State administration. There are nine counties in Lithuania and their main task is in drawing up plans for regional development, which require environmental issues to be taken account of. A plan for the establishment of Environmental Protection Agency by 2002 has been prepared. The functions of EPA would be monitoring, permitting and EIA.

Table 3.8.1: Primary Implementation and Enforcement Responsibilities in Lithuania

MEDIUM	Preparation of Legislation	Preparation of Strategies and Plans	Issuing Environmental Permits	Monitoring (Background and Sites)	Inspection and Enforcement	Preparation of Reports
Air Pollution Control	MoE MoEc MoT	MoE MoT Municipalities	REPD	REPD JRC	REPD	REPD JRC
Water Protection	MoE MoH	MoE MoH	REPD PHC	REPD JRC PHC SNC	REPD PHC	REPD PHC
Waste Management	MoE MoEc	MoE MoEc	REPD	REPD JRC	REPD	REPD JRC
Industrial Pollution Control	MoE MSS	MoE REPD Civil Protection Department	REPD Civil Protection Department	REPD JRC Civil Protection Department	REPD Civil Protection Department	REPD JRC Civil Protection Department
Nature Protection	MoE	MoE REPD	REPD	REPD JRC	REPD	REPD JRC

Discussion of general capacity issues

Integration across environmental media

Integration of environmental protection across the different media is important. The National Council for Sustainable Development has been established. It is an attempt to integrate environmental objectives into the sectoral policies. The MoE Environmental Strategy Department is organised in an integrated manner. Environmental Quality Department consists of divisions for different media (air, water, waste, chemicals management, industrial pollution management). However, many issues are not regulation under the MoE, including: radiation control, hazardous waste, drinking and bathing water, air pollution from mobile sources, chemical's management, some of industrial pollution control issues and noise.

Communication and co-ordination

The most common reasons for inefficiency are non-communication and lack of action in areas for which more than one institution has responsibility. For example, implementation of the VOC Directive is not considered as one of the priority activities for the Ministries of Economy and Transport. Various mechanisms are in place, however, to assist in co-ordination. For example, at a national level any proposal for new environmental legislation (including secondary legislation) is circulated between all relevant ministries and institutions before its final form is decided. However, it is at the practical level of implementation that co-ordination can be poor. One example of a mechanism to improve this is demonstrated by that for EIA applications and other permit applications. Documents produced in support of an EIA are circulated amongst the relevant institutions (at different levels). These institutions can comment on them. Similarly, permit applications are also circulated amongst relevant authorities. However, these authorities may not always have all of the necessary information on which to base their comments (eg results of inspections).

Staff numbers

The Ministry of the Environment has 180 staff, while the total number of staff in environmental administration in Lithuania is 1624 persons (1998). The National Programme for the adoption of the *acquis* states that the approximation and implementation of the main requirements of the EU legislation by the year 2004 will require the restructuring of the national institutions responsible for the management of the environmental sector:

- human and material resources have to be increased significantly;
- administrative structures have to be reorganised, and, in certain cases, new administrative structures have to be established.

Until the end of 2003, most attention will be focused on:

- assistance to the Ministry of Environment in transposing the EU legislative requirements, in formulating the implementation plans and in assessing the effects of implementation of the new requirements,
- strengthening of supervisory enforcement institutions,
- establishment of new institutions,
- strengthening of local authorities.

During this period, the Ministry of Environment needs 17 additional positions, mainly for strengthening the management of water resources and the planning of investment projects. Other needs will be satisfied by a more intensive use of assistance provided by local and foreign experts.

Funds for the immediate staffing needs for the MoE have been allocated. However, the additional requirements for the implementation of IPPC, the water framework Directive and other resource intensive legislation will place great burdens upon the REPDs. Additional resources (both staffing and technical) will be required and these funds have, so far, not been earmarked. It is important that the Lithuania government recognises the need for resources at the sub-national level and includes these in plans for approximation.

Training and skills

MoE has benefited from specialist training. Local authorities require training on investment planning and monitoring of implementation in the field of water protection and waste management. Further training on Environmental Impact Assessment and implementation of legislation is planned. The Ministry of Environment is developing an institutional capacity assessment related to the implementation of EU requirements where further needs for institutional strengthening will be identified. An ongoing PHARE project is developing an Inspectors Training Programme. The project's experts will provide initial training according to the Programme.

General

Lithuania has a number of capacity issues that must be addressed, although significant improvements have taken place at the national level (or are planned for the near future). Capacity requirements include:

- Improvement in communication and co-ordination between institutions at a national level on the practical implementation of environmental legislation;
- Increased numbers of staff at a regional level and technical support, requiring the allocation of sufficient funds;
- Improved integration between departments in the MoE and REPDs to ensure an effective cross-media approach to environmental management;
- Enhanced skills training for staff, including implementation of current programmes.

3.9 Malta

The main responsible institutions for each environmental sector are as follows.

Water:

- The Ministry for the Environment (Drainage Department) has overall responsibility for waste water treatment.
- The Discharge Permit Unit within the Drainage Department has the role of regulating, monitoring and enforcing water quality, as well as offering the necessary scientific advice.
- The Department for Public Health (part of the Ministry of Health) is responsible for drinking water quality.
- The Malta Resources Authority is likely to have broad responsibility in the future for water quality (including permitting).

- The Planning Authority has the responsibility for the issue of land use permits for all waste water treatment facilities and all water production facilities (e.g. reverse osmosis plants). Planning permits often include strict conditions ensuring the operation of such facilities in line with internationally acceptable environmental standards.

Waste Management:

- The Ministry for the Environment has overall responsibility for waste management. The Waste Management Strategy defines WM policy and roles and responsibilities – it was developed by the Environment Protection Department. The Waste Management Strategy Implementation Department (part of the Works Division) is responsible for implementing the Waste Management Strategy by providing a variety of services to Local Councils and other organisations.
- There is no environmental permitting system as such for waste management but the Planning Authority does regulate the location and activities of waste management sites. Strict conditions governing the operation of waste facilities are included with all planning permits.
- The Planning Authority's Enforcement Section together with the Administrative Law Enforcement (ALE) unit of the police regularly takes court action against people dumping waste illegally. Enforcement by the EPD is limited to reporting acts of illegal waste management (e.g. tipping) to the Planning Authority and the police.

Air:

- The Ministry for the Environment has overall responsibility for air quality. Finalising draft legislation concerning air pollution emissions was a short term priority of the Maltese NPAA (February 2000)
- The PCCU (within the EPD) conducts air quality monitoring with a mobile monitoring unit.

Industrial Pollution Control:

Formal roles and responsibilities for the industrial pollution section of the a*cquis* are unclear and competencies are weak in this area.

- The PCCU has a monitoring role but this is weakened by a lack of resources.
- The Planning Authority jointly with the EPD play a significant preventive role through the administration of a strict EIA regime prior to the award of planning consent for industries with a potential to create significant pollution. The PA is also empowered to impose pollution discharge limits as operational conditions with permits.
- The Malta Resources Authority is likely to play an important future role in this area as it is to assume responsibility for energy issues. This will mean it will have responsibility for the two major stations (Marsa and Delimara) which account for the majority of industrial pollution control issues in Malta.

Nature Protection:

- The Ministry for the Environment (Environment Protection Department) has overall responsibility for nature protection.
- The Planning Authority (with an advisory role being played by the EPD, Department of Fisheries and Aquaculture and the Maritime Authority), is responsible for designating special conservation

areas (Areas of High Landscape Value or of Ecological Importance) where restrictions are placed on activities likely to threaten the environment.

- As of 1997, 22 nature reserves had been declared in Malta but only two of these are actually managed.

Table 3.9.1: Staff Numbers at Key Ministries/Agencies

Ministry/ Agency	***Total Staff***	***Staff Responsible For Environmental Issues***	***Notes:***
Ministry for the Environment:			
Works Division	3600	not available	
Environment Protection Department	60	30 with the rest of the staff occupying jobs of an administrative nature	This includes the staff in the Pollution Control Coordination Unit
Ministry of Health	4930	not available	
Planning Authority	350	35 staff employed directly with the Authority's Environmental Management Unit (EMU). However the majority of the staff work on environmental issues directly or indirectly.	Spatial planning may be considered as an environmental discipline. Consequently although most PA staff are not employed directly in the EMU they are still working on environmental issues. Among these one may mention staff working on Enforcement, Local Planning, Development Control, etc.
Malta Resources Authority	n/a	n/a	Not yet constituted.
Police	1880	25 members of staff are employed in the ALE unit.	As in the case of the Planning Authority a number of police officers are involved in environmental issues indirectly.
Department of Industry	40	not available	

Table 3.9.2. Primary Implementation and Enforcement Responsibilities in Malta:

ENVIRONMENTAL MEDIUM	Preparation of Legislation	Preparation of Strategies & Plans	Issue of (Environmental) Permits	Monitoring (Background and Sites)	Inspection & Enforcement	Preparation of Reports
GENERAL	Environmental legislation is generally prepared by the MoE.	Planning Documents (such as the Structure Plan, Local Plans, the Waste Management Subject Plan, etc.) already provide a legislative framework for the protection of the environment in line with EU requirements.	In the absence of a proper environmental licensing system the PA issues operational conditions (performance targets, standards, emission limits, etc.) attached to development permits. The PA always consults the relevant govt. Departments when drafting environmental conditions.	When operational conditions are included PA permits these are monitored by the Enforcement Section and also the Environmental Management Unit of the PA.	EMU and Enforcement (when operational conditions are attached with planning permits).	When part of planning permits it is usual practice that the PA obliges the developers/operators to finance the preparations of periodical reports by qualified experts.
Air Pollution Control	MoE (EPD).			Pollution Control Coordination Unit of the EPD		

Water Protection	MoE (EPD) and the Water Services Corporation (WSC).	The Planning Section of the Drainage Department prepares plans related to government wastewater treatmen projects. The WSC makes plans on the aquifer protection, etc.	Currently the WSC. Malta Resources Authority – for the energy sector.	Discharge Permit Unit (within the Drainage Department) Department of Public Health (microbiological monitoring programme) Pollution Control Coordination Unit of the EPD. Regular inspections by WSC.	Discharge Permit Unit (within the Drainage Department). WSC make regular inspections and also prosecute offenders who damage/pollute/interfere with aquifers	MoE/EPD/WSC
Waste Management	MoE (EPD/Works Division)	MoE	No permitting as such but the Planning Authority regulates the siting of new WM facilities and also imposes conditions on operational issues according to EU standards.	Waste Management Unit of the EPD	EPD reports illegal tipping to the police and PA. PA takes court action on the Basis of the Development Planning Act (1991).	
Industrial Pollution Control	MoE (EPD)	PCCU	Malta Resources Authority – for the energy sector (ie. Some IPPC and LCP affected installations).	Pollution Control Coordination Unit of the EPD		

Nature Protection	MoE (EPD)	EPD	Planning Authority (along with the EPD, Department of Fisheries and Aquaculture and the Maritime Authority) designate Special Conservation Areas.	Enforcement Unit and EMU of the PA and EPD, but only to a limited extent.	EPD/Planning Authority	

Discussion of general capacity issues

Communication and co-ordination

Planning for environmental protection (both generally and in relation to approximation) in Malta has been somewhat fragmented and has lacked focus. A major reason for this is the impending **Environmental Protection Act** which will form the basis for all future Maltese environmental legislation and planning. The Act has passed through Parliament and there is a commitment on the part of the Ministry for the Environment that it will enter into force by the end of the first quarter of 2001.

Malta's size (370,000 inhabitants) means that almost everything is done centrally. There is a lack of clarity about the roles of different agencies and how they all interact. Government agencies operate inefficiently and lack trained human resources. The only exception is the Planning Authority. This organisation, which operates quite autonomously, has attracted a lot of well trained staff and generally operates in line with international standards (including consideration of EU Directives). Malta's small size means that most of the key administrative actors know each other and in general are aware of one another's activities. However certain organisations tend to become particularly over-protective of their areas of responsibility. Sometimes this leads to lack of co-operation. In general government agencies are particularly focused on their own areas of responsibility. However an integrated approach is always adopted when assessing new development proposals within the planning process and in particular an integrated approach is always adopted whenever Environmental Impact Assessment is undertaken. The ideal scenario would be for just one organisation to be responsible for environmental regulation. This could be achieved by means of the creation of an environmental agency or the delegation of responsibility to existing well-equipped and competent organisations such as the Planning Authority.

There is a high degree of centralisation with a large proportion of administrative tasks being discharged through the various departments of the Ministry for the Environment. However, there is still a major weakness of poor co-ordination of procedures across environmental planning and regulation in Malta. Given the centralised systems in this country, it should not be difficult to develop a more integrated approach. This must be a priority within the approximation process, although it must not be limited to consideration of the EU *acquis* alone, but address environmental protection issues in the round.

Local government developments

The Maltese government is committed to promote and increase the role of local authorities in the day-to-day administration of the country. Local Councils are still a relatively new concept in Malta and each year central Government gives them more and more responsibilities. As regards issues of environmental importance, local councils contribute (through local wardens and the public) to the identification of sources of potential pollution (illegal tipping, etc.). Currently local authorities are also in charge of waste collection. The small size of Malta and correspondingly small bureaucracy is likely to mean implementation/enforcement of the environmental *acquis* is likely to be particularly difficult as staff numbers at the local level will remain small and ensuring adequate expertise across different competencies will require investment.

Resources: staff numbers and finance

Malta has estimated that M£215,000 (EUR 534,000) is needed for 'institution building' and 984,000 (EUR 2.44 million) for the training of personnel and technical assistance on top of the capital investments needed for implementing the *acquis*.

The major problem is not the issue of dependency on other organisations, but mostly that of the lack of staff and resources. There are major weaknesses in the waste management and industrial pollution control sectors but in other sectors (such as air quality), individual members of staff have a high degree of competency in a surprisingly broad range of areas (probably borne of necessity given the very low staffing levels). As far as forward planning is concerned, the Planning Authority has a highly skilled professional workforce (with the majority of professional staff trained at post-graduate level). The Forward Planning Division of the Planning Authority (consisting for the Environmental Management Unit, the Plan Making and Policy Development Unit and the Transport Planning Unit) has expertise in most environmental disciplines including, Environmental Economics, Waste Management, etc.

In government agencies staff numbers are a major problem (with low morale and retention of existing staff also particularly worrying). In the 'semi-autonomous' organisations (such as the Planning Authority) the problem is less pronounced. Such organisations normally require ministerial approvals for recruitment however, within the approved budgets such organisations are freer to employ the staff they require. Further such organisations are not bound with the payment restrictions of the civil service. Consequently they can offer decant remuneration packages and attract well qualified staff.

There is very little autonomy for staff budgets. For decisions which require significant expenditure cabinet-level approval is required. Malta's budget deficit is worryingly high and consequently the government is unwilling to authorise major additional expenditure.

Civil service organisations have minimal charges and revenue is directed to the treasury (central government). However, the Planning Authority has an established charging system for all development permit applications and all revenue (annual Lm 1.7 million) is kept by the organisation.

General

Given the size of the country, Malta's environmental enforcement institutions are high fragmented and present a poor framework for implementation of the environmental *acquis*. The following are the most pressing needs for capacity enhancement:

- There is a need to create effective co-ordination mechanisms between the range of national institutions responsible for environmental protection. Bringing some of these disparate functions together in single institutions would be beneficial. However, if responsibilities remain separate, the problems of communication failures must be addressed, eg by using the integrated Directives (EIA, IPPC, etc) to place legal duties on ministries;
- The possible increased role of local administrations may present further co-ordination difficulties. Plans to take this forward must include clear communication and co-ordination procedures and duties;
- Training and skills require enhancing.

3.10 Poland

Poland is one of the largest of the Candidate Countries and, therefore, there are significant central and devolved administrations involved in implementing the environmental *acquis*.

The main central (national) institution is the **Ministry of the Environment** which has an extensive departmental structure. However, in relation to approximation, the most important of these are:

Department of Ecological Policy and European Integration. This elaborates directions for the State ecological policy, initiates development of economic, organisational and legal instruments to implement this policy, initiates and co-ordinates sectoral actions for EU Integration, and initiates sectoral and inter-sectoral actions for regional, sectoral and local programmes.

Department of Servicing Foreign Assistance Funds The basic responsibility of this Department is to service the resources originating from foreign assistance, including co-operation with the EU institutions and Member States.

Department of Environmental Protection. Its responsibilities are: to develop policies for air and water protection, waste management, land surface degradation (except for the protection of agricultural and forest lands) and noise management.

Department of Forestry Nature Conservation and Landscape Protection. Its responsibilities are to develop policies for forestry, forest management, hunting, and nature conservation and landscape protection. It also elaborates and implements directions for action in matters concerning hunting and GMOs.

The National Fund for Environmental Protection and Water Management. The Fund is the largest institution financing environmental protection projects of a national or interregional scale in Poland, including those aimed at the implementation of EU legislation. The activity of the National Fund is supervised by the Minister of Environment. Annually the National Fund spend for environment protection investment is about 250 – 300 million EURO.

The Chief Inspectorate of Environmental Protection. The Chief Inspectorate is not part of the MoE but is works under supervision of MoE. The Chief Inspectorate is responsible for implementation of the national environmental monitoring system (establishing of references laboratories, using proper methodology of measures etc.), management of environmental emergency protection, transboundary movement of waste and regulation of the largest industrial units, ie the "List 80" (the most polluting industries). For most inspection activities, however, the Chief Inspectorate is only responsible for general co-ordination - primary inspection responsibility resting with the Voidvoships.

Other central institutions

Environmental management in the context of European integration is not exclusively the domain of the MoE and its subordinate bodies. Transposition, practical implementation of the European environmental legislation, and the execution of the sustainable development strategy, lies also within the scope of responsibility of other central authorities, such as:

- **The Minister of Health and Social Assistance and State Sanitary Inspection** (quality of drinking water and water in reservoirs used for bathing, chemicals).
- **The Minister of Economy** (adjustment of energy and fuel sector, selected types of waste, noise).
- **The Minister of Agriculture and Rural Development** (agri-environmental programmes, non-point water pollution, sanitation of rural areas, EU forestry regulations).
- **State Nuclear Agency** (radiological protection).
- **Office for Housing and Urban Development** (municipal economy e.g. municipal waste management, municipal wastewater management etc.).
- **The Minister of Transport and Marine Economy** (impact of transport on the environment).
- **The Minister of Finance** (economic instruments).
- **The Minister of State Education** (environmental education).
- **The Minister of National Defence** (waste management, environmental education).
- **Office of the Committee of European Integration** (support of other central, regional and local institutions in implementation of the EU requirements and support of the negotiation between Poland and EU)
- The **National BAT Centre** (to start operating in June 2001) will establish BAT standards and emissions limit values for individual installations/sectors. The centre will also be responsible for keeping a national register of integrated permits (MoE, 2000).

Regional and local institutions

Administrative reform in Poland, including a preference for decentralisation, will mean that the implementation of environmental legislation will be undertaken by the poviat and voidvoship administrations established at the beginning of 1999. On the 1st of January 1999 poviat and voidvoship self-government levels were created in addition to the gmina level, which has been in place since 1990. Much of the power of governmental administration was transferred to the poviat level – including primarily the competencies of territorial offices of governmental administration, special governmental administration, and a significant part of voivod's powers. Responsibilities related to supervision, control, intervention, and police belong to the government and governmental authorities. Fundamental functions to be undertaken by the Minister and central units in the new constitutional system are: ensuring execution of legal acts, preparation of governmental programmes, implementation of governmental programmes and state policy in a given domain, legislative activities.

The 16 Voidvoships (Regional Government, provinces) are responsible for implementation of legislation and take decisions on environmental investments. At their level, they are responsible for permitting and inspection. Voidvoships have responsibility for all activities that are especially harmful to the environment. The Poviats (counties) are responsible for the implementation of environmental policy at county level, including both permitting and inspection. The poviats are responsible (in certain circumstances) for issuing permits. Gminas (Municipalities) are responsible for carrying out decisions for implementation taken at higher levels, and have direct responsibility for waste

management and particularly municipal waste. Gminas regulate and control the quantity of industrial discharges into sewage systems.

Voidvoship Inspectorates for Environmental Protection are responsible for the enforcement of environmental legislation, controlling compliance and for monitoring environmental quality. Individual aspects of activities of the Voidvoship Inspectorates include:

- Inspection activities
- Air quality monitoring
- Surface water monitoring
- Waste monitoring
- Ecological monitoring
- Environmental education

On the 1st January 1999 the voidvoship inspectorates for environmental protection were incorporated to voivod's administration.

Voivodeships (16), Poviat (ca. 350) and gminas (ca. 2500) Funds for Environment Protection and Water Management. These Funds support environmental investment at the regional or local level. They will play an important role in implementation of EU Directives, especially those which are focused on environmental investment made on the local level (municipal wastewater treatment, implementation of local/regional waste management plans etc.)

In order to ensure more efficient implementation of public tasks which surpass in their substantial and financial size the real possibilities or needs of individual gminas, inter-gmina cooperation in different forms may be launched. There are three basic forms of cooperation between gminas:

- inter-gmina (municipal) cooperatives;
- municipal agreements;
- gmina associations.

This type of cooperation can be effectively used as a subsidiary form of expressing preferences of local communities regarding such problems as spatial management of the regions, priorities and rules of investment, industrial policy etc. Gmina associations may together prepare the implementation programmes of sustainable development and programmes of the implementation of environmental protection investment.

Table 3.10.1: Primary Implementation and Enforcement Responsibilities in Poland

MEDIUM	Preparation of Legislation	Preparation of Strategies and Plans	Issuing Environmental Permits	Monitoring (Background and Sites)	Inspection and Enforcement	Preparation of Reports
Air Pollution Control	MoE	MoE CIEP Voidevoships	Voidvoships	CIEP Voidvoships	Voidvoships	CIEP Voidvoships
Water Protection	MoE MHSA MoARD	MoE CIEP MHSA MoARD Voidvoships	Voidvoships SSI Poviats	CIEP SSI Voidvoships	CIEP SSI Voidvoships Poviats Gminas	CIEP SSI Voidvoships
Waste Management	MoE OHUD	MoE OHUD Voidvoships	Voidvoships Poviats	CIEP Voidvoships Poviats	Voidvoships Poviats Gminas	CIEP Voidvoships
Industrial Pollution Control	MoE	CIEP Voidvoships	CIEP Voidvoships Poviats	CIEP Voidvoships Poviats	Voidvoships Poviats Gminas	CIEP Voidvoships
Nature Protection	MoE	MoE Voidvoships	Voidvoships Poviats	Voidvoships	Voidvoships Poviats	Voidvoships

Control of implementation and legal execution

The most important institutions are the Chief Inspectorate of Environmental Protection and Voidvoship Inspectorates of Environmental Protection. On the 1st January 1999 the voidvoship inspectorates for environmental protection were incorporated to voivod's administration. The Voidvoship Inspector for Environmental Protection has broad rights in the area of control of compliance with environmental protection requirements and in issuing post-control decisions, including:

- order to include special action in respect to protect the environment;
- stopping activities which cause violation of environmental protection requirements,
- imposing specific obligations,
- imposing financial fines.

Control rights are also included in the scope of competencies of the gmina and poviat authorities. In justified cases the gmina board can make a decision on implementing controls related to compliance with environmental protection regulations. If there is a suspicion of violation of the rules on environmental protection by the specific unit, the starosta, wojt, mayor or president can make a request to the voidvoship inspector of environmental protection to undertake the relevant activities due to the regulations of the act on Inspection of Environmental Protection.

State Environmental Monitoring, established according to the Act of 1991 on State Inspection of Environmental Protection, is coordinated by the Main Inspector of Environmental Protection. Analyses implemented within the framework of State Environmental Monitoring cover all environmental media and are performed according to a multiannual programmes approved by the Minister of Environment, on the basis of the National Environmental Policy. The measurements are performed by the voidvoship inspectorates of environmental protection, other administration units, e.g. the Sanitary Inspection, and scientific institutes.

Staff numbers

The MoE employs around 300 people (European Commission, October 2000). The funds of gminas are limited (they are raised through local taxes) and staff in charge with environmental protection activities need to be trained (European Commission, October 2000). Various objectives have been set to improve staff numbers in different institutions:

- In the water quality area, in the next two years, 470 new posts will be created, of which 460 in local and regional offices (European Commission, November 2000).
- In the waste management area, 680 new full-time jobs will be created in the period 2000-2002: 5 at the central level and the rest in local and regional offices (MoE, 24 August 2000).
- Air quality: In 2001, new personnel will be recruited as follows: 8 at central level (MoE & Chief IEP), voidvoships: 64 staff (32 Environmental Departments and 32 for Voidvoship Inspectorates), local institutions: 40 staff (25 for poviats and 15 for gminas) (MoE, 24 August 2000).
- The implementation of the IPPC Directive requires new staff. From 2001 more staff will be employed as follows (MoE, March 2000):

- MoE: 3 full-time jobs equivalent.
- Voidvoships: 2 full-time jobs equivalent each.
- Poviats: 1.5 full-time job equivalent each.
- Gminas: 0.5 full-time job equivalent each.
- Overall, 300 new posts related to the implementation of the IPPC Directive will be created from 2001 (European Commission, November 2000). The costs related to this recruitment will be covered from the state budget (MoE, March 2000).
- The National BAT Centre needs office equipment; this is expected to be covered from Danish assistance funds.

Discussion of general capacity issues

Communication and co-ordination

The European Commission has regarded the overall exiting administrative capacity as *'a matter of concern'* and voidvoships and poviats as *'financially weak and lack[ing] knowledge about EC requirements'* (European Commission, 2000).

At a national level there is a significant problem in ensuring effective co-ordination of functions between national ministries. Some structures have been established to improve this, eg inter-ministerial committees, but these need strengthening. However, of greater concern is the co-ordination between the national, regional and local levels. Communication between Voidvoships and the MoE is very limited (European Commission, 2000). A Join Commission made of representatives of the National Government and Local Governments is planned to be established for the purpose of improving co-operation and communication (MoE, 24 August 2000).

Restructuring and resource implications

The voidvoships have been recently restructured and their number reduced from 49 to 16. In the water protection area, voidvoships that cover large water basins have more influence on investment decisions related to water protection than the smaller ones. Therefore, Poland will need to establish investment priorities and to make sure that the burden of compliance costs is equally spread across the water basins (World Bank, February 2000). The impacts of the territorial organisation on implementation and enforcement of environmental legislation have not been assessed yet (European Commission, October 2000).

Gminas are independent from financial point of view; their funds are generated through local taxes. According to the new administration structure gminas and poviats have a lot of duties and in most cases treat environment protection as a less significant problem. Additionally because gminas and poviats are independent, the government has no (or rather limited numbers) instruments to force local administration to invest in priority (from the Government point of view) areas. It can make implementation of requirements of EU legislation difficult – because on the local level construction of the new road could be seen as much more important problem than construction of sewage system or wastewater treatment plant.

The radical administrative reform, the decentralisation of responsibility to institutions that did not previously undertake these functions and the lack of resources and training to undertake them, means that the voidvoships, poviats and gminas do not yet have sufficient capacity to implement the environmental *acquis*. Decentralisation requires significant additional resources (due to diseconomies of scale) and the staff recruitment and training will take some considerable time once these resources are allocated. Overall, this presents a major challenge to the Polish plans for approximation.

Integration of environmental protection

There is some debate about integration on the policy formulation level (during preparation ecological policy on the national, regional or local level) especially during selection policy objectives (short-, medium- or long term goals) and preparation of the investment (financial) strategy. However, in permit procedures the media are treated separately (all standards which have to be implemented are regulated by law).

General

Poland has a number of challenges to effective approximation. The slow pace of transposition does not assist in ensuring enforcement institutions are ready for the new challenges that the *acquis* poses. However, this challenge is increased by the radical administrative reforms described above. The resulting administration is far from ready to implement the *acquis* and the most important problems include:

- A need for improved co-ordination of practical implementation of environmental legislation at a national level;
- Improved mechanisms at all levels to ensure an integrated approach is taken to environmental protection;
- A major programme of staff recruitment and training at voidvoship, poviat and gmina levels is needed and this requires extensive funding. A number of candidate countries have capacity problems at sub-national level. However, it is important to stress that this is particularly acute in the case of Poland.

3.11 Romania

The main national administrative institutions for environmental legislation are as follows. The **Ministry of Water and Environment Protection (MoWEP)** has the main responsibility for implementing the environmental *acquis.* At a central level the MoWEP shares its responsibility with the following ministries (see table 3.11.1):

- The **Ministry of Development and Prognosis (MDP) –** former Ministry of Industry – has legislative responsibilities related to the industrial sector, i.e. the IPPC Directive. MDP develops sectoral strategies and plans and is also in charge of the regional development programmes (through the National Agency for Regional Development, as part of the MDP). MDP develops also legislation and policies on fuel quality.

- The **Ministry of Health and Family (MHF)** has implementation responsibilities for Urban Wastewater, Nitrates and Air quality Directives.
- The **Ministry of Agriculture and Forest (MAF)** plays an important environmental role in implementing the Nitrates and Drinking Water Directives.
- The **Ministry of Public Works, Transport and Housing** has primary responsibility for ensuring that infrastructure required for the implementation of investment-heavy Directives is put in place. The MPW also develops legislation on the protection of the natural and cultural heritage.
- The **Ministry of Public Finance (MPF)** makes decisions on the budget allocated to environment protection. Due to budget constraints, it could veto the MoWEP initiatives.

Table 3.11.1: Primary Implementation and Enforcement Responsibilities in Romania

MEDIUM	Preparation of Legislation	Preparation of Strategies and Plans	Issuing Environmental Permits	Monitoring (Background and Sites)	Inspection and Enforcement	Preparation of Reports
Air Pollution Control	MoWEP MDP MoHF	MoWEP MDP Local Authorities	MoWEP IEPs	Firms &Enterprises (self-monitoring)	MoWEP (DECM) IEPs	MoWEP
Water Protection	MoWEP MoPW MDP MoAF MoHF	MoWEP NCRW MoPW Local Authorities	MoWEP IEPs NCRW	NCRW IEPs	MoWEP (DECM) IEPS	MoWEP
Waste Management	MoWEP	MoWEP MDP Local authorities	MoWEP IEPs	IEPs	MoWEP (DECM) IEPS NCRW	MoWEP
Industrial Pollution Control	MoWEP MDP	MoWEP MDP	MoWEP IEPs	Self-monitoring IEPs	MoWEP (DECM) IEPs	MoWEP
Nature Protection	MoWEP MAF MPW	MoWEP MPW Local Authorities	MoWEP MPW	IEPs	MoWEP (DECM) IEPs	MoWEP

Other institutions at central level, with sectoral responsibilities, are:

- The Directorate for Ecological Control and Monitoring, established within the MoWEP, is in charge for overall inspection and enforcement.
- The State Inspectorate (within the MoWEP) is responsible for inspection and enforcement in the water sector.
- The National Company Romanian Waters (NCRW) is responsible for preparing water management plans and programmes. Through its 11 branches, corresponding to the river basins, it also responsible for enforcing water legislation and policy.
- The National Institute for Meteorology, Hydrology and Water Management provides technical support in air quality and emission control, water quality, radioactivity, data collection and emissions inventory.
- The Institute for Public Health is the expert agency of the Ministry of Health and Family, carries out research, collects and processes data on various aspects of environment that might impact on human health (e.g. air pollution, radiation, noise).
- The Romanian Standards Institute develops fuel quality standards.
- The Romanian Research Marine Institute and the R&D Institute of the Danube Delta, play an important role in conducting research and monitoring for the Black Sea and the Danube Delta, respectively.

Some co-ordinating mechanisms at a national level have been established. For example, an Inter-Ministerial Committee, created by ministerial order, has responsibility for drafting legislation. It has drafted legislation in support of the introduction of Waste Framework Directive, as an implementation priority of the European Commission. Also a permanent Industrial Pollution Control Working Group was established (with staff from MoWEP and MDP) for the implementation of the IPPC Directive and coordination with other related Directives.

At a sub-national level the following institutions are responsible for the *acquis:*

- **42 Inspectorates for Environment Protection (IEPs) –** corresponding to the 42 counties of the country – for permitting, inspection, enforcement and monitoring. They report to the MoWEP, but are partially self-financed.
- **Local Authorities,** at the county and municipal levels, manage environmental infrastructure (i.e. wastewater treatment works, water and sewage networks, landfills), identify and propose

environmental projects for investment, grant development permits and provide environmental services to the population.

- **Local Agriculture Agencies –** at county level – enforce and monitor the Nitrates Directive.

Discussion of general capacity issues

Responsibilities and environmental integration

The distribution of responsibilities between the national and local levels are generally well defined, in terms of implementation and enforcement of the *acquis*. The overall approach is integrated across the media, with special emphasis on water, where the NCRW has a broader role in permitting, inspection and enforcement. Experience is limited in applying economic instruments to environment protection, in human and project management and especially in working with other stakeholders (i.e. NGOs, the private sector). Charges for permitting have been introduced as of June 2000. Non-compliance fines that are applied are too low to act as a disincentive for polluters (the level of fines has not been revised and indexed to inflation since 1998).

Co-ordination and communication

Public bodies in charge have a fairly good experience in legislation drafting, transposition and implementation. However, channels of communication between various ministries are not well established, in particular between the MoWEP, the MDP and the MPF. The co-ordinating bodies described above do assist to some extent and they act as a template for improvement. However, significant changes are required to achieve adequate levels of co-operation between ministries.

Co-ordination between the national and county (IEP) level is also poor. The partial self-financing of the IEPs, while important in a high resource constrained environment, does tend to increase their autonomy. Their understanding of the requirements of EU environmental legislation is often poor and this is partly due to a lack of communication (and training) provided from Bucharest. Communication is often limited to basic state of environment information and does not address the technical (and policy) implications surrounding permitting and inspection. This is an area that requires significant attention in Romania's plans for approximation.

Staff numbers and resources

The administrative capacity, the effectiveness of the personnel and technical equipment for monitoring, inspection and enforcement are below the need of the implementation of the *acquis*. Staffing levels are still insufficient: the MoWEP employs around 200 people and each of the IEPs has around 40 staff. Understaffing is due to budget restrictions; unattractive salaries make recruitment difficult. To stimulate the staff, IEPs gained partial financial autonomy as of June 2000, enabling

them to use parts of the revenues from permitting and penalizing for investments, equipment and incentives to personnel.

Budget decentralization also affects local authorities, which from 2001 have the responsibility for implementing investment-heavy Directives (such as the Urban Waste Water Treatment Directive). Such a responsibility may prove very challenging, taking into account their limited budgets.

General

In conclusion, Romanian institutions have a relatively recent experience in the field of environmental protection. They have a good technical expertise/experience, but limited experience in management, economics and enforcement of the environmental legislation. The main weaknesses with respect to the implementation and enforcement of the *acquis* are:

- Insufficient coordination at the central level between the ministries involved, i.e. the MoWEP, the MDP, the MAF and the MPF, with more clearly defined responsibilities and a better communication.
- Limited experience in introducing economic instruments and in managing human resources and projects.
- Limited staff engaged in the overall process and lack of equipment at the local level; recruitment is severely limited by low wages and budget limitations.
- The currently applied economic instruments have to be replaced by the Environmental Fund Law (presently in draft and awaiting amending).

3.12 Slovak Republic

There is a range of national level institutions responsible for implementing environmental legislation. The primary institution is the **Ministry of Environment (MoE)**, which is responsible for the management and protection of the environment, including policy and legislation, and covers nature protection, protection of quality and quantity of waters, air protection, waste management, land use management and building code, environmental information systems and environmental monitoring and geological research and survey. The MoE sub-ordinates several departments/agencies charged with implementation of environmental legislation:

- **Slovak Environmental Inspectorate (SEI):** responsible for compliance and enforcement of permits. SEI consists of the Headquarters in Bratislava and regional inspectorates located in Bratislava, Nitra, Zilina, Banska Bystrica, and Kosice. There are 3 air units (departments), 5 water and 5 waste units and 4 units for nature protection. The location of inspectorates is structured to meet the demands of individual regions (for example the water inspectorates are located according to river basins, there is no inspectorate in Nitra for nature protection due to the absence of nature protection areas in this region, etc.).

- **Slovak Environmental Protection Agency (SEA):** The SEA is an expert agency supervised by the Ministry of Environment (it does not have any regulatory or policy planning responsibility). Its activities are carried out in the following areas: territorial planning, nature and landscape protection, waste management, environmental information and monitoring, EIA, RA/RM, and environmental education and public relations. The headquarters of the SEA is in Banska Bystrica. The SEA is financed from the state budget. The SEA cooperates with other professional agencies, mainly with SHMI.
- **Department for the Implementation of EC-financed Projects and Programs:** a new agency within the MoE with its director reporting to the Minister. It is expected to have three units, but their roles are not clear yet.
- **Slovak Hydrometeorological Institute (SHMI):** provides technical support to the MoE in the areas of air quality and air emissions, water, radioactivity, data collection and emissions inventory.
- **State Environmental Fund (SEF)** (constituted as a national institution) generates revenue from pollution charges, pollution penalties, and state budget contribution. It allocates funds for (mainly) public environmental investment projects.

Other ministries with environmental protection responsibilities include:

Ministry of Health (MoH) is the central authority for the protection of human health and workplace safety. It is responsible for regulations on drinking water and recreational waters. It supervises hygienic offices that issue hygienic statements to different operations (cooperation between environmental and hygienic offices is established). The expert agency to the Ministry of Health is the State Health Institute (SHI) that carries out monitoring of drinking water and other aspects of the environment that might impact on human health (for example, radiation). There are 35 SHI units and 2 specialised SHIs in Slovakia.

Ministry of Economy (MoEc) is the founding authority for state-owned industrial companies. Currently, approximately 80% of enterprises are already privatised. However, the biggest air polluters come from the state owned or strategic enterprises where the Ministry of Economy presently does not address the state environmental policy. It also supervises the Slovak Energy Inspectorate that carries out the advisory and inspection tasks in energy consumption and savings, but has no environmental role except in relation to energy consumption.

Ministry of the Interior (MoI) is responsible for the organisation and personnel policy of the regional and district offices. The MoI does not deal directly with environmental issues.

Ministry of Transport and Telecommunication (MoTT) is responsible for setting emission limits for vehicles. However the enforcement authority was delegated to the police. No environmental policy for the transport sector is in place. However, all transport infrastructure projects and investments are subject to environmental impact assessment.

Ministry of Soil Management (MoSM), also translated as the Ministry of Agriculture, plays an important environmental role in the water sector through the Slovak Water Management Enterprise (SWME) and Water Supply and Sewerage (WSaS) Companies (water works utilities). Through these organisations the MoSM controls the water services provided to the public (and to industry and

agriculture) and water management activities, including irrigation schemes, flood protection, and hydroelectricity production. There are five Water Supply and Sewerage Companies (with regional directorates), together operating 77% of total water supply mains and 198 treatment plants and serving 51% of the population. The SWME was established recently (in 1997) through the merger of four river basin enterprises that manage river systems. The MoSM supervises following agencies that relates to the environmental issues:

- **State Water Management Fund (SWMF)**, which is administered by the Ministry of Soil Management (also known as the Ministry of Agriculture) generates revenue from the state budget and from water abstraction charges. It funds (through subsidies) infrastructure projects within the Ministry of Soil Management, subsidises cost recovery for the state-owned river basin enterprises, supports research at the Water Research Institute, and mitigates flood accidents.
- **Water Research Institute (WRI)** is the expert organisation of the MoSM that carries out the water research, collects and process data on Water Supply and Sewerage companies. The National Reference Laboratory was established (accredited) under the WRI.

Sub-national institutions

At a Regional level there are 8 Regional Environmental Departments (REDs) are responsible for implementation of environmental policy (including permitting for large installations or activities that impact transboundary waters). They report to the MoE, but are managed, co-ordinated and financed by the MoI.

At the district level there are 79 District Environmental Departments (DEDs) responsible for the enforcement of environmental policy in all media of the environment at a local level, together with the permitting (authorisation) of activities that impact on environmental quality. In addition, they issue physical planning and building orders. Like the REDs, the DEDs report to the MoE but they are co-ordinated, managed and financed by the MoI.

At the local level Municipalities operate 4% of public drinking water supply and waste water collection systems, including wastewater treatment. They have limited decision-making powers, but are responsible for ensuring quality of supplied drinking water, management of flood response activities, and for the final disposal of municipal solid waste. They also issue permits for small, local sources of air pollution.

The Government is considering the reform of public administration and the further decentralisation of decision-making and budget allocations to newly-proposed "regions" ('zupa'). Additional responsibilities are expected to be given to the municipalities. The environmental state administration is excluded from these proposed changes, and the intention is to re-establish the state environmental administration as it was before 1996. Under planned reforms the "Regional Offices" (zupa) will become self-governing, responsible for economic and social development for the regions. In addition, an independent environmental state administration ("specialised state administration for environmental protection") would come under the direct control of the MoE. This would simplify the process of capacity-building around the regional environmental offices.

Table 3.12.1: Primary Implementation and Enforcement Responsibilities in the Slovak Republic

MEDIUM	Preparation of Legislation	Preparation of Strategies and Plans	Issuing Environmental Permits	Monitoring (Background and Sites)	Inspection and Enforcement	Preparation of Reports
Air Pollution Control	MoE MOTT	MoE SEI SEA	SEI REDs Municipalities	SHMI SEA REDs	SEI REDs Municipalities	SEI SHMI REDs
Water Protection	MoE MoH MoSM	MoE SEI SEA MoH MoSM	SEI SHI REDs Municipalities	SHMI SEA SHI WRI REDs	SEI SHI REDs Municipalities	SEI SHI SHMI REDs
Waste Management	MoE	MoE SEI SEA	SEI REDs Municipalities	SHMI SEA REDs	SEI REDs Municipalities	SEI SHMI REDs
Industrial Pollution Control	MoE	MoE SEI SEA	SEI REDs Municipalities	SHMI SEA REDs	SEI REDs Municipalities	SEI SHMI REDs
Nature Protection	MoE	MoE SEI SEA	SEI REDs	SEA REDs	SEI REDs	SEI REDs

Staffing

The implementation of EU requirements calls for an increase in staff in all agencies. The approximation strategy is under development and the administrative demand (including monitoring requirements and cost assessment) will be ready in September 2001. The current numbers of staff in each institution is as follows:

Institution	**Total Number of Staff**	**Number of Environmental Staff**
Ministry of Environment	310	310
Slovak Environmental Inspectorate	154	154
Slovak Hydrometeorological Institute	511	511
Regional Environmental Departments (8)	28	28
District Environmental Departments (79)	120	120
Slovak Environmental Protection Agency	263	263
State Environmental Fund	25	25
Ministry of Soil Management (The Water Management Division and the Department of environmental protection)	35	35
Slovak Water Management Enterprise	4,472	Unclear
WSaS Companies (5)	9,448	Unclear
Water Research Institute	254	254
State Health Institute	3084	Unclear

Discussion of general capacity issues

Responsibilities

There are shared competencies with the Ministry of Soil Management (water), Ministry of Health (drinking water), Ministry of Transport and Telecommunications (mobile sources) and the Ministry of Regional Development (urban planning and rural development). This sharing of competencies is common and can work well (e.g. MoE/MoTT), but it requires an acceptance of roles and effective co-ordination/communication – which does not always occur. There is, for example, a long-time lasting (more than 5 years) discussion on the adoption of new Water Act without reaching any consensus between the MoE and MoSM. It has roots in the allocation of responsibilities at the time when new MoE has been established and has taken the responsibilities from old Ministry of Forest and Water Management. The coordination and communication procedures are poor at political level rather than technical and expert levels.

Integration of environmental protection

The approach in relation to policy, strategy and planning is partially integrated across media. The Environmental Impact Assessment procedures are applied for activities listed in the Act on EIA. Permitting is carried out at Regional/District level, but the permits themselves are only partly integrated across media (separate, but linked within a single permit document). Inspection and enforcement is not integrated but linked, there being separate inspectorates (SEI) for each medium (water, waste, air) and for nature.

Communication and co-ordination

There is limited communication and co-ordination at the national level. The main problems concern co-ordination between different ministries. However, of more serious concern are the problems of co-ordination between national and sub-national institutions.

District and Regional Environmental Departments are controlled by the Ministry of Interior. However, these Departments are required to implement policies developed by a range of ministries. For example, Energy Policy and Agricultural Policy are based on documents developed by relevant ministries and not cross-checked with Environmental Policy. One reason for this is the lack of consultation (including public consultation) at a national level on strategic policy development by these ministries. However, at a practical level there is also a failure to discuss the details of implementation. The reporting lines of the Regional and District Departments to the Ministry of Interior can also present problems to the MoE as it does not necessarily have sufficient authority (including financial) to insist on its requirements for action.

Monitoring institutions are also fragmented (SHMI – surface and ground water, air emissions and ambient air quality, WRI – surface water and monitoring of water works utilities, SWME – surface waters, SHI – monitoring of drinking water safety, and recreational waters, SEA – hazardous waste disposal, Statistic Office – municipal solid waste).

Resources and staffing

The SEI is understaffed and lacks resources to carry out inspections regularly. Although there are no staff problems at other institutions, organisations responsible for monitoring face a lack of resources (equipment for sampling, laboratories, and equipment) to carry out their tasks.

There is a particular gap in terms of staff numbers and professional capacity in the District and Regional Environmental Departments. In recent years, the reorganisation of the state administration and shift of management responsibility from the Ministry of Environment to the Ministry of Interior (in 1996) resulted in decreased capacity at district and regional levels. There has been less training and high levels of staff turnover, which has inhibited effective operation.

Budget limitations, which are not always set by the MoE (e.g. by the MoI in the case of REDs and DEDs, and general cuts are directed from the Ministry of Finance). Each ministry must negotiate with the MoF on every proposed increase.

The state budget pays for inspection and permitting services. There are administrative fees (charges) for any application (permits for emissions to water, land and air). The fee of a permit is around 1,000 SKK (approx. 23 EURO). The revenues generated go directly to the general state budget and not to the permitting authority, although part is used to cover administrative costs.

There are pollution charges for air, water, solid waste disposal (a portion goes also to municipalities) and substances depleting the ozone layer. These provide the revenue of the SEF. There are also water abstraction charges, which provide the income of the SWMF. In addition there are charges for the agricultural forestry land that is requested for other than agricultural and forestry purposes (income of

the specialised funds under the Ministry of Soil Management). Environmental charges are also imposed for mining activities.

Most staff are well-educated and trained. There is obligatory in-service training (two seminars per year) that all staff are obliged to attend. Those issuing permits are obliged to have a certificate with the appropriate qualification to carry out the necessary administration, based upon training provided by the Ministry of Environment. However, new EU requirements will call for re-training and strengthening all institutions.

General

In conclusion Slovakia has well-established agencies at national, regional & local levels, with (generally) good links between them. However, the following problems need to be addressed:

- District and Regional Environmental Departments report to Ministry of Interior rather than MoE. This present significant co-ordination difficulties that must be resolved;
- There are generally good levels of experience and technical competence in most relevant agencies at national level. However, deficiencies occur at the regional and local levels and training resources are required;
- There is a lack of integrated (cross-media) approach to environmental issues;
- Budget constraints limit recruitment of new staff (and training) needed to secure full implementation of *acquis*.

3.13 Slovenia

The central (national) institutions responsible for the implementation of the *acquis* in Slovenia are:

Water:

- The **Ministry of Environment and Spatial Planning (MESP)** is the key competent authority for the water sector. Within MESP there is a department called the *Office for Water Management* is responsible for a range of different water management tasks.
- The **Ministry of Agriculture, Forestry and Food (MAFF)** has responsibility for the Nitrates Directive. The Inspectorate for Agriculture (IFA), an agency of MAFF, has a role in enforcing the Nitrates Directive.
- The **Ministry of Health** is responsible for the Drinking Water Directive and has a consultative/monitoring role with the Dangerous Substances Directive. The Inspectorate for Health is responsible for enforcing the Drinking Water Directive.
- The **Nature Protection Administration of the Republic of Slovenia (NPA)** and local authorities are responsible for preparing strategies and plans. NPA, along with MAFF and local authorities, is responsible for issuing permits designed to ensure water protection.
- The **Hydrometeorological Institute (HMI)** is responsible for monitoring water quality.
- The **Inspectorate of the Republic of Slovenia for Environment and Spatial Planning (IRSEP)**, the Inspectorate for Agriculture and local authorities all have responsibility for inspection and enforcement.

Waste Management:

- The **Ministry of Environment and Spatial Planning (MESP)** is the key competent authority for the waste management sector.
- The **Ministry of Health** has a consultative and monitoring role with the Shipment of Waste Directive.
- The **NPA** and **local authorities** are responsible for preparing strategies and plans and issuing environmental permits. The NPA and enterprises themselves undertake monitoring.
- **IRSEP** and **local authorities** undertake inspection and enforcement activities.

Air:

- **MESP** is the main ministry in the air quality field and is responsible for preparing strategies and plans.
- The **NPA** and **local authorities** issue permits for air emissions.
- The **HMI** and enterprises themselves undertake monitoring of air emissions.
- **IRSEP** and **local authorities** undertake inspection and enforcement activities.

Industrial Pollution Control:

- **MESP** is the main ministry in the field of industrial pollution control and is responsible for preparing strategies and plans.
- The **Ministry of Health** has a consultative and monitoring role with the SEVESO II (COMAH) Directive
- The **NPA** and **local authorities** issue permits related to industrial pollution control. The NPA and enterprises themselves undertake industrial pollution control monitoring.
- **IRSEP** and local authorities undertake inspection and enforcement activities.

Nature Protection:

MESP and **MAFF** are the two main ministries in the field of nature protection and, together with the **NPA** are responsible for preparing strategies and plans. National and Regional Parks are the responsibility of MESP, while smaller parks are the responsibility of local authorities.
The NPA, local authorities and National Park (the Government agency responsible for managing Slovenia's national parks, reporting to MESP) are responsible for issuing permits related to nature protection.

Local authorities, the IFA and National Park are responsible for monitoring and inspection and enforcement.

The numbers of staff in each of these institutions is given below.

Ministry/ Agency	***Total Staff***	***Staff Responsible For Environmental Issues***	***Notes:***
MESP	110	110	The 110 staff does not include those in agencies, almost all of these are involved in legislation development and planning simultaneously. Total with all regional offices and agencies (NPA, HMI etc.) MESP employs about 1100 people.
MAFF	591	~10	
IRSEP	>100	32	All of the 32 IRSEP staff with environmental responsibilities were involved in inspection activities. Officially there should be 69 inspectors (theoretical complement); recently approval has been obtained to recruit another 23 inspectors, helping to move towards the theoretical complement.
NPA	110	110	Total staff in May 2000. There is information on staff in each sector (general, water, environment, nature, natural disasters, regional offices), but not divided by responsibilities, but most of the work is in permitting (rough estimate 80%), other in planning (10%) and monitoring (5%).
HMI	215	40	
Local Authorities	3382	<130	Of the 130 or fewer environmental staff, 100 worked in planning and 30 or less worked in inspection.

Table 3.13.1: Primary Implementation and Enforcement Responsibilities in Slovenia:

ENVIRONMENTAL MEDIUM	Preparation of Legislation	Preparation of Strategies & Plans	Issue of (Environmental) Permits	Monitoring (Background and Sites)	Inspection & Enforcement	Preparation of Reports
Air Pollution Control	Ministry of Environment & Spatial Planning (MESP)	MESP	NPA and Local Authorities	Hydrometeorological Institute (HMI) and enterprises	Inspectorate for Environment and Physical Planning (IRSEP) and Local Authorities	MESP and NPA
Water Protection	MESP and Ministry of Agriculture, Forestry and Food (MAFF)	NPA and Local Authorities	NPA, MAFF and Local Authorities	HMI and enterprises	IRSEP, Inspectorate for Agriculture and Local Authorities	MESP and NPA
Waste Management	MESP	NPA and Local Authorities	NPA and Local Authorities	NPA and enterprises	IRSEP and Local Authorities	MESP and NPA
Industrial Pollution Control	MESP	MESP	NPA and Local Authorities	NPA and enterprises	IRSEP and Local Authorities	MESP and NPA
Nature Protection	MESP and MAFF	MESP, MAFF and NPA	NPA, Local Authorities, National Park	Local Authorities, National Park	Local Authorities, National Park	MESP and NPA

Apart from the different Ministries and Agencies mentioned above, the following bodies also play a role in environmental implementation:

The Ministry of Finance has overall responsibility for budgets and finance, and therefore controls the allocation of government resources to government departments including MESP, the government agencies responsible for implementation and enforcement and (ultimately) local authorities.

The Ministry of the Interior is responsible for organising public administration at both national and local levels, including defining the roles of local authorities (which includes their environmental roles) and ensuring that they carry out those roles.

The Ministry of Justice has overall responsibility for the judicial system, including judicial aspects of the enforcement of environmental legislation.

The Ministry of Foreign Affairs is responsible for international collaboration, relevant here in the context of international environmental agreements such as the Montreal Protocol and Basel Convention.

Local Administration

Local government has a limited role in the implementation and enforcement of environmental legislation. There is a single tier of local government, which comprises some 192 local authorities. Administrative responsibilities and resources rest mainly with the central government and its agencies rather than with local authorities (there are no regional authorities, only regional offices of central government - called Administrative Units). In practice, the local authorities are only responsible for:

- Planning in relation to the provision of environmental services (water, waste etc) at a local level;
- Issue of environmental permits at a local level (not major facilities);
- Inspection and enforcement at a local level (not major facilities), including local environmental by-laws;
- Provision of local environmental services (water supply, wastewater treatment, waste management), either locally or working with neighbouring authorities.

There are not likely to be major changes in these responsibilities, although the government may start to work more through regional offices. In the longer term, there may be plans to introduce a second tier of local government at the regional level.

A number of issues result from this allocation of responsibilities :

- Many local authorities are very small and have neither the expertise nor the financial resources to discharge their environment-related responsibilities;
- In general, there is a lack of environment-related capacity, expertise and training in all but the largest local authorities;
- Since, in a one tier local government structure, the same organisations are responsible for permitting, for inspection/enforcement and for the operation of facilities (e.g. water supply systems, wastewater treatment plants), the potential for conflicts of interests does exist;

- Although communication between central government and the larger local authorities is generally good, the sheer scale of the problem makes this difficult where the smaller local authorities are concerned.

Discussion of general capacity issues

Communication and co-ordination

In general MESP works well with other ministries. Besides formal co-operation among the ministers in the Government, employees of different ministries co-operate at all levels. In most cases the co-operation is efficient and effective, where problems can be solved at a higher level, up to formal solution or agreement at governmental level. As noted above, the issues that need to be addressed relate more to communication between different departments, agencies and units within MESP. This will be particularly important in ensuring an effective approach to integrated environmental protection (see below).

Integration of environmental protection

Although many aspects of planning and permitting are the responsibility of the Nature Protection Administration (NPA), different media are handled by different units. In practice, this makes an integrated multi-media approach difficult to achieve. The Hydrometeorological Institute (HMI) plays a key role in monitoring (even where this is carried out by approved contractors on behalf of site operators) in relation to water and air, while the NPA has primary responsibility for waste management. The Inspectorate (IRSEP) has primary responsibility for inspection and enforcement, but must rely largely on monitoring data provided by (or through) HMI. Communication between these organisations is poor, even though individual responsibilities are (in general) clearly defined and understood. For example, IRSEP is not always consulted about permits, which (as a result) are sometimes impossible to enforce. While this poor communication is in part a capacity issue (see below), there are also important 'turf' issues hindering co-operation and communication. Without a proper information system for environmental data, response to requests for data issued by the Ministry tends to be slow or even negative (data can not be provided since the database is not established yet), while in some cases the Hydrometeorological Institute tends to charge for monitoring data even for explicit use of the data for the Ministry's studies.

Resources and staffing

There are definitely issues of capacity and competence within MESP and its agencies. The need for additional staff in many areas (NPA, HMI, IRSEP) is recognised by the government, but the response has been to provide new staff in 'job lots': one year a particular agency will be allowed to recruit a large number of new staff, while all the others must wait for 'their turn'. This is not only a sub-optimal use of resources, but it also imposes a substantial training load on the 'lucky' agency that will almost certainly detract from its performance – at least in the short term. Given overall levels of staffing (which are inadequate), there are probably insufficient staff with relevant, long-term experience. This implies that recruitment must bring in additional experienced staff as well as more junior people. While there is (was) an intention to do this, the extent to which it is being achieved in practice is not yet clear.

The budget for administrative capacity is the subject of bids from the relevant agencies, but is ultimately decided by the Ministry of Finance and in relation to staffing, finance and budgets the relevant MESP (and other) agencies have little real autonomy. Fees are charged for the issue of permits, but these accrue to the general exchequer and not to the NPA or MESP. Monitoring, inspection and enforcement are not generally charged. However, there is a programme of 'self monitoring' of major facilities by approved contractors, the costs of which is met by the operator of the facility. There are also existing/proposed pollution/environmental charges, which are linked to and collected through the permitting system (again, these charges accrue to the general exchequer – although fees for effluent discharges have been used to fund wastewater treatment plants. Penalties (where imposed) also go to the general exchequer, but in many cases the levels of fines are too low to provide a disincentive to polluters.

General

The basic administrative structure of institutions enforcing the environmental *acquis* is Slovenia is sound. There is good co-ordination between ministries and local authorities only play a limited role (given the size of the country). However, two major issues need to be addressed:

- Significant changes are required within the MoE to ensure that the medium specific departments work together to adopt an integrated approach to environmental protection. This means that the current culture within the ministry has to be challenged.
- There are resource constraints, which are only made worse by the budgeting processes in government that do not focus on where the need is always greatest. This probably presents problems to approximation generally (not just to environment) and is an issue that must be addressed, alongside the general needs for sufficient overall funding.

3.14 Turkey

At a central (national) level the Ministry of Environment (MoE), established in 1991, has the overall responsibility for environmental activities. The MoE works in close co-operation with other ministries, government agencies, local authorities and NGOs through links and active partnerships. The MoE acts as a co-ordinating agency. The MoE has 800 central staff and a further 500 staff work at the MoE's provincial offices. Environmental responsibilities were covered by the Ministry of Health prior to the establishment of the Ministry of Environment.

Table 3.14.1 Overview of institutional responsibilities in Turkey

Sector/Directive	Legislative development	Strategic planning	Permitting	Monitoring	Inspection and enforcement	Reporting
Air quality						
Air framework	MoE and Ministry of Health	MoE, State Planning Organisation Municipalities	Ministry of Health provincial offices and MoE provincial offices	Ministry of Health provincial offices Turkish Standards Institute	Ministry of Health provincial offices and MoE provincial offices	Ministry of Health and MoE State Institute of Statistics
Fuel quality and VOCs petrol	Ministry of Transport	Ministry of Transport	Ministry of Transport	Ministry of Transport	Ministry of Transport	Ministry of Transport
Vehicle emissions	Ministry of Transport	Ministry of Transport	Ministry of Transport	Ministry of Transport	Ministry of Transport	Ministry of Transport
VOCs industry	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	Ministry of Health provincial offices Turkish Standards Institute	Ministry of Health provincial offices Turkish Standards Institute	Ministry of Health provincial offices Turkish Standards Institute
Water quality						
Water framework and surface water standards	MoE	MoE State Water Works	MoE, Ministry of Health, Municipalities	MoE, Ministry of Health (provincial offices), Municipalities	State Hydraulic Works	State Institute of Statistics
Urban waste water	MoE Ministry of Tourism	MoE Ministry of Tourism	MoE, Ministry of Health (provincial offices), Municipalities	MoE, Ministry of Health (provincial offices), Municipalities	Municipalities	State Institute of Statistics

Drinking water	Ministry of Health	Ministry of Health	Ministry of Health		Ministry of Health Turkish Standards Institute	Ministry of Health
Nitrates	Ministry of Agriculture and Rural Affairs	Ministry of Agriculture and Rural Affairs	Ministry of Agriculture and Rural Affairs	Ministry of Agriculture and Rural Affairs	Ministry of Agriculture and Rural Affairs State Hydraulic Works	Ministry of Agriculture and Rural Affairs State Institute of Statistics
Waste management						
Waste framework	MoE	MoE and State Planning Organisation Municipalities	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities State Institute of Statistics
Landfill	MoE	MoE and State Planning Organisation Municipalities	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities State Institute of Statistics
Hazardous waste	MoE	MoE and State Planning Organisation Municipalities	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities State Institute of Statistics
Incineration	MoE, Ministry of Trade and Industry	MoE and State Planning Organisation Municipalities	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities MoE, Ministry of Health (provincial offices)	Municipalities State Institute of Statistics

Sewage sludge	Ministry of Agriculture and Rural Affairs	Ministry of Agriculture and Rural Affairs and State Planning Organisation Municipalities	Municipalities	Municipalities	Municipalities	Municipalities
Industrial pollution control						
IPPC and other emission regulation	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	Ministry of Health provincial offices Turkish Standards Institute	Ministry of Health provincial offices Turkish Standards Institute	Ministry of Health provincial offices Turkish Standards Institute
Industrial accidents	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	Ministry of Health provincial offices Turkish Standards Institute	Ministry of Health provincial offices Turkish Standards Institute	Ministry of Health provincial offices Turkish Standards Institute
EMAS	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry	MoE and Ministry of Trade and Industry
Nature conservation						
All	MoE, Ministry of Forestry, Ministry of Agriculture and Rural Affairs, Ministry of Culture	MoE, Ministry of Forestry, Ministry of Agriculture and Rural Affairs, Ministry of Culture	MoE, Ministry of Forestry, Ministry of Agriculture and Rural Affairs, Ministry of Culture	MoE, Ministry of Forestry, Ministry of Agriculture and Rural Affairs, Ministry of Culture	MoE, Ministry of Forestry, Ministry of Agriculture and Rural Affairs, Ministry of Culture	MoE, Ministry of Forestry, Ministry of Agriculture and Rural Affairs, Ministry of Culture

				Customs, NGOs	Customs, NGOs	State Institute of Statistics

Table 3.14.2 Central Organisational Chart of the Ministry of Environment

Undersecretary	*Deputy Undersecretary*	*Basic Service Units*	*Inquiry and Auditing Services Units*	*Supporting Units*
Undersecretary Services	Deputy Undersecretary	1.) General Directorate of Environmental Pollution Prevention and Control	1.) Board of Inspection	Department of Personnel
	Deputy Undersecretary	2.) General Directorate of Environmental Protection	2.) Research, Planning and Co-ordination Board	Department of Financial and Administrative Issues
		3.) General Directorate of Environmental Impact Assessment and Planning	3.) Legal Advisory Unit	Secretary of Civil Defence
		4.) Department of Foreign Affairs	4.) Advisors to the Minister	Directorate of Special Secretarial Assistance to the Minister
		5.) Department of Finance	5.) Advisory of Media and Public Relations	
		6.) Department of Environmental Training and Publications		

The MoE is still not represented in about 50 % of the province centres in Turkey. In these province centres environmental issues are still handled by the Ministry of Health. Key specific institutional responsibilities for the different media are:

Water:

Institutions in water resources management are divided into the following two groups:

1. Investing institutions (over ten different bodies. The most important ones include the State Water Works, Bank of Provinces, Management of Village Services and Water & Sewage Directorates of the Municipalities)
2. Auditing/monitoring institutions (most important ones are the Ministry of Environment and the Ministry of Health)

There are several specific legal responsibilities for water management. The most important ones are summarised below:

- The MoE – Responsible for Water Pollution Control since 1988 and operational aspects since 1989.
- Directorate of Special Environmental Protection – effective in areas that are declared as special environmental regions.
- The Ministry of Agriculture and Village Works – water resources.
- The Ministry of Tourism – For the "..water and sewage…" infrastructure of the facilities that are to be built/operated in touristic regions.
- State Water Works – ".has the responsibility to protect internal water resources and utilise these resources in different ways.."
- Bank of Provinces – ".. has the responsibility for the sewerage investments via its 18th regional General Directorate.."
- Village Services General management – "..has the responsibility for investments and maintenance of the sewerage works in the villages and their connected areas.."
- Local administrations – municipalities in greater cities have the responsibility to treat the surface and underground waters to meet residential, commercial and industrial needs of the city via their water and sewerage works departments.
- Industrial chambers- effective in large cities, eg the Istanbul Chamber of Industry supports projects enabling sufficient water for the city of Istanbul.

Waste Management:

The Ministry of Environment is the primary responsible agency for making laws and regulations in the areas of waste management. Other agencies with differing degrees of responsibilities are:

- Ministry of Health – Execution of powers of the Ministry of Environment in the provincial centres where the Ministry of Environment is not fully organised itself.

- Ministry of Interior has the responsibility of decisions and implementation of the administrative structure of the country.
- Provincial Governor's Office
- Municipalities
- İller Bank

Air protection:

The Ministry of Environment is the primary responsible agency for making laws and regulations in the area of air pollution control (management).

Industrial Pollution Control:

The Ministry of Environment is the primary responsible agency for making laws and regulations in the areas of industrial pollution control (management).

Nature Protection:

Ministry of Environment is the primary responsible agency for making laws and regulations in the area of nature protection.

Sub-national institutions

Implementation of environmental policy is entrusted to the municipalities, which play an important role in implementing environmental protection measures, building environmental infrastructure, collecting and disposing municipal waste as well as land use planning. Table 3.14.1 provides an overview of the areas in which local authorities have responsibility. The ability of local administrations effectively to implement environmental legislation varies significantly. Larger municipalities (eg Adana or Istanbul) have both reasonable capacity and political support for taking forward initiatives on various fronts. Similarly, those municipalities that support significant tourist infrastructure also view environmental protection as being necessary to maintain this economic sector. However, smaller municipalities often have major resource problems and implementation of environmental legislation can be poor and, at times, almost absent.

The General Directorate for the Bank of Provinces provides assistance to the municipalities on issues such as urban infrastructure and conducting activities such as development plans, drinking water, sewerage, solid waste and other activities.

Municipalities are authorised and responsible for the collection, transport, recycling and disposal of municipal solid waste.

It can be seen that local implementation of environmental legislation may either involve local government staff and/or staff from the provincial offices of the Ministries of Health or Environment (depending upon the existence of MoE offices). The provincial offices are able to act as a means to exert pressure on local administrations, taking account of national legislative developments. However, integration and coordination mechanisms are often poor and the slow development of provincial MoE

offices significantly undermines this.

Discussion of general capacity issues

Competencies

Turkish environmental law is very different from that of the EU, particularly in terms of standards, monitoring requirements and methods of measurement. Furthermore, the implementation of the law is poor.

The general level of development of the, lack of autonomy, strong use of political power by the governments (governing bodies) and lack of in-depth expertise are the major constraints that limit effectiveness.

The most serious issue in ensuring effective allocation of competence is the poor development of the MoE. At a national level it has been given competence over key areas of environmental legislation. However, effective implementation depends upon its regional offices and, in many areas, these are lacking. This means that effective competence is still in the hands of the health ministry. This is a situation that must be rectified (see below).

Communication and co-ordination

As indicated in the 2000 Regular Report there is a large amount of legislative fragmentation. Split of roles and responsibilities in different governmental agencies and lack of presence of the MoE (present only in 34 out of total of 81 provincial centres) are other areas that have a negative impact on certain functions of MoE. Water, waste, industrial pollution and protection of nature are areas where MoE is very much dependent on the activities of other agencies. Such fragmentation would not be of concern if effective integration and communication mechanisms were established to improve co-ordination. However, while the creation of the MoE does provide a new strategic approach to environmental protection, its influence on other Ministries is poor. This is a major problem that needs to be addressed.

This situation is also made worse by general communication/co-ordination problems between local and national (including regional offices) government. Thus major municipalities, such as Istanbul, may take action without obvious guidance from the centre. This is understandable and local action is to be welcomed if central co-ordination is weak. However, this is not a situation that is desirable in the longer term and future approximation to the EU *acquis* will require that stronger national co-ordination systems are established and made effective.

Resources and staffing

The Ministry of Environment employs around 800 staff, with a further 500 working in its 34 provincial offices. Long-term experienced staff are usually (upgraded?) appointed as managers where they lose their technical expertise.

Overall, administrative capacity at the national and regional levels is a matter of considerable concern. Enforcement of environmental rules does not appear to be assured due to the involvement of various bodies and institutions at different levels and thus conflicting interests and responsibilities, lack of trained and specialised staff, lack of financial resources and lack of equipment. Training is especially

important as there is a lack of awareness about environmental issues and a lack of knowledge about EC requirements.

There are limitations to recruitment. Historically there has been political pressure and preferential selection procedures applied in many agencies which are in need new staff and resources.

The budget for governmental agencies is provided from the "general /national budget" that is decided by the Turkish parliament on a yearly basis. Budget figures are firstly prepared and discussed by special commissions, which are formed by the government and opposition members to review the need for the staffing, administrative and operative functioning of the Ministries and official agencies. Following the clearance of the budget by these commissions they are sent for the final approval of the Parliament.

Charges are imposed for inspection and enforcement activities. However, the revenue collection follows a rather cumbersome process and roles and responsibilities of different agencies are not clear. This causes the existence of a chaotic structure to take place in the country and allows for private and public polluting entities to get a free-ride. In effect these enterprises are not properly penalised and the revenues are not properly collected.

General

Overall the main positive issues that can be highlighted in Turkey are:

- Increasing awareness of environmental issues, eg through the growth of NGOs, has placed greater pressure for improved performance by environmental administrations.
- Existence of a high level organisation- Turkish Ministry of Environment since 1991. This has improved the development of legislation and the strategic position of environmental protection within state planning generally.
- Candidacy to the EU, thus increasing efforts in adoption of Western European regulatory systems. This has acted as a general pressure on improving environmental legislation.
- Dynamic private sector with international competition emphasising environmental standards.
- Education / training programmes penetrating into the educational programmes.

However, serious problems remain, including:

- Lack of resources.
- Lack of expertise in terms of competency and capacity.
- Lack in prioritising of issues and lack of autonomy.
- Confusion over the roles and the responsibilities in different public authorities.
- Lack of provincial directorates of the Ministry of Environment in all provinces. This is a major problem in ensuring effective implementation of environmental legislation.
- Political drift.

3.15 Conclusions

Introduction

Institutional responsibilities among the Candidate Countries show significant variability. The following table provides a brief summary of the main issues relating to competence, spatial scales, co-ordination and capacity. It is important to stress that this summary (and indeed the more detailed comments presented earlier) are, of necessity generalisations. Co-ordination, integration and capacity issues are not evenly distributed across individual countries and for given institutions, issues, etc, good and bad practice will exist.

These concluding remarks in this section will focus on structural issues of competence. Questions of co-ordination and integration will be addressed in the final conclusions, taking account of later sections on permitting and inspection.

Competent authorities

Many EU Directives require that competent authorities be identified by Member States to implement all or part of that legislation. This is an active requirement to ensure that national legislation imposes clear legal duties on such authorities, be they at national or local level. It also provides an explicit link between their activities, such as permitting, and the original EU Directive.

In many candidate countries competent authorities for much of the *acquis* have been identified. However, given the slow progress in transposing legislation, this has often yet to be confirmed in law. In this review a range of co-ordination problems have been highlighted (both between and within institutions). The need for these to be overcome has been stressed repeatedly. However, the identification of clear legal competence that comes with transposition may assist in this regard by stimulating more formal links. Having said this, there every effort should be made to improve co-ordination now.

National level institutions

In no Candidate Country is a single national Ministry responsible for all of the EU environmental *acquis*. Given the breadth of the *acquis*, this is not surprising. This also reflects structural arrangements in Member States. At a minimum the following are rarely incorporated into the competence of an environment ministry:

- Vehicle emissions (usually a transport ministry);
- Drinking water (usually a health ministry);
- Nitrates Directive (often an agriculture ministry).

However, further competence may also be distributed to other ministries, including setting environmental quality standards (health) or some aspects of water management (agriculture). Ministries responsible for industry may also have important competencies.

However, in some Candidate Countries there is a significant spread of competence across a range of national ministries or other institutions. This is particularly apparent in Cyprus, Malta, Romania and Turkey. In all cases this presents severe problems for communication and coordination, including:

- Ensuring an integrated assessment of environmental problems.
- An integrated approach to decision making.
- Effective and efficient allocation of resources to improve capacity.

A range of co-ordinating mechanisms have been adopted by candidate countries. These include the full circulation of documentation before it is finalised, through to the establishment of joint committees or working groups to discuss specific issues. However, in relatively few cases, eg Slovenia, is such co-ordination reported as satisfactory. Indeed, in some cases communication is worse than one might expect. A further problem occurs within institutions, particularly large ministries or inspectorates, which may have medium specific departments which rarely communicate with each other. The environmental *acquis* requires an integrated approach. This is not simply integrated permitting under IPPC, but integrated assessments of broad environmental policies and specific implementing mechanisms driven by the air, waste and water framework Directives. Significant challenges remain, therefore, to bring these ministries together (either reassigning competencies or establishing formal, effective working relationships). This applies not only to the Candidate Countries with more fragmented national competencies, but also to those others which must engage with ministries which have a limited competence, which is nevertheless of significant importance.

Most countries report resource constraints. In some instances, eg Estonia, staff numbers at the national level are generally considered adequate. However, in most cases this is not the case. In Slovenia, resource problems are made worse by the resource allocation procedures themselves. Adequate funding for public bodies is a major problem, not least in an environment where there is general pressure to cut public spending and where many staff are able to obtain higher salaries in the private sector. There is not simple solution to this. However, candidate country governments must be made aware that effective enforcement of EU legislation is as important as its transposition and that approximation (the condition for membership) involves both.

Competence at the regional level

For many Candidate Countries the regional level is the most important in terms of the actual implementation of the EU *acquis*. Only the smallest Candidate Countries (Cyprus, Malta and Slovenia) retain most permitting and inspection at the national level. In most cases regional institutions are offices of a national body, either the Ministry itself (eg Bulgaria or Turkey) or of an inspectorate (eg Hungary or Slovakia). An important exception to this is Poland, where the regional inspectorates have been incorporated into the regional administrations (Voidvoships).

Such regional bodies are often responsible for the regulation of industrial facilities and other areas of environmental management. However, developments on the establishment of river basin authorities to implement the water framework Directive in some Candidate Countries means that competence can be divided between different regional and national institutions (eg Bulgaria, Czech Republic, Hungary and Romania). In some cases (eg Romania) this creates problems of communication and co-ordination, while in others (Bulgaria) detailed formal mechanisms to integrated regional offices of the national Ministry into the operation of river basin authorities have been adopted.

Capacity problems are more severe at regional than national level. This has been due to approximation activities being focused at an early stage at the level of the ministry. Capacity requirements are variable. Neighbouring regions may require different technical and staffing levels, eg depending on the number or type of industrial installations. The skills level of many regional staff is also inadequate and while a number of training programmes are in place, much remains to be done.

Local authority competence

In all Candidate Countries local authorities have a role in implementing the *acquis*. In some cases (eg Malta) this is very limited, while in others (eg Poland) it is more significant (and is increasing). In most cases their responsibilities are similar, ie in undertaking waste management and often controlling waste water systems and discharges. Some also regulate small industrial air pollution sources.

In all Candidate Countries there is particular concern over the effective capacity of local authority based institutions. The level of the capacity of local authorities usually varies within a country. Thus, while major municipalities may have reasonable resources to undertake their responsibilities, this is usually not the case for smaller authorities, especially in rural areas. Increasing devolution and additional requirements from the EU make such problems more acute. Support for approximation from the EU and others has largely focused on national and, occasionally, regional institutions. Where Candidate Countries report reasonable expertise among staff at a national level (eg Estonia), this confidence is not shared when examining local authority personnel.

Local authority staff usually are responsible for a wide variety of aspects of environmental management. This is usually because staff numbers are so limited that one or a few individuals must cover everything. This only exacerbates the skills gap. While it is important, therefore, for the European Commission to examine the competence of national or regional staff to implement Directives such as IPPC, attention must also be given to the effectiveness of local authority staff who may be important in achieving compliance with Directives such as the waste framework, landfill and air framework.

Decentralisation

The trend towards decentralisation in CEE candidate countries needs to be considered in the general context of their political and economic transition from their former communist status. There are a number of forms of decentralisation. These include:

- Political: whereby powers of decision-making are transferred to lower levels of government, etc.
- Administrative: whereby the hierarchy and functional distribution of powers between central and regional/local government are reformed.
- Spatial: whereby previous concentration of power, usually in urban centres, is reduced by promoting regional growth.
- Market: whereby market reforms create new production and consumption patterns sensitive to local consumers.

In the context of this study it is the political and administrative reforms which are of most interest. However, these will need to be supplemented by spatial and market decentralisation. For example, funding through SAPARD and ISPA will assist in the development of rural communities and enhance their participatory decision making. Similarly, improved consumer responses to market conditions are needed for some areas of environmental protection, eg in relation to the water and waste acquis.

Administrative decentralisation itself can take a number of forms, including:

- De-concentration: involving the transfer of powers over specified decision making by an administration to different levels under the authority of the original administration. For example, transfer of permitting powers from the national headquarters of an environmental inspectorate to its regional branches.
- Devolution: involving the transfer of powers from a central government to regional/local governments. For example, the transfer of permitting powers from a national inspectorate to a local government.
- Delegation: involving the transfer of powers from an authority to institutions or organisations which are either independent or only under indirect control. For example, management of nature conservation sites could be undertaken by non-profit interest groups.

- Privatisation: whereby a public service is contracted out to a private company. For example, monitoring activities may be transferred from a national inspectorate to a commercial company.

Administrative decentralisation is often viewed as a process which optimises a process leading to optimal use of government resources together with a strengthening of governance through increased transparency and accountability and more efficient delivery of public services. However, this is true only to certain limitations. There are diminishing returns on decentralisation, especially if the decision-making that is devolved requires significant specialist knowledge. This either means a major expansion of the specialist personnel base of the devolved institutions or the 'buying-in' of these skills. The alternative option is to 'make do' with the staff available and, therefore, sub-optimal decisions are possible, either for the economic survival of the companies, etc, being regulated, or for the environment being protected.

In many candidate countries decentralisation presents an additional challenge in that it is occurring alongside a general reduction in the size of the public sector. In this context, decentralisation would most likely be successful if it clearly delivers improved resource efficiency in public spending. Usually, however, this is not the case. The pressure for decentralisation is often a political one and must result in higher administrative costs, not lower. In the analyses of the candidate countries there are often reported pressures on finance. These express themselves in relation to staff recruitment, salaries and equipment. In countries such as Romania and Bulgaria, national institutions experience severe constraints in this regard. However, even in countries with greater resources, such as the Baltic States, financial concerns may be felt at the local level.

Paradoxically effective decentralisation requires a relatively strong central government. If the central authority is too weak then local institutions develop diverse policy frameworks that can undermine effective law enforcement. Many of the candidate countries do have relatively strong central administrations (including in countries such as the Czech Republic and Poland where devolution is

occurring), although questions remain over the real authority of the centre in Romania. Turkey is an example of poor central authority, whereby the Ministry of Environment is still under development and local governments are poorly directed by it (if at all in some instances).

Country	National	Regional	Local	Coordination	Integration (media)	Capacity issues
Bulgaria	MoEW responsible for policy in most areas and decisions of large activities.	Regional offices of MoEW responsible for most permitting and inspection. River basin authorities being established.	Mostly responsible for waste management, local taxations, etc.	Relatively good at national and national/regional level, as similar institutions involved at both levels.	Media are formally treated separately, but formal integrated mechanisms are established, although effective integration may be poor.	There are significant problems with budgets, staff numbers, equipment and training at all levels.
Cyprus	Wide range of relevant national institutions leading to significant fragmentation. Permitting and inspection mostly national level.	Only relevant for major cities.	Very limited role – waste and waste water.	This is a problem due to complex institutional roles. Only information networks exist.	This is difficult to achieve given different institutional input. Major work is required.	High level of competence exists, but staffing is inadequate and there are pressures to reduce public sector staff numbers.
Czech Rep.	Policy making is undertaken by MoE and its institutions (eg CEI), also responsible for large facilities.	Regional CEI offices and river basin administrations cover most permitting and inspection and general management.	Responsible for small facilities, waste and waste water.	Variable – good on air emissions and industry, poor on water. Changing role of regions and local authorities poses future problems.	This is poor, given different role of institutions and role of national and regional input. However, significant work undertaken on IPPC.	There are particular problems at the regional level, especially with industrial regulation and water management – staff numbers and training.
Estonia	MoE responsible for policy and decisions	Regional CEDs subordinate to MoE	Responsible for air quality and waste	There is relatively good coordination in	Each medium has its own department, but	The most pressing capacity issues are

Country	National	Regional	Local	Coordination	Integration (media)	Capacity issues
	on major facilities.	and cover permitting and inspection of most relevant facilities.	management.	the CEDs (and with MoE).	processes have begun to improve integration.	with local authorities, lacking staff and expertise.
Hungary	Different national Ministries are involved – especially Environment and Health.	REIs responsible for most permitting and inspection. Water Management Authorities separate institutions.	Important for local environmental protection, waste management, etc.	Coordination needs significant improvement nationally and improvement needed regionally on water.	REIs afford some integration, but problems occur with integrating water issues.	Staff problems are most acute locally and in some regions. Equipment good, but training is needed at lower scales.
Latvia	MEPRD responsible for most areas and oversees ESI which covers major facilities.	REBs cover most issues of permitting and inspection.	Some local environmental issues, including waste management.	There are too many national institutions (though under MEPRD) presenting communication problems.	Separate departments in REBs cause problems, though this s changing with work on IPPC.	Problems at all levels, though especially for municipalities, which are to new responsibilities.
Lithuania	MoE and SEI responsible for policy in most areas and assessment of major facilities.	REPDs responsible for most permitting and inspection.	Limited role, eg for waste management.	Generally coordination is working at present, but a proposal to merge REPDs with county administrations could cause problems.	Permits are technically integrated. However, work needs to be done to ensure effective integrated analysis.	REPDs still require additional staff and local authorities also. Both require skills improvement.
Malta	Roles are centralised, but fragmented across the MoE and	N/a	Very limited role – some waste issues.	There is a lack of clarity of roles and some competence	Almost no integration, as fragmentation and independent	Major improvements needed in staff numbers, training and

Country	National	Regional	Local	Coordination	Integration (media)	Capacity issues
	other Ministries and authorities. Most permitting and inspection is national.			needs to be assigned. Fragmentation leads to poor coordination.	institutions operate largely independently.	equipment.
Poland	National Ministry and inspection over most issues and are responsible for policy and major facilities.	Very important role – now transferred to Voidvoship administration. Covers most permitting and inspection.	A much increased role – small installations, waste management and have their own environmental funds.	The new structures pose questions concerning coordination between national and regional administrations.	While the same institutions cover most issues, different departments are responsible. This prevents effective integration.	There are major capacity problems, especially with the increasingly devolved administrations lacking staff, expertise and equipment.
Romania	National roles are fragmented, with major roles for Environment, Health and Industry Ministries.	Important role for 42 EPAs, which undertake most permitting and inspection and 11 river basin authorities.	Important role in managing waste and waste water issues.	This is poor between Ministries and questions remain concerning regional coordination on industry and water management.	EPAs cover most issues, but true integration does not occur and links to general water management are poor.	Staff numbers are very limited, resources for training and equipment are also poor.
Slovakia	MoE and SEI cover most areas. However, monitoring responsibilities are fragmented.	Regional offices of SEI responsible for most permits and inspection.	Mostly responsible for waste, etc, but proposals exist to increase responsibilities.	Relatively good coordination at national and national/regional level.	Permits only partly integration, as same institution (SEI) but has media-specific departments.	Staff relatively well trained, but staff turnover and numbers are a problem, requiring more investment.
Slovenia	Environment	N/a	Some air pollution	Inter-Ministry	Responsibilities for	More staff are needed

Country	National	Regional	Local	Coordination	Integration (media)	Capacity issues
	Ministry and Inspectorate cover most areas, including permitting and inspection.		permits, water and waste management – but the role is limited.	coordination is poor. National/local is poor (except for large municipalities).	each medium in different departments leads to poor integration.	at national levels, but funding processes are intermittent. Local authorities have very poor capacity.
Turkey	MoE is developing, but mush responsibility remains with Health Ministry. Roles are fragmented.	Very important level, but MoE still not represented in many regions, so MoH covers permitting and inspection.	Very important, especially for waste, water and air management in major cities.	Fragmentation and ongoing development presents major problems within and between all levels of administration.	Integration is very poor with separate approaches and institutions being responsible.	Major capacity problems, especially at regional and local level. Staff numbers, equipment and training all need major investment.

4 Permitting, monitoring and inspection capacity and process

4.1 Permitting institutions and capacity

4.1.1 Introduction

Permitting is a critical activity required to implement the *acquis*. Many Directives either explicitly require permits or licences to be issued or imply such licences by stating that Member States must ensure specific discharge limits, etc. EU legislation establishes environmental performance requirements (eg a specific emission limit for a waste incinerator or a principle such as BAT). The permit communicates that requirement in a legally binding way to the operator of an installation.

The nature (including skills and staff numbers) of a permitting institution will depend upon the nature of the permits to be issued. Where detailed emission limits are established in legislation, these may be relatively easily incorporated into a permit, with some assessment of whether the operator is 'to be trusted'. However, implementing concepts such as BAT require much more detailed skills concerning techniques, environmental impacts, etc, in order to form an opinion as to appropriate emission limits to define in a permit.

As seen in section 3, much of the permitting (including many IPPC processes) is undertaken at a regional level in Candidate Countries. These institutions are also responsible for a wide variety of types of installation and are responsible for different media. However, questions remain, such as:

- What type of permits are issued?
- How long does a permit last?
- Are permits integrated or specific to individual media?
- How does permitting activity relate to inspection, etc?
- What capacity problems are there specific to permitting in particular in the light of EU requirements?

This section considers these and related issues on a country by country basis and provides some general conclusions and analysis at the end.

4.1.2 Bulgaria

Competent authorities for issuing permits

The competent authorities for issuing permits are defined by different Acts (Environmental Protection Act, Waste Management Act, Water Act, Hazardous Substances Act). Generally the **MoEW** is responsible for issuing permits for large enterprises or activities which might significantly affect the environment. The **RIEWs** are responsible for issuing permits for the remaining cases. It should be noted that in some cases a written agreement or statement of some other authority is necessary as part of documentation required for the permit. RIEWs are always involved. If the permit is issued by MoEW, than the RIEWs participate in the permit procedure. They are also responsible for the control on the implementation of the conditions in the permits.

EEA (Executive Environmental Agency) participates to a limited extent in the permit procedures. Its role is limited to the EIA procedure. Because of the fact that the Institution is within the MoEW structure, there is good co-ordination and exchange of information on the issued permits.

All the procedures for issuing permits are legally specified, including the scope of information required and periods for issuing a permit. In general any official documentation has to be considered and answered by the competent authority. There is a tendency to increase the negotiation elements in permitting between the applicant and the competent authority, especially by consultations before the application for a permit. Usually the conditions in the permits are not negotiated.

The competence for defining and assessing BAT under IPPC will become clearer after the new legislation entry into force where the competent authorities will be determined. At present there is a special project within PHARE Twining 2000 program on development BAT guidelines. In general the Seville BREFs will be used as a base and discussed with industry. The process is co-ordinated from MoEW and different parties are involved including industry, science and competent authorities. It's expected the BAT guidelines to be developed sector by sector with the participation of local and/or foreign consulting companies.

Types of permits and procedures

A very wide range of types of installation require a permit. Simple registration procedures are not used in Bulgaria and even in cases when they are allowed by EU Directives a permit regime is applied. The following types of permit are issued:

- EIA
- Water use and discharge of waste water
- Industrial pollution permit
- Waste
- Import & Export of waste
- Import hazardous substances
- Import & Export of wild flora (for example herbs) and fauna

The staff of RIEWs is involved in site visits and is also responsible for the control on the implementation of permit conditions.

- The current permitting process involves:
- Contracting an independent consultant for preparation of EIA report.
- Providing information to the environmental consultant by the investor.
- Preparation of a preliminary EIA report.
- Submission to the competent authorities of the preliminary EIA report.
- Public consultation process – one month after announcement in a newspaper.
- Approval of a preliminary EIA report.
- Detailed Design.
- Final EIA report- submission and approval

Integrated permits: implementing IPPC

Discharges to all the environmental media are permitted separately. The only exception is the EIA permit (procedure). It should be noted that to obtain an EIA permit, one might already require several separate permits for example for waste and water. The decision period from the presentation of the EIA report is comparatively short – usually 2 to 4 months. The requirements of the IPPC Directive are yet not introduced into national legislation. At present there is an environmental audit procedure (EIA on the existing enterprises), where an integrated approach is also applied.

Until now there is no legal base for issuing integrated permits. A draft of the new Environmental Protection Act was developed during 2000 where a special chapter deals with these issues. The Act was not included into the Last Parliament schedule and because of the elections it's expected that the document will be postponed until the year 2002. It is proposed that the Regional Inspectorates of Environment and Water will be the competent authorities for issuing integrated permits. There is a special unit within the MoEW named EIA and Integrated Permits Department which will coordinate the process. At present some pilot permits are under preparation for the Sevko tannery, the copper smelting plant of Union Miniere in Pirdop and the fertilizer producer Agropolichim in Devnia. The first project is developed with the support of Danish Environmental Protection Agency and the other ones are under implementation within the PHARE Twining'99 project with the Irish EPA. The approach is that the application for a permit is filled by the company and presented to MoEW. The documentation is assessed and the permit is prepared by the EIA and Integrated Permits Department with the participation of all concerned departments of the Ministry dealing with water, air, waste, etc. and RIEWs..

Regional Inspectorates are currently inventorying installations falling under the scope of the industrial pollution control. Preliminary assessments indicate that the number of installations requiring IPPC

permits is around 400. The proposed new Environmental Protection Act gives the opportunity to any facility to apply for integrated permit depending at the operators' request.

In conclusion, there is a basic capacity to issue integrated permits within the RIEWs. However, this has yet to be implemented. The staff necessary to address integrated issues are found in the same institution, but co-ordination between them is poor. This is an issue that could be addressed with limited additional resources - much of which would be required for training.

Resources and staff numbers

The present staff numbers are not sufficient, especially in RIEWs. The problem is that the number of applications for a permit is not constantly distributed in time. Sometimes several companies may apply (or to be required by Law) for a permit at the same time. This presents fluctuating capacity problems.

Conclusions

The main capacity problems for the permitting process are that:

- The RIEWs staff is not sufficiently trained on new legislation.
- The number of RIEWs seems too large for the territory of the country in order to ensure qualified expertise on different industrial sectors. The number of permits which should be issued by the separate RIEWs and type of industries differs significantly.

Key future developments will include:

- The introduction of new legislation will require additional personal to be appointed.
- The integrated approach, proposed to be taken, will limit significantly the number of permits for enterprises.

4.1.3 Cyprus

Competent authorities for issuing permits

A wide range of national institutions are responsible for issuing permits. These are all primarily undertaken on a media specific basis. These institutions include:

- MLSI: air pollution permits.
- MANRE: water pollution permits.
- MoH (PHS): drinking water and bathing waters.
- MoI: some types of planning permits.

The major Municipalities (greater Nicosia, Limasol, Larnaca, Paphos) are also Town Planning Authorities, responsible for issuing permits for the construction and operation of new developments in their areas. However, this would not generally include environmental permitting, which would usually be dealt with through the EIA process described above.

In general, the same organisations undertake permitting, monitoring and inspection/enforcement – but for each medium.

Types of permits and procedures

There is a wide range of permits across a number of different environmental media. Separate permits are issued for discharges to different media, often by different ministries/departments. It is not clear how many processes require permits. It is unlikely to be large at present (under 500), although landfill sites and wastewater treatment plants will need to be added. 99 facilities in Cyprus are affected by the IPPC Directive and most of these (72) are in agriculture (pigs and poultry) rather than traditional industry.

It is difficult to generalise on a 'typical' permit procedure, because there have been very few processes (other than government projects) requiring 'full' permitting. Permits are handled on a case-by-case basis. Generally they are imposed rather than negotiated, but political influence plays a role. A typical process might require 6-12 months for a complex project, depending as much on political issues as technical requirements. Generally:

- A private applicant makes proposal to MoI's DTP, who will ask for EIA to be prepared where appropriate;
- EIA is considered by a technical committee including MANRE's Environment Service and MoI's Department of Town Planning and Housing (local authorities have consultative role only);
- A permit to construct is then issued, and appropriate environmental conditions may be imposed;
- These conditions will be incorporated in operating permits issued by relevant agencies (often MLSI's Department of Labour Inspectorate and MANRE's Environment Service) when construction is complete.

Integrated permits: implementing IPPC

Permitting is currently dealt with primarily on an individual media basis, with specific responsibilities falling to the Department of Labour Inspection of the MLSI (air pollution control), the Environment Service of MANRE assisted by inspectors from other Departments of MANRE (water pollution), the Environment Service of MANRE (waste management), the Department of Fisheries and Marine Resources of MANRE (marine pollution) and the Public Health Service of the Ministry of Health (drinking water and bathing waters). The Department of Town Planning and Housing of the Ministry of the Interior exercises control on the planning aspects of permitting, although some major Municipalities also have responsibilities here.

This institutional fragmentation poses significant problems for the production of integrated permits as required by IPPC. There are currently no procedures to assess cross-media impacts and consideration of the procedures for the determination of BAT is still poorly developed. This issue poses a major challenge to Cyprus, given that BAT determination for integrated permit assessments must involve staff from at least two, if not more, Ministries for each installation. This is likely to lead to significant duplication and waste of resources. However, the creation of integrated permitting 'teams' of such staff is urgent if Cyprus is to meet its targets for implementation of the Directive.

Resources and staff numbers

Staff numbers for permitting are not sufficient – especially within the Environment Service of MANRE but also elsewhere. There are problems with recruitment (cap on number of government

employees, difficult to get approval to recruit and time consuming selection processes). There are indications that government has recently realised the urgency of the situation and relaxed some recruitment rules for environmental bodies (e.g. temporary staff can now be recruited relatively easily).

Conclusions

Key strengths in Cyprus for the permitting process are:
- Changing attitude to recruitment by environmental agencies.
- High level of technical competence.
- In many cases, the same organisation(s) is responsible for permitting, monitoring and inspection/enforcement.

Key problems include:
- Complex and overlapping responsibilities between Ministries and other institutions.
- Medium-based approach to all aspects of environment permitting.
- Difficulties recruiting new staff.
- Political influence in permitting process.

4.1.4 Czech Republic

Competent authorities for issuing permits

In the Czech Republic permits are issued by:
- CEI for air protection for large sources of pollution (up to 5 MW) and medium size sources (O,2 - 5 MW).
- District Offices for small sources of air pollution (lower than O,2 MW), consumption of water and waste water discharges, water management constructions and activities, changing water relations, for the manipulation with dangerous wastes, land use and building permits,
- Ministry of Environment: authorizations (e.g. very dangerous wastes, transboundary imports, exports and transits of wastes), permits for exports/imports of endangered species, exceptions from regulations in nature protection.
- Municipalities: business licences in household waste management, cutting of trees, growing out of forests, building permits.

The legal requirements for obtaining a permit are clear. Thus although permits are issued by a variety of different organisations, the law states which institution the operator must apply to. In the Czech Republic there is a high reliance on self-monitoring (with background monitoring by CHMI), which assists in ensuring a direct linkage between permitting and monitoring.

Types of permits and procedures

The different types of permits issued in the Czech Republic were indicated above (for each competent authority). In general the system of licensing and permitting facilities that emit pollutants is well defined (Regular Report 2000).

The process of permitting can be illustrated by reference to landfill sites:

- Operator applies to Construction Office for Construction Permit.
- Operator applies to Construction Office for Certificate of Construction Completion.
- Operator applies to District Office for permit to discharge wastewater.
- Operator applies to District Office for permit to operate waste disposal facility.

Permits are reviewed differently by sectors.

- Air protection permits are reviewed only if major changes occur.
- In waste management authorization for very dangerous wastes is given for 10 years maximally. The period for the other waste management permits depends on decisions of administrative body, issuing permits.
- Water management permits are not time limited. They are reviewed when conditions are changed.

Time and costs for permitting vary:

- In 1998, it took between 1 and 30 days to get a general waste management permit (and it cost1000 CK).
- A hazardous waste permit took 1 month (and was free).
- A construction permit for a waste management facility (e.g. waste collecting yard, dumpsite) normally took about 2 months (but some took 6 months or more, and complicated plans took years).

Integrated permits: implementing IPPC

The current Czech industrial permitting and enforcement programme is not an integrated system, nor does it include permit limits based on the use of BAT. Consequently, there are a series of legal and institutional steps required to meet the requirements of the IPPC Directive. It is thought that around 1000 installations are affected by IPPC.

There are some elements of co-ordination (e.g. in administrative decision processes are required standpoints of all participants, usually permits are going through directors of environmental departments, who can do some integration). However, even though the issue of an integrated approach to permitting has been discussed for some time, the facility for this is still not in place. A major obstacle to integration is the fact that responsibilities for air and water emissions are different. Thus the CEI issues and inspects air emission permits, but lower levels of administration permit water discharges, although the CEI might inspect some of the larger sources. In some cases the District Office has a cross-media responsibility. Water management is also ultimately the responsibility of the MoA, not the MoE.

The debate over institutional roles has been caught up in inter-ministerial politics and proposals for reform of sub-national administrations. These over-shadow the implementation of IPPC and cause delays. It is important that procedures are in place to ensure effective co-ordination, whatever the final institutional responsibilities may be.

BAT determination (at a national level) will be undertaken through the CEI. This institution has the range for skills to assess the technical (air, water and waste) and environmental issues necessary for this. However, significant investment will be needed to ensure that this is actualised.

Resources and staff numbers

The number of people working solely on permitting is unclear, given that individual staff are involved in permitting, inspection and other activities. Overall staff numbers can be found in section 3.1.4. However, given general administrative capacity weaknesses, it is unlikely that their numbers are totally adequate.

Conclusions

Strengths of the permitting process in the Czech Republic include:
- Technical capacity.
- Links between permitting & enforcement (often same organisations).

Key problems that remain include:
- Lack or integrated (multi-media) approach.
- Large number of institutions involved, with different responsibilities at different levels.
- Particular problems in relation to water and forestry.

4.1.5 Estonia

Competent authorities for issuing permits

The main permitting institutions are:

- **MoE**: permitting of economic activities of national importance (e.g. oil-shale activities) and licensing of collection and treatment of waste oils (19 waste oils licences were issued by 2000). MoE must ensure that EIAs are carried out. There are about 195 EIA licensed experts. A database of EIA licensed experts is maintained by the Environmental Management and Technology Department of the MoE. This database should be soon available on the MoE web site (NPAA, 2000).
- **CEDs:** landfill permits, operating permits, water permits related to discharges of dangerous substances. CEDs are responsible for EIA supervision except transboundary cases. In future CEDs will be responsible for the integrated permits (proposed Law on Integrated Pollution Prevention and Control 03.01.2001)
- The **EIC** provides information on the permits issued for List I substances (Discharge of Dangerous Substances Directive).
- MoE has the overall responsibility of monitoring (state monitoring programme). CEDs are responsible for collecting the monitoring data

Inspection authorities are now strictly separate from the permitting ones. Thus the Inspectorate is

totally independent and communication with the permitting authorities is weak.

Types of permits and procedures

The following permits are issued in Estonia:

- Licences for collection and treatment of waste oils (Disposal of Waste Oils Directive).
- Water permits (for non-IPPC installation) (Discharges of Dangerous Substances Directive) .
- Waste permits.
- Permits for emissions to air.
- Proposed law on Integrated environmental permits is expected to be approved in parliament by summer 2001.
- Environmental Impact Assessments (EIA) (where applicable) should proceed the issuing of environmental permits

An applicant for a permit submits an application to the relevant authority (depending on the type of project this is either the CED or MoE). The application is submitted to the permit authority in 3 copies. The permit authority registers the application immediately after it is submitted. The permit authority checks the application within 21 days from submission and informs the applicant whether the application is all inclusive or incomplete. The authority notifies the application to public in newspaper. Those whose interest may be violated have right to be heard and present their position within two weeks of notifying the public about the application. The application and the permit are public documents. The applicant may classify some (defined in law) part of the information as confidential. The confidentiality must be approved by permit authority.

The authority then sends a copy of application to local government (city or rural). The local government may communicate its position to the permit authority within one month of the receipt of the application. If it does not do so in due time, it is considered that they approve the application.

In case of transboundary impacts to another country, the permit authority must take actions as stipulated by international agreements binding for Republic of Estonia. The outcome must be taken into consideration in the permit decision.

The permit authority must make the decision on the permit within 120 days of beginning the procedure. Where the application needs to be supplemented, the permit authority may extend this time. The permit can be refused if the activity is against environmental legislation, does not fulfil the normative requirements or if the applicant has submitted false information. The permit can be issued for up to ten years.

Integrated permits: implementing IPPC

At present, permitting is environmental media specific. In the future, the permitting authority for IPPC will be the MoE's County (regional) Environmental Department (Keskonnaministeriumi

keskkonnateenistus). Integrated permits will be issued to 142 enterprises in the period 2001-2007. These include 35 industrial enterprises, 19 large combustion plans, 18 municipal landfills, 7 hazardous waste treatment facilities and 50 intensive pig and poultry farms.

The CEDs currently have the range of staff necessary for issuing integrated permits. However, they work independently producing medium-specific permits at present and it will be important to bring the relevant specialists together into teams in order to address the technical and environmental issues necessary to make integrated permit determinations. This requires the establishment of clear co-ordination procedures within each CED (or, more efficiently, a general procedure adopted at national level and imposed on each CED). To support this training on the procedures and technical issues will be required. The permit system is subordinated to Law on Environmental Tax and there is also a concern that permits are merely an instrument to determine the tax. If this were found to be the case in specific instances, then this should be reformed.

Determination of BAT will require action within the MoE in establishing the expectations for BAT for each category of installation. The basic expertise is available, although this must be supplemented and draw on the BREF guidance produced within the EU. A BAT centre within the MoE will then need to train staff within the CEDs on the use of the national guidance in individual BAT determinations for specific installation permits.

Resources and staff numbers

Section 2.1.5 indicated that staff numbers within CEDs were largely sufficient. It is, of course, uncertain what resources will ultimately be required with the more complex permitting assessments needed to implement IPPC. Until this is clearer, an assessment is not possible. However, as stated above training for skills enhancement will require additional resource allocation.

Conclusions

Estonia has an institutional system for permitting which should form a reasonable basis for the implementation of IPPC, ie the current permits that will need to be brought together for the integrated permit are all issued by the CEDs and these are subordinate to the MoE, from which they receive guidance. Key issues that must be addressed, however, include:

- The development of a national centre for BAT assessments;
- The adoption of procedures and training to bring together staff within the CEDs to issue integrated permits;
- The review of the relationship between permit conditions and environmental tax collection;

- A review of staff resource needs after clear integrated procedures have been finalised and trialed.

4.1.6 Hungary

Competent authorities for issuing permits

The Regional Environmental Protection Inspectorate is the main institution that issues the permits. It issues them for the following:

- sewage discharges.
- emissions to the atmosphere from industry.
- hazardous waste activities.
- permitting of the import of non-hazardous wastes
- permitting of activities having significant impact on the environment on the basis of EIA.

In these matters Institute of Public Health, Natural Park Directorate and Regional Water Management Directorate co-operate as special authorities. Regional Environmental Protection Inspectorate also frequently co-operates as a special authority (e.g. with the architectural authority and Regional Water Management Directorate).

In addition, the National General Directorate for the Prevention of Disasters started operation in January 2000. It is controlled by the Ministry of the Interior and is responsible for authorising establishments in which dangerous substances are produced, used, handled or stored. It also includes the National Command for Civic Defence and the National Command of the Fire Brigade.

Local self-government issues construction licenses and operating licenses for small processes.

Types of permits and procedures

The law requires that all activities that have an impact on the environment must be permitted. All permits consist of the conditions to be applied in the operation and the justification and reasoning for those conditions.

The process for obtaining a permit is complex. For new installations an EIA is necessary. For existing installations requiring a revised permit, an environmental audit is required to be undertaken. The details of an environmental audit are prescribed by the relevant REI, but the audit itself is undertaken by the operator (contracted out to an authorised person or organisation). An audit might address specific issues raised by the REI or it might take a complete view of the potential impacts of the operation on the environment. Following the audit, the REI can issue a permit, it can require further assessments to be undertaken, or it can ban certain types of activity from taking place. An operator can also undertake an environmental performance evaluation. This is voluntary, although common rules are established. It is similar to an environmental audit undertaken in the EU EMAS certification.

Once an EIA or environmental audit is completed, an EIA licence is given. This acts only as a prerequisite for further permits. These are issued by the REI, with other relevant institutions

participating as necessary. Other agencies may also be required to issue permits. For example, a regional Water Directorate will issue a permit for water use. This in itself is in three parts – a preliminary licence (issued up to one year prior to construction), a construction licence (allowing construction to proceed), and an operating licence (valid for five years before renewal is required).

The complex nature of the permits required is the result of multiple institutional involvement and types of licences. A typical small installation permitted at the local level may require the following types of licence:

- Preliminary outline building license (local self-government);
- Preliminary outline water license (regional water directorate);
- Building license (local self-government);
- Building permit for on-site hazardous waste collection (local self-government);
- Water license for construction (regional water directorate);
- Installation of process license (variable – eg the county veterinary and food inspectorate);
- Operating license (local self-government)
- Operating water license (regional water directorate);
- Operating process license (variable – eg the county veterinary and food inspectorate);
- License for hazardous waste handling (REI);
- Approval for operating regulations for hazardous waste collection facilities (REI);
- Air emissions (REI);
- Noise emission limits (REI).

For the permits not issued by the REI, the REI still is consulted. Typically the REI might be consulted 10-15 times for such an operation. This is exceptionally complex.

Integrated permits: implementing IPPC

Separate permits are issued for different media. 1075 installations will be affected by IPPC (as existing installations) and only a handful will be classified as new installations. In addition, 312 installations are affected by the Air Pollution from Industrial Plants Directive. The REIs have not yet begun to take account of the IPPC Directive and, therefore, it will be some time before the relevant technical training institutional strengthening programmes will be complete in order to enable the REIs to meet these requirements.

In particular, Hungary will need to develop a BAT centre for the development of national BAT guidance and as a repository of information on actual BAT determinations. Systems will need to be developed to enable this information to be available to REI staff as new permits are applied for and existing permits are reviewed.

Resources and staff numbers

Around 1400 people work in the 12 REIs, but of these around 350 are responsible for permitting and inspection activities. Given this duel role it is not possible to identify separately the staff resources available for permitting *per se*.

The Hungarian REAP report concludes that the general resources available for permitting are sufficient for the complex requirements of Hungarian law. With the introduction of integrated permitting, however, for IPPC, it will be necessary to undertake some training and probably introduce procedures to ensure the relevant specialist staff within the REIs work closely together. The NPAA also concludes that the introduction of IPPC will mean that it 'necessary to increase staff numbers'. This is not focused on the permitting process itself, but on the need to develop information systems for a BAT register. Some staff will also be needed to improve information supply to the public, ensuring access to information.

Conclusions

The current permitting procedures are elaborate and do achieve a level of environmental protection and seek to ensure strict conditions for process operation. However, the institutional roles and consultation procedures are highly complex and it is doubtful if the resources expended in these procedures are optimal either for environmental protection or for the operator. The challenge of IPPC is that the REIs will need to adopt even further co-ordinating roles and it may be necessary to review the overall national system at this time.

Thus the strengths of the permitting system in Hungary are:

- Detailed environmental assessments are required before permits are issued;
- Preliminary permits systems allow problems to be detected at an early stage;
- Sufficient capacity is in place in the REIs for current permitting requirements.

However, the major weaknesses to be addressed include:

- The system is too complex and could be rationalised to optimise institutional resources;
- IPPC will pose a challenge given that current permitting is medium-based;
- A BAT reference centre and systems for public information provision need to be developed.

4.1.7 Latvia

Competent authorities for issuing permits

The eight REBs are the main institutions that issue permits. They issue licences for new household waste sites, shipping hazardous waste and permits for air pollution, water permits, waste water permits, and co-ordinate cutting of trees not included in the forestry fund. They also co-ordinate permits issued by local governments for operations involving hazardous waste.

For large installations, listed in regulation, the MEPRD established the water Permit Review Board. The decisions of the Board are adopted by the State Minister of Environment. The board deals also with those cases where there is dispute between the consumer and REB.

The Licensing Department of the State Geological Survey issues permits for the use of sub-surface resources (including groundwater).

Municipalities issue permits for hazardous waste generation but they base their decision on the judgement of the REBs. A Hazardous Waste Project Implementation Unit (HWPIU) was formed in 1997 (following PHARE funding). It was given the broad remit of strategic planning in the HW field – and one of its tasks was the development of a permitting regime.

REBs have basic monitoring tasks as well as being responsible for permits. The permit authorities use monitoring data as well as results of inspections. LEA has the overall responsibility of monitoring, it compiles the data collected by the REBs and undertakes some background monitoring. Communication between the LEA and permit authorities is not well established, since the compiled data is sometimes too general for permitting purposes.

Types of permits and procedures

Permits are required for a wide range of activities that impact on the environment, including emissions to air, to water, disposal of waste and for construction developments.

The total number of processes requiring permits is currently:

- Air: ~ 2000
- Water: ~ 2400
- Waste: hazardous waste ~ 500 and municipal waste ~ 470

According to Latvian law, all activities which involve production of hazardous waste require a special permit. Around 400 enterprises submit statistical reports on hazardous waste generation each year but only a few of them have permits. This is a failing that should be addressed.

The procedure for permit application can be illustrated with respect to water permits. For water use permits the consumer (applicant) prepares a permit application. The contents of the application are defined in detail in the Regulation on Water Use Permits (1997). The consumer sends the application for review to the municipality (2 weeks). The municipality has right to demand that the permit is

cancelled or amended. The REB rejects, approves of, or amends the permit within four weeks. The REB keeps a register on all issued or cancelled permits. The permit is valid for 5 years, but by the decision of REB the time of validity can be shorter. The REBs issue permits related to air quality, water use (including emissions to waters). The water use permit needs the statement (approval) of the municipality, an air pollution permit needs the statement (approval) of the municipality and Regional Environmental Health Centre.

Integrated permits: implementing IPPC

At the moment there is no integration across environmental media. Permits are given separately for air, water, waste etc. The proposed Law on Pollution will introduce integrated permits. However, the Environmental Protection Department of MEPRD is organised on the basis of an integrated approach into three units: Environmental Quality Unit, Technology Unit, and Nature Protection Department. This enables the handling of cross media effects in an integrated way. In most REBs separate experts deal with different media. Some specific institutions like Geological survey, Marine Environment Board and Hydrometeorological Institute have media specific task.

It has been estimated that there are 130 existing installations which will require IPPC permits. Pilot projects on issuing integrated permits (for IPPC) have been going on since 2000.

The coming integrated permits cover more issues than the existing permits (water, air, waste) i.e. BAT (cleaner technology), energy efficiency, noise, resource minimisation, operational management etc. At REBs there might be a lack of experience/capacity to deal with the new challenges. The permit authorities at REBs have close working relations with enforcement (inspection) authorities at REBs as well as with the monitoring staff. However, the new integrated permits will be enforced by ESI. There is no direct administrative link between REBs and ESI. The communication about permit conditions and monitoring data, therefore, will require considerable innovative systems development.

Resources and staff numbers

The number of staff at REBs who work with permits is about 70 – 80 for the whole country. For the current permitting activities to air and water this is considered sufficient. However, there is clearly a lack of sufficient staff to permit hazardous waste activities at present and the more complex permitting assessments that will be required by IPPC will also need some additional staff (and training) in some REBs.

Conclusions

Latvia has the basic institutional framework from which the integrated approach for IPPC can be built. The integrated departmental structure within the Ministry is an excellent start and this should be supplemented with a centre for development of BAT guidance. However, this is not mirrored in the REBs which maintain a medium specific approach. Thus key issues to be addressed include:

- An assessment of why many hazardous waste activities remain unpermitted and that the staff resources are made available to overcome this.

- The development of the technical support (eg in relation to BAT) at a national level to support the REBs in the implementation of IPPC.
- The REBs must adopt the integrated approach of the Ministry and bring staff together into installation focused permitting teams. This may require additional training.
- Staff resources can then be revised in the light of any additional burdens that IPPC brings beyond the current medium-specific approach.

4.1.8 Lithuania

Competent authorities for issuing permits

REPDs have the main responsibility for permitting. The REPD has no divisions between media. Most complicated cases are dealt with the support of the Ministry of Environment which has media specific units in the central office. There are about 36 persons in the environmental administration directly involved into permitting procedures and about 170 supporting these activities. This has been considered adequate for the implementation of IPPC also. REPDs will need appropriate training to implement IPPC requirements.

Municipalities are also responsible for issuing building permits and they comment upon permit applications processed by the REPDs. They also issue some waste permits.

Types of permits and procedures

All significant activities that might impact on the environment require a permit - including discharges to air, water and waste management. In all cases this is undertaken by the REPDs.

Applications have to contain documentation on the influence of the activities to the environment. The RED has to evaluate the documents and issue a reasonable decision regarding whether permits to engage in the activity will be granted or not.

Prior to an application being submitted to the REPD it must be co-ordinated with relevant state institutions (e.g. Ministry of Health Care, Geological Service, etc.) and the municipality. REPDs shall issue a permit or reasoned conclusion within 2 months from receiving the application.

A typical permitting procedure involves:

- The enterprise shall submit an application for the permit at least two months before the planned start of activities or before the end of validity of previous permit.
- Depending on the type of activities of the enterprise, the application for the permit shall contain relevant annexes: annex 1 – abstraction of water, annex II – discharge of pollutants into water, annex III – emission of pollution to air from stationary sources, annex IV – waste generation and treatment, annex V – extraction of natural resources, annex VI – monitoring.
- Before submission of an application to REDP it shall be co-ordinated with relevant institutions. The actual list of relevant co-ordination institutions will depend on nature of the enterprise and is established by the REPD. In all cases the application shall be co-ordinated with the municipality.
- Within 2 months after submission REPD shall issue the permit or a reasoned opinion on why the application for the permit was rejected.

Appropriate Environmental Protection Agencies are consulted prior to issuing a permit by the REPD. Data provided by the Applicant is being checked with relevant data kept by joint Research Centre and Regional laboratories.

The law allows permits to be issued for varying periods depending upon the type of activity and the volume of pollution. REPDs may issue permits lasting between one and five years. Any significant change in the activity also requires a new permit application.

Integrated permits: implementing IPPC

At present a unified (integrated) system of issuing permits is issued in Lithuania. One single permit exists for both the use of natural resources and for pollutant emissions to air, water and the disposal of waste. Enterprises present different annexes of the permit for air, water, waste, etc. However the permit system does not meet the requirements of the IPPC Directive. The main gaps in the current system concern the total coverage of the types of installations and the actual nature of the permit determination (ie defining BAT). The main part of IPPC requirements are planned to be transposed by 2001 and transposition completed by 2002. Around 4100 processes require permits in Lithuania. However, about 200 installations will be covered by the IPPC requirements. An environmental impact assessment is required prior to the issuing of a permit for construction.

Resources and staff numbers

The numbers of staff in the REPDs is around 235. It is difficult to assess the permitting capacity, given that they are also involved in inspection. However, Lithuania reports that this number of considered sufficient. Although municipalities have only a limited role in permitting, there is some concern about their capacity to complete this role.

Conclusions

In conclusion the main strengths of the permitting system in Lithuania are

- the adoption of a new legal base in Spring 2001;
- the use of integrated permits;
- clear time limits are imposed on authorities to process permit applications and these are followed in practice;
- there are sufficient staff;
- an appeal system was established in autumn 2000.

The principle weaknesses are:

- the municipalities lack sufficient staff capacity to undertake permitting adequately;
- there is a need to align the current integrated permit system with that of IPPC - in terms of the scope of installation coverage and the technical issues that must be addressed in permit determinations. This will require some investment in training;
- there is a lack of familiarity with the appeal system.

4.1.9 Malta

Competent authorities for issuing permits

There is currently very little formal legislation on environmental permitting. In practice, environmental permitting can only be effected through the land-use planning system (but only to a very limited extent and indirectly). The main institutions responsible for permitting are:

- The Discharge Permit Unit (within the Drainage Department) issues permits for discharges into water.

- The *Reserves and Habitats Unit* of the MoE's Environment Protection Department co-ordinates with the Land Department regarding requests for the use of public land, with other authorities regarding the enforcement of regulations for protected areas, with the Planning Authority regarding development, particularly in the countryside and the coastal zone, and with NGO's regarding the running of reserves and educational campaigns.

- Abstraction of ground water is controlled by the Water Services Corporation. However illegal bore holes do exist.

- There is no permitting regime or health and safety regulations regarding the handling, treatment and disposal of hazardous waste.

Types of permits and procedures

The Planning Authority issues permits for all new development happening on the islands. When a development that might have potential environmental impacts is permitted, the Planning Authority ensures that the permit includes adequate conditions aimed at mitigating or avoiding the impacts. All new development (as defined in the Development Planning Act 1991) requires a development permit that is issued by the Planning Authority. Certain types of development (such as waste management facilities, etc) also require an operational permit that is currently issued by the Environment Protection Department (EPD). However since the EPD is not well equipped (particularly regarding staff) the permits issued by this department are generally not very detailed and are just a mere rubber stamping exercise.

When the Planning Authority (PA) issues development permits, in the absence of a proper operational permit (license) the PA generally imposes stringent operational conditions together with the other conditions that are generally associated with a development permit. Most of the time environmental conditions are designed on the basis of studies carried out during the preparation of an EIA for the development in question. The PA also has a specialised Environmental Management Unit which comprises a multidisciplinary team of environmental professionals who provide the PA with technical advice on environmental issues.

Waste disposal sites currently need a development permit and further procedural requirements are to be added. The planning process for major waste facilities includes the requirement for an Environmental Impact Assessment.

Every business which discharges into the sewage system must have a permit. There is no direct discharge into the sea from industry. The list of industries that have to have such a permit is included in the annex to Legal Notice 8/93. Currently there is no legislation regulating the discharge from urban waste water treatment plants directly into the marine environment, even though Malta is signatory to a number of international conventions which deal with this issue.

There is a drive towards the improvement of procedures in a way that would be compliant with the IPPC Directive. The Pollution Control Co-ordination Unit of the Environment Protection Department and the Department of Industry is drawing up a list of installations affected by IPPC. This should be completed in 2001.The installations likely to be affected by IPPC (thought be amount to around 20 installations - power stations, waste management plants, slaughterhouses, etc) are below the necessary environmental standards.

Whenever licenses are applied for (eg in the case of an application for a license for a quarry which is still licensed by the police) the police first checks whether there is a valid Planning Permit. Following this the police send out consultation letters to all relevant departments (EPD, WSC, Health, Works Dept. (Explosives Section) etc.). When the police ensure that no department has objections they generally ask the Planning Authority to forward a list of conditions (generally standard conditions) that the police attach to the license. A license from the police could take years to pass through all the bureaucracy. The license is renewed yearly.

The process for a permit to the Planning Authority begins with the submission of an application. Following initial assessment, the PA together with the EPD prepares Terms of Reference for the preparation of an EIA. The EIA is prepared by private consultants that have been approved by the PA and financed by the developer. When the EIA is prepared the Environmental Management Unit of the PA assesses the EIA in consultation with the EPD. The EIA process also includes public consultation. Following the assessment of the EIA the Development Control Division of the Authority assess the overall suitability of the proposed development and prepares recommendations for the consideration of the PA board (the PA Board is the forum where all final decisions on whether to approve a development or not are taken). The PA Board meets in the presence of the public. If the development is accepted a permit would be issued and this would include a set of conditions, including environmental, regulating the operation of the plant in an environmentally safe manner (emission limits, type of flue gas cleaning equipment to be used, etc.).

A permit determination, from the time of application, can take about two months. Permits may be issued for varying lengths depending on their type.

Integrated permits: implementing IPPC

In the near future the Government is meant to set up an Environment Authority which should replace the EPD and act as an independent Authority with the power to issue integrated operational permits. At the moment the Bill to set up this authority is being discussed by Parliament.

Since the Environment Authority is not yet set up, the issue of integrated permits is still only partially possible through the Planning System. At the moment the responsibility for Environmental permits is still divided among a number of Government departments (eg EPD, Water Services Corporation, Drainage Dept. etc). However this issue will be settled once the Environmental Authority is set up. The Environmental Authority is meant to have a similar role to the Environment Agency in the UK. Once the EA is up and running there it would be possible for proper integrated operational permits to be issued. However, the small size of Malta indicates a level of integration and familiarity between different operating units. Organisations involved in the issue of permits include the EPD, the WSC, the police and recently some responsibility has been passed on to local authorities.

The challenge for the new Authority will be to create teams of staff with the skills necessary to assess integrated permits. The Authority will also need to develop guidance for the assessment of BAT. „

Resources and staff numbers

Within the EPD the PCCU only has a very limited budget and is both under-staffed and under-equipped. Until now it has been ranked only third in its importance within the Ministry for the Environment (after biodiversity and waste management). The issue of low morale and poor staff retention due to low pay is a major problem. More staff will have to be trained to carry out permitting and monitoring to meet the requirements of the IPPC Directive, and other EU permitting regimes. There is, therefore, a need for additional resources for industrial permitting.

Conclusions

Malta's permitting procedures do have some strengths. The current land use planning system is very advanced and in line with EU requirements. Environmental operational conditions for new developments are adequately catered for by means of strict conditions included with Planning Permits. The EIA process is also advanced and adopts an integrated approach across media. Environmental conditions imposed by the PA normally arise from the recommendations of the EIA.

However, Malta is still some way from the implementation of a consolidated permitting system, compared to some other candidate countries as it has a fragmented institutional approach and media-specific permits. This is expected to be overcome, at least in part, with the creation of the new Environment Authority.

Key specific problems for permitting in Malta include:

- Regulation and permitting of existing facilities not covered by new PA permits is weak. Processes that do not undergo the normal planning process may are also not well regulated.
- Lack of resources, including staff.
- Lack of co-operation between agencies that may arise when certain agencies perceive other agencies (that have a better equipped human resource pool) as a threat to their existence.

4.1.10 Poland

Competent authorities for issuing permits

The primary responsible institutions for permitting across a range of issues are the Voidvoships for projects that may have significant effects on the environment as referred to in Art. 51, Para.1, Subpara.1 of the Environmental Protection Act). In other cases permitting is undertaken by the starosta.
Regarding the permits for using the environment, a general right of starosta to issue them has been introduced. However in case of investments particularly harmful for the environment and human health, the competent authority for issuing these permits is voivoda.

Types of permits and procedures

Water management
These issues are regulated by the Act of 24 October 1974 – Water Act (with later amendment). One of the main instruments allowing administrative authorities to influence using waters is the water permit, which is required in the following cases:

- use of waters,
- construction of water use equipment,
- operation of water equipment serving abstraction of ground water and equipment for protection of water against pollution, if a permit for operation of this equipment is required.

Water permits are issued respectively by starosta or voivoda. The authority issuing the permit can impose additional obligations, where necessary, because of protection of social interests, national economy or environment. Such obligations can also be imposed after the water permit is issued.

Water and sewer provision and wastewater treatment are within the competence of gmina. In this respect gminas have at their disposal legal instruments allowing them to force the owners of buildings to connect to the sewer system.

Air protection

Air protection is regulated by the 1980 Act on Protection and Shaping of the Environment (with later amendment). An obligation to obtain a permit (decision) setting out the types and amounts of polluting substances to be introduced into the air (so-called decision on allowable emission) is required by all installations, with exceptions envisaged in the act. This decision is issued by starosta or voivoda. The authority issuing the decision can include in it additional obligations resulting from air protection needs; such obligations can also be imposed through a separate decision. In addition the authorities issuing the decision are obliged to store data on types and amounts of polluting substances allowed to be introduced to the air in publicly available registers.

Installations are obliged to pay fees for the emission of polluting substances into the air. They transfer the amounts which they calculate by themselves to the account of the Voivod Marszalek's[2] office; they are also obliged to transfer to the Marszalek of the Voidvoship the data providing background for calculation of the fees.

Waste management

These issues are regulated by 1972 Act on Waste (with later amendment), together with executive orders and the 1996 Act on keeping cleanliness and order in gminas.

Municipal waste management belongs to own tasks of gminas. Gminas implement this obligation through:

- work related to maintenance of cleanliness and order at the gmina territory or assuring execution of such work through creation of appropriate organisational units,
- ensuring construction, operation and maintenance of (alone or with other gminas) municipal landfills and of units which use or dispose of waste,
- prevention of pollution of the streets, markets and open areas through: elimination of waste deposition in places which are not designated for it.

[2] Marszalek is the head of the voidvoship's Parliament (*dietl*), which is a self-governmental body.

- creation of conditions for selective collection, segregation and deposition of waste useful for further use, and cooperation with organisational units and persons who undertake activities for collection and management of this type of waste,
- cooperation with the relevant authorities of governmental administration in the organisation of hazardous waste management separated from municipal waste,

The obligation of appropriate handling of waste, other than municipal, is to be borne by the waste producer, although it can be transferred to waste receivers. The Act on Waste requires the following permits to be issued by starosta or voivoda:

- permit for hazardous waste generation or for generation of waste, other than hazardous, of over one thousand tonnes per year, except for municipal waste,
- permit granted to the waste receiver, except for hazardous waste receivers, for removing these wastes, including their transport, utilisation or disposal,
- permit for hazardous waste deposition at separated parts of other landfills – after entering into agreement with the wojt, mayor or president of the city.

Regarding permits for generation and disposal of waste the unit issuing a permit can set additional obligations related to handling hazardous waste, if this is required to achieve environmental protection.

Also non-obligatory permits for removal, utilisation or disposal of waste other than hazardous have been introduced. It is obligatory to submit information on the generated waste and the manner of its handling. The relevant authorities in this field are: wojt (head of gmina), mayor or president of the city, starosta, or voivoda.

Integrated permits: implementing IPPC

There is no integration across media - all permits are submitted separately and all of them have to be compared to the official (established by law) standards. There are different staff for each medium (in the voidvoship level). In the gminas and poviat administrations one person could be responsible for all media).

Some integration is achieved in relation to EIA. Here an MoE commission made of 75 members has responsibility for performing EIA related to projects of national importance (since 1.01.2001 national Commission will be smaller - 35 members, and they are and will be responsible for verification of

EIA if they are done according to existing regulation). EIA commissions are also expected to be established at the level of voidvoships. There are several thousand installations country wide.

According to the IPPC Implementation Plan an inventory of IPPC installations will be carried out March 2001. According to the Plan, a scheme for granting integrated permits should have been developed in December 2000. Integrated permits will start to be issued at the beginning of 2002. Many small plants are working without permits - the existing system is effective in regulating large plants but it does not cover most of the small and medium size plants.

The complexity of adopting an integrated approach is increased by the administrative reforms that have taken place. The Voidvoships are as yet unable to take an integrated approach to permitting and will need extensive training to achieve this. In addition to Inspectorate will need to develop BAT guidance. This is essential in order to implement a consistent approach to IPPC permit determinations across Poland.

Resources and staff numbers

As stated in section 3.10, the reformed administrative structure has insufficient resources to implement existing legislation (let alone new requirements derived from EU legislation). This applies to all activities, not just permitting. A major assessment of these resource needs is needed and this must be undertaken as soon as possible. This will not only need to address staffing levels, but also remuneration and training costs for new recruits.

Conclusions

In conclusion, the main strengths within the Polish system are the establishment of a long held permitting system, particularly for large installations, linked to environmental performance. Integrated permits are also expected to begin being issued at the start of 2002. However, significant weakness that need to be addressed include:

- A pressing need for additional resources at the sub-national level - for new staff and training;
- The establishment of a centre for the development of clear BAT guidance for all sectors at the national level.

4.1.11 Romania

Competent authorities for issuing permits

The main institutions responsible for permitting are:

- MoWEP: for activities of national importance and investments involving more than one county (e.g. hazardous and radioactive waste disposal, large industrial plants, LPCs,etc)
- The 42 IEPs at county level.

Types of permits and procedures

There are two basic types of permits: Environmental Permits (i.e. permits for operation) and Environmental Agreements (i.e. permits for new investment). Permits are issued for a maximum of five years.

The procedure and activities subject to permitting have been established in the Environmental Framework Law (No. 137/1995). It involves:

- Prior to the issuing of a permit, an environmental impact assessment should be carried out. The basic procedure (i.e. public consultation) is set out in the Law 137.
- The requirements of the permits are established by the IEPs on a case-by-case basis.
- In some specific cases of water uses, the National Company Romanian Waters issues an additional technical opinion.
- Compliance with the permits should be regularly monitored and inspected by the EPAs. In reality, due to under-staffing and limited laboratory capacity, industrial polluters are required in the permits to monitor and report on their emissions. This rarely happens, so emissions are derived through calculations rather than measurement and monitoring.

The number of activities subject to permitting is large and this creates many permit applications, which are simply processed without sufficient consideration of the potential environmental impacts of the activity proposed.

Integrated permits: implementing IPPC

There is no integrated permitting. A preliminary inventory estimates that there will be 729 IPPC installations (including 67 large combustion plants). The IEPs will be the competent authorities for the implementation of IPPC, building upon their current role in issuing permits for media specific

discharges. Each IEP has staff covering different types of installation and different environmental issues. There is, therefore, a firm basis on which to bring these together to begin the process of integrated permitting. It is expected that this might occur soon. However, such permits would not be synonymous with those required under IPPC as these would require extensive individual determinations of BAT, rather than a simple amalgamation of the current media specific permits.

It is, therefore, important that Romania develops a national BAT centre which can issue guidance to the 42 IEPs on what is BAT and how BAT can be assessed at an installation level.

Resources and staff numbers

The institutions have significant capacity problems, especially in:

- Communication
- Expertise/experience
- Finance
- Insufficient expertise in permitting

Where permits are issued according to long-established guidelines (eg standard emission limits), staff can determine permit conditions readily and thus overcome some of these resource constraints. However, BAT determinations are more resource intensive and this will pose increasing problems on the IEPs which already experience some of the severest resource constraints within any candidate country. A strategy should be developed to manage the introduction of these new demands, not requiring immediate adoption of all the complexities of IPPC, but finding a practical route to introduction, taking account of Romania's longer time span for EU membership.

Conclusions

In conclusion, the current permitting system has the following positive characteristics:

- There is a well established permitting system.
- There is a clear distribution of competencies between the national and the local (county) levels.

However, it has a number of significant weaknesses that must be addressed:

- The permitting system is not integrated and a strategy must be developed to introduce this;
- More detail technical guidance on permit requirements must be produced nationally and implemented in the IEPs. This should include information for the determination of BAT (at least in the longer term).

- As with other areas of environmental enforcement, the permitting resources (staff, equipment, etc) of the IEPs is very poor. A strategy to fund adequate and effective permitting is required.

4.1.12 Slovak Republic

Competent authorities for issuing permits

Regional Environmental Departments (larger/IPPC sites) and District Environmental Departments (smaller sites) issue permits for large installations and air protection generally. District offices issue permits mainly for water pollution and waste disposal depending on the extent of activity. A general rule is that the higher body (RED decides on issues that impact more districts or transboundary impact).

Types of permits and procedures

The following types of permits are issued in Slovakia:

Air pollution Permits

- emission limits for existing large sources of pollution.
- emission limits for existing medium sources of pollution.
- constructions of small pollution sources (municipal level).
- construction of new facilities (BAT is required).
- location of the constructions of large and medium pollution sources including changes and the initiation of operations of large and medium pollution sources.
- installation of technical equipment for pollution monitoring.
- operation of research technological facilities that belong to large and medium pollution sources.
- changes of fuel and raw materials use and changes in the use of technological facilities of large and medium pollution sources.
- issuing and change of set of technical-operational parameters and technical-organizational measures of large and medium pollution sources.

Water permits

- withdrawal of surface and ground waters.
- withdrawal or use of mining waters.
- discharge of waste waters into surface or ground waters.
- discharge of special waters (mineral waters, mining waters).
- water management facilities (dams, reservoirs, irrigation facilities, melioration facilities, facilities for protection against floods).

- geological and hydrological activities in protected zones.
- extraction of sand, gravel, silt from the water flows beds.
- constructions and facilities in water flows.
- long-distance pipes, storage, tanks, landfills.
- any industrial activity or change in technology that might impact the quality of quantity of water.

Solid waste approvals (translation "súhlas")

- operation of waste disposal facility.
- export and treatment (processing) of hazardous waste.
- transit of waste to, within and from the Slovak Republic.
- import of waste for other purposes than final disposal.
- operation order (translation " poriadok") for waste disposal facility.

Solid waste authorization (translation "vyjadrenie")

- construction of waste disposal facility.
- technological changes in production or industrial activities that might impact waste management.
- business activities in waste management.

Any activity that might impact the environmental quality requires several permits. The procedure starts at the District Environmental Department of appropriate jurisdiction. It is also reviewed whether the activity is in compliance with the local and regional land use plan. In addition, the Act 127/1994 on EIA contains the list of activities that are subject to environmental assessment (translation "zisťovacie konanie"). However, the final statement of the EIA is not an obligatory (legally binding) document for the decisions on future industrial or other activities.

The D(R)ED grants approval for operators of pollution sources based upon an application. A complex application is reviewed with respect to all of the requirements including technical, operational and organisational parameters of the proposed activity. Also, the authority can request an expert opinion and/or can invite the Slovak Environmental Inspectorate to review the application.

D(R)ED authorities (departments) make decisions about the rights and the duties of the individuals. Administrative proceedings – just like proceeding at a court – aim at a concrete individual decision. Every person (company) whose rights or legally protected interests or duties should be subject to the proceedings, or whose rights or legally protected interests can be affected by the decision, becomes a party to the proceeding. Participants in the administrative process can appeal to a higher authority.

The highest appeal authority for environmental issues is the Ministry of Environment. The decisions issued at the first level (DED) can be reviewed at the second (RED) level, which is the final phase of the administrative proceeding. The same appeal process applies for the decisions of municipalities

which are appealable to DEDs. If an affected party is not satisfied with the "final decision" following the appeal, that party may request a review by the Ministry. This review is limited to procedural issues and therefore does not address the substantive decision. In the event that this review by the Ministry finds fault with the process the issue is sent back to the first level. In addition, an independent and impartial court can also examine the decisions of the environmental authorities.

In the water sector the Water authority (at DED or RED) issues permits for water use and waste water discharges. In addition, the water authority issues special permits for any other activities that might impact the quality or quantity of water resources. These permits are not limited in time. There are cases, where the installation has a permit 10 years old, that a new permit would be required only if the operation changes the technology or amount of pollution discharged. However, annually, the facility has to report (and ask for approval) to discharge due to pollution charges. In addition, the water authority issues approval for other permitting authorities (for example the construction office) or statements for activities that might impact on water (for example: logging – transporting wood via river, construction of storage tanks for manure on farms, etc.). In 2002, when the new Water Act will be valid, there is a provision that water authorities must review and revise all permits granted.

In the waste sector: each (single and/or regular) transport of waste requires permit. Each producer of waste has to get the permit to generate and dispose the waste (this includes for example even small auto- repair services or gardeners selling flowers at the open market).

DED (and RED) are legally obliged to issue permits within the limits set up in the legislation. The environmental authority might issue stricter limits or conditions of the operation. The legislation allows for exemption from the limits for limited time (also set up in the Acts).

Integrated permits: implementing IPPC

A single permit contains requirements for all environmental media, but the media are considered separately. Permits are issued by medium-specific Environmental Departments at regional and district levels. The results of monitoring are available for permitting authority. Also the DED and RED receives annual monitoring results. The SEI is invited to each application review prior to issuing the permit.

Around 600 IPPC installations were identified in 2000, although there are many smaller types of facility which also require permits.

This presents a major challenge to Slovakia. A true integrated permit will require a new co-ordinated approach within the REDs and DEDs. Staff will not simple be able to set their own requirements for

air, water, etc, but must work together to determine the best overall environmental outcome. This requires co-ordinating mechanisms and some training.

Resources and staff numbers

As already noted, the REDs and DEDs report to the MoE but are managed, co-ordinated and financed by the MoI. This has led in particular to budget and staffing problems. Staff numbers for permitting are as follows:

- Water: 8 RED permit staff, around 150 DED permit staff
- Waste: 2-3 permit staff in RED and around 90 in the DEDs
- Nature Protection: 1-2 in each DED

The number of permit staff is considered to be too low for the number of sites that require permitting. Also integrated permitting will require capacity building and training for existing staff involved in inspection, permitting etc. It is important, therefore that additional resources are identified.

Conclusions

In conclusion the permitting system in Slovakia has the following positive aspects:

- There is a well-established permitting system.
- There is a clearly defined permitting 'hierarchy' (national, regional and local levels).
- Major facilities are given a single permit covering all media.
- Permitting fees and pollution charges are well established.
- There is inclusion of inspection staff in the permitting process.

Problems that remain, include:

- There are insufficient staff to implement the current permit systems, and more still will be required to implement integrated permitting under IPPC.
- There is a complex range of different permits for different purposes.
- Separate permit sections exist for different media, but within single permit document.
- Different media are handled by different sections (but within same department).
- The levels of fees and charges is not high enough to act as a real incentive.
- Permitting fees go to the general state budget (but part used to cover administrative costs).

4.1.13 Slovenia

Competent authorities for issuing permits

The NPA is the key government agency responsible for preparing and issuing (environmental) Operating Permits. At a local level, Operating Permits for less-polluting facilities are prepared and issued by local Administrative Units. Location Permits (for construction) are prepared and issued by MESP. In cases of large infrastructure development, the procedure is conducted by the national office (Spatial Planning Agency of MESP). In other cases the permitting procedure is undertaken by local Administrative Units. Environmental Consents might be required for larger facilities (explicitly listed in a regulation). The consent is issued by the NPA based on an Environmental Impact Assessment (report prepared by one of the licensed companies), which is one of the documents an investor has to submit to the permitting authority. At present, the NPA issues separate permits for each medium (air, water and waste). It is not yet clear how this will develop into the integrated approach required by the IPPC Directive, as these separate permits are issued by separate sections within the NPA.

Types of permits and procedures

The following types of permit are required:

- Location Permits (for construction) are issued directly by MESP but relating to spatial planning rather than environment. They must be consistent with structure plan and comply with EIA requirements (including public consultation) in accordance with EIA Directive.
- Operating Permits are issued separately for air, water and waste by NPA. Permit requirements will be consistent with environmental *acquis*, providing relevant implementing legislation is in force in Slovenia.

Basically all installations need permits, although the installations/situations listed below are exempted under the Act on urban planning and other spatial activities:

- maintenance works on existing buildings and technology;
- reconstruction, which does not change outfit of buildings, their capacity and the aim of these buildings;
- for non permanent buildings and devices for tourist season activities and for arrangements and similar;
- for monuments that do not require bigger building works.

The process of obtaining a permit is as follows. When an investor wishes to obtain a permit he usually first checks the physical plan for possible construction locations, then he issues a request for the draft location and draft building documentation. When he has received all the necessary documentation, he starts the procedure of negotiating with the permitting authority. This is usually conducted by the authorised company which is preparing the location and building permit documentation. This company invites all authorities responsible for location and building permits to issue their consent statements or guidelines.

Permits are negotiated in the sense that a polluter may be give time to come into compliance, but the absolute standards are not negotiated. Permits are generally handled on a case-by-case basis, although a consistent approach is adopted for a particular type of facility (power plants, landfill sites etc).

The administrative procedure theoretically takes 30 days to obtain consent statements/guidelines and 30 days for a permit. Theoretically, the building permit can be completed in 60 days or even earlier (60 days is supposed to be the maximum). But for difficult investments where consent statements might require modifications to the project, these "30 day" periods might need to be repeated several times. As a result, the whole process of design and permitting can easily take about 1 year for larger investments, or even longer if the investors are not familiar with the processes involved.

Integrated permits: implementing IPPC

Currently permits are issued on a medium specific basis, ie they are not integrated. Given the role of a single main institution in issuing permits, it should be possible to get staff to work together to issue integrated permits. This will require some training, but it is essential that this be undertaken at an early stage in order to meet Slovenia's timetable for implementing IPPC. It will also be necessary to establish a centre for the development of BAT guidance.

The precise number of current permits is not known. However, there are 108 installations falling under IPPC in Slovenia. The sector totals for these are as follows :

- Energy sector : 8
- Metals sector : 22
- Minerals sector : 21
- Chemicals sector : 20
- Waste management : 9
- Other (mainly agriculture) : 28

Resources and staff numbers

Slovenia has a shortage of staff necessary for permitting (and other areas of environmental enforcement). The reasons for this were described in section 3.13. This problem does impact on permitting in a practical way. For example, in theory, the IRSEP is consulted when permits are issued, but in practice limited resources and communication issues inhibit their involvement. As a result, some permits have proved to be unenforceable.

Conclusions

Slovenia has a permitting system which is relatively effective, except in certain instances where resource constraints exist. However, permits are not yet integrated and significant problems that should be addressed include:

- Poor communication between the sections of NPA responsible for different media inhibits a truly integrated approach, despite the 'integrated permit' nomenclature.
- Limited expertise due to lack of familiarity. There are no guidelines developed for specific industries or infrastructure, therefore public administrators sometimes produce very general requirements where they lack expertise.
- No mechanism for regular review of permits.
- Lack of resources and poor communication between NPA and IRSEP can result in permits which in practice are unenforceable.
- The NPA received a 'batch' of new staff in 1999, but it is likely that staff resources are still inadequate given the heavy work-load imposed by newly-transposed EC legislation.
- Although operating permits may be withdrawn or modified as a result of non-compliance, there is no mechanism for the regular, routine review of operating permits. Operating permits relate to the facility and not to the operator: there are no specific technical or financial requirements for site operators.

4.1.14 Turkey

Competent authorities for issuing permits

Effective permitting structures still need to be established in Turkey. Although the Ministry of Environment has been established and regional offices are being developed, the final competent authority for issuing environmental permits is still the Ministry of Health. Currently an application is made to the regional offices of the MoH. Other agencies (including the MoE and municipalities) are consulted and conditions may be requested. However, the final permit is always issued by the MoH.

It is possible that with increasing growth of the regional presence of the MoE, that this situation might change. However, this would not be likely to occur in the near future.

Types of permits and procedures

Many types of activity are required to have a permit, including:

- emissions to air;
- discharges to water;
- water use;
- waste disposal;
- construction.

Permits set specific emission limits for discharges. These are often negotiated, although a range of prohibitions exist, eg the discharge of dangerous substances into receiving waters.

When an operator requires a permit, an application is submitted to the regional office of the Ministry of Health. It details the proposed operation, including discharges. The MoH then circulates the application to other relevant authorities. Principally these include the regional offices of the MoE (where these exist) and local authorities. These agencies are able to comment upon the application and suggest changes. However, it is the MoH which establishes the final conditions. Depending on the complexity of the permit, an application may take a few weeks to a few months to process. The length of the life of a permit is also variable, and in some cases may be, in practical terms, indefinite.

The permit procedures for water discharges has been applied since 1989. This has established limits for a range of industrial operators and for processes such as fish farms. All water discharge permits must be reviewed every three years.

It should be noted that the establishment of specific operating conditions, including emission limits, for individual industrial facilities in Turkey (ie in permits) is given a lower priority as Turkey places great importance on concluding voluntary agreements with various sectors, including in combating pollution. For example, such agreements have been reached with the cement industry and the Turkish Automotive Sector on vehicle emissions. It is not clear if the implementation of voluntary agreements in Turkey achieves the same environmental protection and specific permit conditions would. Given the interest in voluntary agreements within the EU, this is an area worth further analysis. However, it is important to stress that EU legislation may require that specific emission limits are absolutely imposed in permits (eg waste incineration) or that local environmental requirements are absolutely protected (eg water quality standards or air limit values). Voluntary agreements are not always amenable to achieving these objectives. It would, therefore, be important to review the relationship between the practical use of such agreements and the detailed practical emission and environmental requirements of EU legislation in order to determine where incompatibilities lie.

Integrated permits: implementing IPPC

There is a complex process of integration across environmental media for permits. There is generally one final permit that integrates all of the intermediate permits. It is called Gayri Sıhhi Müesseseler

Ruhsatı (Hygiene Permit).

It must be noted that this Hygiene Permit is not equivalent to an IPPC permit. While most of the issues to be addressed in an IPPC permit are included in the Hygiene Permit (although not those concerning site restoration, for example), they are not fully integrated in the sense of seeking to optimise protection of the environment as a whole. The MoH would identify any highly significant cross-media effects, but full optimisation is not achieved. The permit is also derived from the input of several agencies including the MoE. However, the 'integration' is undertaken by the MoH and is, therefore, more health focused. Thus optimisation of the wider environment may be of a lower priority in the final conditions within the Hygiene Permit.

Turkey does not have centre for the development and dissemination of BAT guidance. Indeed, the difficult position of the MoE presents problems in developing such a centre. Clearly, the use of a single Hygiene Permit can be built upon in implementing IPPC in the future. However, the technical issues that need to be addressed both in general BAT determination and individual permit assessments must require the development of a stronger regional presence for the MoE and transfer of permitting functions to these regional offices.

Resources and staff numbers

There are large resource problems for the implementation of an adequate permitting system in Turkey. It is far from possible to identify the size of this problem, given that basic requirements for the development of regional offices of the MoE and strengthening of a wide range of municipalities is needed. Only then can a full inventory of installations and remaining capacity needs be determined. However, resources can be made available and this must be implemented, not only for the long-term goal of EU approximation, but also to assist in meeting transboundary pollution improvements, eg for the Mediterranean, Black and Aegean Seas.

Conclusions

The main strengths of the permitting system in Turkey are:

- There is already a permitting process (however complex/old) in place.
- Ministry of Health is in existence in all province centres enabling the final permitting to be executed throughout.
- Enforcement is more seriously and more widely implemented in cities where greater city municipality functions are enacted.
- Awareness for the compliance with the EC rules and Directives is increasing.

The key weaknesses are:

- The full permitting process needs to be overhauled/renewed. The current process is unclear as to the exact roles of the different institutions involved, the reasons for specific emission limits to be imposed, etc.
- Lack of competency/capacity in enforcing agencies is a very serious issue.
- Transparency in the overall permitting process needs a major improvement (to prevent short-cuts /bribing).
- The role of the MoE must be enhanced, but this is a long-term process, given the need to introduce many more regional offices.
- The use of voluntary agreements could be used to overcome certain strict environmental conditions. The role of such agreements within the environmental protection system in Turkey needs to be further analysed.

4.1.15 Conclusions

Permitting

All of the Candidate Countries issue permits to processes that might have some form of environmental impact. In most countries the range of processes addressed is relatively comprehensive. However, gaps do exist, eg aspects of waste management in Malta. It is also not clear whether all relevant types of installations are currently included, eg pig and poultry units as required by IPPC.

There is clearly a need to inventory all activities which may impact on the environment and ensure that permits or licences are issued to ensure that these comply with the necessary regulations. Most of these will be regulated under EU legislation. EU requirements may either be explicit (eg IPPC, where specific categories of installation are defined) or implicit (eg water discharges under the water framework Directive). Even where no EU legislation exists to regulate activities (eg some small air pollution sources) permitting should be encouraged as good practice. Many countries are currently undertaken such inventory work, especially in relation to IPPC. However, this clearly needs extending.

The nature of the permits issued also varies. Many countries issue a 'pollution' or operating permit, eg Bulgaria, Poland, Slovenia, etc. However, others, eg Malta, include operating conditions within a general permit issued through the land-use planning process.

EU legislation does not specify the context in which a permit should be issued, but it usually confines itself to the issues to be addressed in assessing a permit application. Thus the issue of integration of pollution and land-use permitting is largely a matter for the country concerned. There is clearly some advantage to the operator and regulator to integrate certain aspects of permit assessments, eg the integrated environmental assessments of IPPC and the assessments undertaken for implementing EIA.

The way that permits are assessed and operating conditions defined is not always clear. Major installations do require individual assessments. However, standard permits (eg general binding rules as specified in the IPPC and water framework Directives) also provide opportunities to Candidate Countries. Estonia, for example, has indicated that such standard conditions will help to ensure a

consistent high standard across the country and assist in overcoming undue influences on individual regional staff by operators. This type of approach may be appropriate in other countries, eg Turkey.

Institutions responsible

A range of institutions may be responsible for permitting. The following types are noted for core environmental issues:

- Most permits are issued by a central national institution, eg Lithuania and Slovenia (operating permits);
- Permits are issued by a number of different national institutions, eg Cyprus;
- Permits are issued by the regional offices of a national institution, eg Bulgaria;
- Permits are issued by regional or local authorities, eg Poland.

Various combinations also exist, depending on the type of permit. Thus both national and regional institutions are important in the Czech Republic. Small-scale activities are always regulated by local authorities in the Candidate Countries.

The institutions responsible for permitting are not static within the Candidate Countries. Some changes are driven by internal political objectives (eg regional restructuring in Poland). Others may be part of a longer process (eg establishing regional offices of the Ministry of Environment in Turkey, although permits are still issued by the Ministry of Health). An unknown factor will be the influence of the 2000 water framework Directive. The establishment of competent authorities for river basin management may cut-across existing institutional roles and countries may take the opportunity to revise other areas of environmental management beyond water management when such institutions are established. In other cases, eg Bulgaria, the new functions may be integrated into existing structures with only minor modification.

These differences reflect the varying character of the Candidate Countries, including size, population and political context. Size (both area and population) is important. Malta is the smallest Candidate Country. However, more than one institution is involved in permitting, yet it is thought that communication is facilitated by the size of the country. In contrast Cyprus is also small, yet the number of permitting institutions suggests unnecessary fragmentation. Large countries require a regional focus, either through regional/local authorities themselves (eg Poland) or regional offices of national Ministries (eg Bulgaria and Turkey).

Devolved responsibility is not just a matter of practical necessity - it may also be part of a wider political objective of a country. In a number of countries, the devolution of power to local administrations can be seen as part of the ongoing political process of the transfer of power to 'the people' within the political transition from centralised communist planning and control. Thus Poland had regional inspectorates (part of a national system) which might have been assumed to take account of regional interests, but these are now formally included within the Voidvoship structure. This process does lead to heated debates about the practicalities of environmental management, as has recently been seen in the Czech Republic. EU legislation does not prescribe (except on rare occasions) the scale of the institutions which should be responsible for activities such as permitting. However, it does require that such institutions fully implement the *acquis* in an effective, efficient and fair

manner. Local institutions can do this, but it does raise questions about their capacity about how this implementation is monitored and, ultimately, reported to the European Commission.

Integrated permitting

Few countries have truly integrated permits, although many state that they are about to introduce such systems in order to implement IPPC. An exception is Lithuania. However, even here the integrated permit is composed of sections covering specific media. Similarly, the hygiene permit in Turkey brings together separate permits for individual media. Any integrated permit must specify emissions, etc, to each medium. However, the test of integration is in the assessment undertaken to determine the permit, ie whether impacts to different media by alternative operation options were assessed. This is particularly difficult to judge (even in EU Member States which have had such systems for some time).

Relationship to EU requirements

No Candidate Country reports that its systems meet EU requirements. However, some specific areas of compliance will occur (eg EIA in Malta). The main driver for change to EU practice is the IPPC Directive.

The primary issue relating to compliance with the IPPC Directive is the nature of what an IPPC permit contains and the way that the permit conditions are determine. Both are significant challenges to candidate countries. As noted above a few candidate countries have integrated permits. However, they readily acknowledge that these are far from being equivalent to IPPC permits.

An IPPC permit addressed a wide range of activities in an installation. While requirements to set emission limits for air or water discharges under IPPC is familiar and used in most permits in candidate countries, the requirements for energy efficiency, site restoration, etc, are new. It is not yet clear to permitting staff how these requirements are to be incorporated.

The setting of permit conditions is new. BAT determinations require a consideration of current techniques, of the local environment, of cross-media impacts and the effectiveness of the management systems in an installation. Such assessments require new skills (and new thinking from the operators). They also require extensive guidance from national institutions for those candidate countries (the majority) where such assessments will be made at the sub-national level. This latter point cannot be over-stressed. Where candidate countries report an expectation for early initial implementation of IPPC, it is not clear how regional institutions, for example, will achieve this prior to extensive national guidance on permit assessment. Thus national BAT guidance centres are a priority.

Capacity issues

Capacity for permitting largely concerns staff numbers and expertise (training). Key drivers affecting the sufficiency of staff expertise are:

- EU legislation changes the requirements (and procedures) for processes already subject to permits under national legislation. Thus staff must understand the differences from current practice and

how these new requirements are to be taken account of. From the above discussion of EU requirements it is clear that IPPC, in particular, requires extensive new approaches to the procedures of assessing permit conditions. While national guidance will assist in this, only extensive training on technical and procedural issues will enable staff effectively to implement IPPC. Simply transposing IPPC and creating an 'integrated' permit does not overcome the skills gap that staff will face in meeting the practical requirements for implementation on an installation by installation basis. To varying degrees all candidate countries express a need for this procedural capacity to be increased. However, in some cases the capacity problems are more acute than others. In particular the capacity of staff in the Voidvoships in Poland to take account of the complexities of IPPC is seriously open to question and urgent action is required to advise and train those assessing permits.

- EU legislation requires that installations are subject to permits which are currently not permitted. In practice this is most likely to focus on smaller processes. This requires training in potentially new process types (eg intensive animal units) and the skills to deal efficiently with many smaller processes as opposed to more lengthy involvement with larger installations.

- Changes in institutional responsibility, especially devolved competence, place additional requirements on institutions for which they have had no previous experience. This would either require additional training for existing environmental management staff and/or the recruitment of new staff.

- The need for integration will also require staff to assess operating performance more widely than currently, or introduce systems to ensure adequate communication between relevant staff.

Most countries report the need for additional staff. In some cases some detailed analysis has been undertaken of staff numbers, eg in relation to IPPC. Estimates of capacity needs vary considerably and it is not clear what the bases of such assessments are. This issue is clearly linked to those of institutional efficiency (eg whether staff are full deployed on permitting activities) so that numbers may be comparable. Severe budget constraints usually apply and it is important that Finance Ministries are made aware of the high priority of the increased capacity needs of these institutions.

There are also concerns about the adequacy of staff numbers where institutional responsibilities have changed dramatically. For example, the impact of increased devolution in Poland cannot simply be met with the same numbers of staff as a more centralised permitting system would require. Devolution necessitates duplication and it is essential that a full capacity assessment is undertaken of the regional and local institutions to ensure that even existing levels of expertise are adequately incorporated into these new structures.

4.2 Monitoring capacity

4.2.1 Introduction

The term ‘monitoring’ is often interpreted in different ways. Most usually it concerns general assessments of environmental quality (the ambient environment). It also includes the assessment of the emissions (and sometimes local environment) of an installation. Finally, the term can be used in

the same sense as 'inspection', ie to monitor compliance. In this section we largely focus on the second of these definitions. This is the logical step between permitting (section 4.1) and inspection (section 4.3). However, such monitoring also has a relationship with wider monitoring activities (which might be explicit in some institutional roles) and, naturally, with inspection. Thus some comment is made in relation to these, where appropriate. As in previous sections, this provides a brief country by country survey, followed by general conclusions.

Compliance monitoring is a fundamental activity within implementing EU environmental legislation. It can involve a range of inspection and reporting activities carried out to determine compliance with regulatory requirements (e.g. checking on progress with an improvement programme). The information provided by compliance monitoring is also valuable for other environmental and management activities (e.g. for optimising processes, protecting sensitive ecosystems, and informing the public of the effectiveness of environmental protection measures). For the purpose of checking compliance with permitted limits for emissions and ambient pollutant loads compliance monitoring involves measuring pollutants and physical parameters (e.g. flow) in process emissions and receiving environments. The term "monitoring" therefore has a broad range of meanings in its general regulatory usage. For the purposes of this project, "compliance monitoring" was taken to refer to measurements of process conditions, process emissions and levels in receiving environments; and reporting of the results of such measurements to demonstrate compliance with numerical limits specified in laws, regulations, permits or injunctions.

The key benefits to be derived from effective and efficient monitoring are:

- Data for emissions inventories (e.g. local, national and European, EPER).
- Data for assessing Best Available Techniques (e.g. at company, sector and EU levels).
- Data for assessing environmental impacts e.g. for input to models, pollutant load maps.
- Data to inform the public, and to support public awareness and understanding.
- Data for use in negotiations e.g. of emission quotas, improvement programmes and emissions trading.
- Information for decisions on feedstock and fuel, plant life and investment strategies.
- Information to assess the effectiveness of a permit and/or of a regulatory regime.
- Information for setting or levying environmental charges and/or taxes.
- Information to identify trends in plant performance including early warning of problems.
- Information for planning and managing increases in efficiency e.g. energy, feedstock.
- Information for appropriate targeting of inspections and enforcement activities by authorities.
- Information for revising or updating permit conditions.
- Information for managing ambient pollutant loads in line with recognised standards.
- Information for designing, improvement and/or updating of monitoring programmes.

Historically, the competent authorities were mainly responsible for carrying out monitoring programmes to check on operators' compliance and performance. However, there is a trend now in the Member States for the competent authorities to rely more on "self monitoring" by operators. The authorities then inspect the operators' arrangements and may carry out more limited monitoring programmes themselves to provide independent checks. Self-monitoring has potential advantages because it can use operators' knowledge of their processes and can be relatively cost-efficient. It also encourages operators to take responsibility for their emissions. Both the authorities and operators are also increasingly making use of external contractors to undertake monitoring work on their behalf. However, the responsibility for the monitoring and its quality remains with the relevant authority or operator and cannot be contracted out. It is important that monitoring responsibilities are clearly assigned to relevant institutions (operators, authorities, contractors) so that all are aware of how the work is divided and what their own duties are. Details of such assignments and of the methods to be used may be specified in monitoring programmes, schemes, permits, legislation or other relevant documents. Such specifications should cover:

- operator monitoring,
- monitoring by the competent authority,
- monitoring which may be assigned to external contractors by the operator or authority,
- methods and safeguards that are required in each case,
- reporting requirements.

Structure of this section

This section will provide a brief overview of the monitoring capacity in each of the 13 candidate countries. This will take the form of a descriptive account of the institutions that have responsibility for monitoring, together with some of the main issues that concern monitoring in that country. This account will conclude by identifying the main strengths and weaknesses in that country. The ability of the monitoring systems to deliver EU legislative requirements is provided by a table in each country section which describes the main requirements for different environmental sectors (both ambient and emissions), the current status on monitoring in that sector for that country and, therefore, the improvements that need to be made.

4.2.2 Bulgaria

The institutions responsible for monitoring are:

- **National Environmental Agency** (National System for Environmental Monitoring).
- **RIEWs** for monitoring of all environmental components.
- **MoH:** monitoring of drinking water quality.

Table 4.2.2. Summary of monitoring capacity for compliance assessment in Bulgaria

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	The range of pollutants monitored is limited, with particular gaps for ozone and benzene. Most urban areas are monitored, but clear links to objectives in the air framework Directive have yet to be made. A range of monitoring equipment is in place - some is old and some installed as the result of funding programmes. Assessments, eg through EU projects, indicate more investment is needed.	Monitoring facilities require additional equipment - both some upgrading and new monitors for photochemical oxidants and toxic hydrocarbons. Quality assurance should be reviewed. Staffing levels should be reviewed, but technical improvement is the priority.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Installation monitoring is poor. Much self-monitoring is calculated on a mass-balance approach for taxation purposes. Some installations are upgraded for monitoring.	Significant investment will be required for operators to install modern continuous monitors for acid gases, particulates, etc. The aim should be to promote self-monitoring to avoid additional costs to resource stretched RIEWs.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	There is a wide range of ambient water quality monitoring undertaken. Some parameters need adding (eg viral contaminants). Some new sampling locations also need addressing, eg for diffuse pollutants. Ecological quality is poorly addressed.	Some new equipment will be needed to address additional parameters, but large investment is not required. Ecological quality assessment will require extensive investment in techniques and some staff increases.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water	Monitoring of discharges is variable - a number relying on technical operating conditions rather than	Water discharge self-monitoring requirements must be added to permit conditions.

	treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	emission limit monitoring. There is little assessment of diffuse sources. Some parameters are not monitored, eg a number of dangerous/priority substances.	Investment in equipment and staffing is necessary for non-point sources.
Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	Basic waste arising information is available. However, the quality of these data are highly variable and limited in scope. Problems arise in obtaining data from municipalities, major companies and other sources, although some are co-operative.	This is an area requiring significant improvement. Company data should be obligatory and checked - resources for these coming from the companies themselves. Municipal data collection requires investment at that level and training for municipal staff.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	Few landfill sites are adequately monitored and problems exist in ensuring compliance both with the nature of the waste disposed and the management of the site.	Compliance monitored requires investment in staffing resources. This is often viewed as a lower priority compared to air and water pollution. However, the problems occurring in Bulgaria with respect to landfills must result in such investment.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status (FCS) is achieved or maintained and pressures and known and managed.	A significant number of staff are involved in assessing the status of nature conservation sites. Many are well trained as biological specialists. However, there are major differences in the national conservation objectives and that of FCS as well as which sites need to be monitored.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

Permitting institutions are involved in monitoring – especially the RIEWs which use their own laboratories, as it is on these measurements that sanctions will be imposed. Approximately 200 people in the MoEW are directly involved in monitoring. However, results of approximation studies have determined that some additional human and technical resources are required.

Laboratory facilities vary in their adequacy to meet present and future needs (see Table 4.2.2). Thus, in general:

- Air quality: Bulgaria lacks the necessary monitoring capacity at national and local levels.
- Water quality: satisfactory.
- Soils: good level.
- Waste: Bulgaria lacks the necessary monitoring capacity at national and local levels.

In general the laboratories are internal to the institutions (EEA, RIEWs). In few cases there are contracts with external laboratories on specific tasks. The external laboratories are also usually operated by other government institutions (Ministry of Health, Ministry of Agriculture, State Agency for Standardisation and Metrology, Bulgarian Academy of Science, Universities).

All the laboratories in the EEA and some of the laboratories in the RIEWs are accredited. Some of laboratories are in the process of accreditation. It should be noted that new standards should be applied and additional accreditation will be required.

Data collection, analysis and dissemination are not well developed (European Commission, October 2000). However, currently monitoring data are communicated with the public by:

- Ministerial Bulletin.
- Year book on the Environment.
- The primary monitoring data are available only under written request.

The main strengths of the monitoring system in Bulgaria are:

- A current extensive air and water monitoring network;
- Well-staff laboratory systems in each RIEW;
- Requirements for self-monitoring long-established.

The main weakness/developments that need to take place in Bulgaria to ensure effective monitoring for enforcement are:

- Improve the laboratory capacities.
- Introduce quality assurance/quality control requirements.
- Quality control standards implementation - the applied sampling techniques and determination methods should be standardized and the analysis have to be made by accredited laboratories.
- Additional equipment, especially for ‘new’ pollutants.
- Enforcing and upgrading complete self-reporting requirements.

- Additional analysis as sometimes the periodicity of sampling and analysis is below the limits set by legislation because of the high costs.
- Harmonization of national standards.
- Training in new methods, eg ecological status in waters.

4.2.3 Cyprus

In general, monitoring is carried out by the same organisations responsible for permitting and inspection. However, the range of institutions involved and overlapping responsibilities do not aid the operation of the overall monitoring of compliance. In addition, background monitoring is carried out by the Department of Labour Inspection of MLSI (air monitoring) and various departments of MANRE (surface water, ground water and sea water quality). The latter are supported by the State General Laboratory of the Ministry of Health when specialised analysis is required.

Details of the relationship between ambient and emissions monitoring activity in Cyprus compared to the requirements of the EU environmental *acquis* are provided in Table 4.2.3.

MANRE has reported that staff numbers are not sufficient – especially within the Environment Service of MANRE. In particular this applies the additional water (including coastal) monitoring that is required by the EU *acquis*. The same problems of staff recruitment, as noted earlier, apply to monitoring.

Laboratory facilities are generally adequate, but the capacity of State General Laboratory of the MoH (the main government laboratory in Cyprus) is limited. Some other government departments have their own laboratories, but more complex or specialised analysis (including analysis in support of potential prosecutions) is generally referred to the SL. Separate sections deal with general/water quality, environmental chemistry/ecotoxicity, and effluents/air pollution/sea water. Laboratories are internal to government institutions, there are none accredited to international standards, but there is progress towards this.

In conclusion the main strengths of the Cypriot monitoring systems are:

- Good laboratory facilities, largely adequate for EU requirements;
- Self-monitoring systems in place for installations.

The main weaknesses that need to be addressed are:

- Co-ordination problems associated with the range of institutions involved in monitoring;
- A need for full accreditation of laboratory/monitoring methods;
- Additional monitoring to be undertaken for some sources and particularly ambient coastal monitoring (chemical and ecological);
- A review of the self-monitoring requirements for industry to ensure compatibility with IPPC, etc.

Table 4.2.3. Summary of monitoring capacity for compliance assessment in Cyprus

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	Monitoring is undertaken by MLSI. Number of parameters monitored is generally fine, although some organic toxins are limited. Monitoring site locations are suitable. Quality assurance is a problem, as international accreditation of laboratories has not yet been achieved.	Some investment in equipment for additional pollutants is needed. However, most equipment is of good standard. Some improvement in quality assurance is required.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Self-monitoring is generally required. Companies are required to invest in equipment. However, the range of monitoring is not yet sufficient to ensure compliance will all conditions within IPPC permits.	Companies will need to invest in additional monitoring equipment. MLSI/MANRE should issue clear guidance as IPPC is implemented on the range, technology and quality of self-monitoring requirements.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	Monitoring is undertaken by MANRE and by the MoH. Some parameters are limited in their monitoring. The capacity of the State General Laboratory of the MoH is limited. Quality assurance is a problem, as international accreditation of laboratories has not yet been achieved. Ecological quality is not addressed/	MANRE reports some staffing problems. However, a priority should be to ensure all relevant sampling locations and parameters are addressed. Some new equipment (eg organic toxins and viruses) is needed. Some improvement in quality assurance is required. Ecological status monitoring will require development of new techniques and will be resource intensive.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques	Some discharge monitoring occurs, but self-monitoring is limited.	Self-monitoring needs greater emphasis on water discharges.

	specified, eg urban waste water treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	Little monitoring is undertaken in relation to diffuse sources.	However, MANRE will need to invest in diffuse source monitoring.
Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	Waste arising information in Cyprus is variable. In some municipalities and companies good data are available. However, gaps in this information are evident.	Companies need to be pressed to improve their information provision. Municipalities must improve their monitoring of waste collection and disposal - this may require some investment, though some improvement may be possible from existing resources.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	There is concern over the monitoring of landfill sites. There have been improvements in the information on type waste disposal, but this is still not adequate.	Landfill operators must improve record keeping of waste types. Improving monitoring of sites will require some additional staff, as such activity is time consuming.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	MANRE is responsible for nature conservation monitoring. Specialists are employed, but their activities are at a limited number of locations. There is also poor monitoring of marine sites.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some terrestrial sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain. It is likely that significant parts of the Cypriot coast will be designated and this would result in extensive additional monitoring resources being required.

4.2.4 Czech Republic

Monitoring responsibilities are divided into two categories:

- Monitoring activities covered by the state institutions
- Monitoring activities carried out by private subjects in compliance with legal requirements

The state institutions are:

- The Czech Hydrometeorological Institute undertakes wide range of parameters characterised general meteorological, hydrological conditions and the quality of air, surface water and groundwater.
- The Water Management Research Institute is responsible to create and operate an overall water management information system that summarises different types of data from water management and monitoring institutions and subjects.
- MoE manages or coordinates projects focused on establishing and operating environmental data gathering, evaluating and presentation systems.

Private monitoring examples include:

- Waste producers and the operators of waste management installations are responsible for undertaking self-monitoring. This is done in the form of waste records that are provided to District Authorities on an annual basis and include the waste type, volume and manner of waste management.
    - At site level, monitoring is mainly self-monitoring, linked to permitting standards and enforcement actions.

The number of people working solely on monitoring is unclear but, given general administrative capacity weaknesses, it is unlikely that their numbers are adequate. Overall the technical infrastructure for implementing environmental legislation, such as data collection and environmental monitoring, is of a relatively high standard, but needs to be upgraded to ensure full enforcement of the *acquis*.

Table 4.2.4. Summary of monitoring capacity for compliance assessment in the Czech Republic

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	The CHI operates a wide range of monitoring stations and collections data on many parameters. Recent investment has included new pollutants and enhanced urban monitoring. Quality assurance systems have been adopted.	Some changes to the monitoring network may be needed as daughter Directives are adopted. However, the current monitoring system is largely adequate.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Self-monitoring is required for many air emission sources. Quality assurance systems have been adopted. However, the types of pollutant monitored and techniques (eg continuous monitoring) are often not sufficient to ensure compliance with IPPC permits, etc.	The CEI must ensure strong guidance on self-monitoring is in place as it implements IPPC. Upgrade programmes for existing installations must clearly identify the objectives and resources for self-monitoring.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	The CHI and the WMRI operate an extensive water monitoring network. Some gaps exist for some toxic pollutants and there are problems with the degree of groundwater monitoring. Quality assurance systems have been adopted. No monitoring is undertaken of ecological quality.	Some equipment investment is needed to ensure adequate coverage of water parameters. However, additional monitoring stations for groundwaters must be a priority. Ecological quality assessments will require additional resources.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water treatment facilities. Also important are permits that are	Self-monitoring is undertaken, although this can be limited in scope. Quality assurance systems have been adopted. Little monitoring is undertaken in	Some additional investment is required to assess diffuse pollution sources.

	set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	relation to diffuse sources.	
Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	Information on waste arisings is variable. Data for some Districts is good, but a full national overview is difficult to obtain. This applies to municipal and packaging waste, even though companies are required to report on arisings to the Districts.	Further investment by municipalities is needed to track waste movements.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	Waste facility operators are required to self-monitor and report to the Districts. However, the detail of the information provided is not always sufficient to ensure compliance and quality assurance can be poor.	District authorities must establish clearer and enforceable checking procedures for self-reporting. Some staff investment might be required to achieve this.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	The Czech Republic has extensive nature conservation monitoring. However, this is not always necessarily synonymous with FCS.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

However, serious problems have been identified in the area of water monitoring:

- Substantial investment needed to increase both the number of facilities and the frequency of monitoring of ground water quality (especially in terms of nitrates pollution from agriculture).
- The monitoring of drinking water quality is limited by the financial resources allocated to it and by the capacity of existing laboratories and their equipment. It is unclear whether the Euro 1.2 million identified for improving monitoring capacity in this area is sufficient. In particular, public health authorities need extra staff to enforce the Directive.

Only accredited laboratories can be used for monitoring. Where an agency undertakes self monitoring, a different (but still accredited) laboratory must be used. Self-monitoring data is generated by the permitted site and passed to the regulators.

In November 1999 a team of experts from Eurostat performed an audit of environmental reporting in the Czech Republic and expressed satisfaction with the organisation of these activities and the outputs achieved.

In conclusion the following strengths of Czech monitoring systems include:

- Good technical expertise in each sector;
- Good accreditation and quality control;
- Self-monitoring systems in place.

However, the following weaknesses need to be addressed:

- Some additional personnel required, eg for requirements for the water framework Directive;
- Additional monitoring required in the waste sector;
- Self-monitoring requirements should be reviewed to ensure compatibility with IPPC requirements;
- Some improved co-ordination needed where monitoring, permitting and inspection responsibilities are separated.

4.2.5 Estonia

The main institutions responsible for monitoring are:

- The **Estonian Environment Information Centre (EEIC)** collects, processes and issues environmental data. EEIC compiles an activity report in the end of each year and its main duties are:
    - Developing, keeping and improving state registers of pollution sources (air emission, water management and waste management), natural resources and other environmental databases;
    - Coordination of state environmental monitoring program, data management and processing;
    - Gathering, analysing and issuing environmental information; publishing data in several publications and internet, including compilation of the Estonian State of Environment Report;
    - Management of biological and landscape diversity and ecosystems protection, incl. keeping of state nature conservation register.
    - Harmonizing the environmental information-, environmental reporting- and monitoring-related EU legislation.
    - Using geographical information systems and remote sensing in the environmental data process.
    - Supplying and taking care of soft- and hardware needed for registers, GIS and other data processing.
    - Managing the establishment and launching of hazardous waste treatment system;
    - Managing the projection, construction and supervision of future landfills and enterprises.
- **CEDs:** environmental monitoring, monitoring of compliance, imposing and collecting charges.
- The **State Oil Laboratory** of the Environmental Research Centre (MoE): fuel quality monitoring.
- **Water supply companies**: monitoring of drinking water quality.

Other institutions involved in environmental monitoring:

- **Estonian Institute of Meteorology and Hydrology**
- **Estonian Geology Centre**

The CEDs (the main institution for compliance monitoring) has a total staff of 275. Information collected in inspection may be used for monitoring purposes also. From inspections protocols are produced. Companies also produce self-monitoring reports.

The following monitoring data are made available:

- **EIC**: environmental information management and reporting. State of the Environment Reports are published regularly.
- Air quality information (SO_2, NOx and particulates) is made publicly available.
- **MoE:** an informative web site (www.envir.ee/ippc) maintained by the Estonian Environment Ministry provides information on the implementation of the IPPC Directive (i.e. access to BAT, legislation).
- The **Institute of Ecology** reports annually on greenhouse gas emissions.
    - **VOCs-Solvents enterprises** will be required to report on their VOC emissions.

The relationship between the current operation of monitoring systems in Estonia and the requirements of EU environmental legislation are outlined in Table 4.2.5.

The whole environmental monitoring network is currently being re-organized (MoE, 2000). A countrywide air monitoring system will be set up in the period 2000-2003. No information on the progress made has been available. However, a network of certified laboratories for the analysis of sulphur content of certain liquid fuels is currently being created (MoE: NPAA, 2000). A plan for developing a monitoring system for List I and II substances (Discharge of Dangerous Substances Directive) also should be developed in 2001. Laboratory capacity (equipment, measurement methods) to monitoring of VOCs and chlorophenols has to be increased. The laboratory capacity of water supply companies also needs to be improved. At present, most of laboratories are using old equipment, chemicals and methods (MoE: NPAA, 2000).

There is also a need to improve the methods used for laboratory analyses. The range of parameters monitored also needs to be expanded in order to cover those set out in the water *acquis* (e.g. Bathing Water Directive). All the laboratories are accredited and usually also provide external services.

In conclusion the Estonian monitoring systems have a number of strengths:

- Long-standing network of air and water monitoring stations, providing information on changing state of environment;
- Sufficient staff for most chemical parameter analyses;
- Well established links between monitoring and permitting decision making.

However, the following weaknesses need to be addressed:

- The current programme of improvement of the monitoring systems in various areas (see above) should be carried out;
- Some additional staff may be required to meet the full requirements of the water framework Directive;
- Improved monitoring of waste facilities is essential;
- The self-monitoring requirements must be improved, to provide a more reliable link to permits to be developed under IPPC.

Table 4.2.5. Summary of monitoring capacity for compliance assessment in Estonia

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	This is undertaken by the EIMH. It operates a wide network of rural and urban sites and the equipment is being upgraded to include new pollutants and objectives. Quality assurance systems are implemented.	It is expected that the current upgrade of the monitoring network will meet EU requirements.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	The CEDs oversee self-monitoring of installations. The CEDs produce protocols for self-monitoring. However, these do not yet require detail enough assessments of emissions to comply with Directives such as IPPC.	While the reporting procedures are adequate, operators will need to invest in new equipment as they implement IPPC upgrade programmes. This is not expected to result in significant resource issues for the CEDs.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	The EIMH operates an extensive water monitoring network. However, it is limited in the number of parameters covered (eg microbial) and some water body types (eg groundwaters). The network is currently being upgraded. Monitoring does not yet address ecological status.	It is expected that the current upgrade of the monitoring network will meet EU requirements for chemical and microbiological parameters. Some investment will be required to undertake extensive assessments of ecological quality.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	Waste information is variable. Most companies report accurately on waste arisings. However, information from some smaller municipalities can be inaccurate.	Some improvement in monitoring is needed, although significant resources are not required to achieve this.

Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.		
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	While some landfill site monitoring is adequate, the reliance on self-reporting does lead to serious cases of un-reported non-compliance, eg with disposal of waste from Russia.	The monitoring of landfill (and enforcement issues) should be a major priority. To undertake this adequately may require some additional resources.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	For a number of conservation sites, extensive monitoring is undertaken. However, it is not yet clear how this relates to FCS.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

4.2.6 Hungary

A complex range of institutional responsibilities are involved in environmental monitoring. These are:

- The 12 REIs are responsible for much ambient water quality, emissions to surface and groundwaters, ambient air quality monitoring, emissions to air from installations, some waste disposal.
- The Regional Water Directorates are responsible for hydrological monitoring and some water quality monitoring.
- The National Public Health and Medical Officers Service is responsible for monitoring the quality of drinking water and microbial parameters in ambient waters and in discharges.
- The Transport Directorate is responsible for monitoring emissions from vehicles.
- The National Park Directorate is responsible for monitoring habitats and species in protected areas.
- Local self-governments are responsible for some monitoring of sewage discharges, emissions to air of some small processes, local waste management and some local nature conservation sites.

This complexity does result in duplication. This is particularly so for water quality monitoring, where similar activities may be undertaken by the REIs and the Regional Water Directorates.

The REIs have their own laboratories. Each has its own set of procedures and responsibilities. Other regional and national organisations have their own laboratories. All have their own quality control competences. All REI laboratories are accredited. Each is comparably equipped and capable of undertaking the analyses necessary to determine compliance with the permits that it issues. However, the laboratories of other regional authorities are not all accredited and the analyses they conduct may not be compatible with the REI laboratories.

Around 1400 people work in the REIs. However, in addition to monitoring many of these also have permitting and inspection/enforcement responsibilities. It is, therefore, difficult to assess the resources allocated to monitoring. However, the Hungarian REAP report concludes that the level of activity generated by an individual REI is generally not sufficient to justify the expense of a full range of equipment for all 12 laboratories. Thus there is 'potentially over-provision of service as well as duplication of activity' and that half of the number of laboratories would serve the current level of activity. Having said this, the future monitoring requirements of IPPC (which might be an increase on

current levels) and of the water framework Directive (especially for ecological status) may need to use some of this 'spare' capacity. However, the 2000 Regular Report states that Hungary should further develop its monitoring and data register systems, notably in the fields of air, soil and noise.

The laboratories in the REIs (unlike other staff) are able to undertake external paid work. This enables them to generate between 5 and 10% of the REI revenues.

The result of the REI's monitoring activity are fed into regional registers which provide the basis for the National Environmental Protection Information System. The Inspectorates also compile summary annual reports on the potential sources of pollution, the major polluters and the number/quality of licenses issued. This specifically includes information on levels of compliance with permits. The REIs also report on implementation issues and problems posed by legislation, but the mechanisms to take account of these are incomplete. So far, only the computerised data register on waste water is compatible with EU standards. Otherwise, there exists in other areas no unified data register and an adequate system of data supply are not operational yet, which makes the exchange of information at the international level difficult.

In conclusion, the monitoring system in Hungary has the following strengths:

- There are extensive networks for monitoring the ambient environment;
- The REIs have extensive capacity for monitoring emissions from installations;
- Laboratory facilities and staff levels are adequate for current needs;
- Reporting of results is good, including state of environment and compliance information.

However, the following weaknesses need to be addressed:

- The range of institutions involved in monitoring is complex and could be rationalised;
- There is duplication in some cases and also concern that local self-governments do not always fulfil their responsibilities;
- A review should be undertaken of the new requirements imposed by the IPPC and water framework Directives to determine if current capacity of REI laboratories will be sufficient for these.

Table 4.2.6. Summary of monitoring capacity for compliance assessment in Hungary

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	An extensive air monitoring network is in place. However, it does not address sufficiently some of the pollutants covered by the daughter Directives.	Some upgrading of equipment is needed and a review undertaken of urban monitoring stations to determine whether the range of sites is sufficient.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Self-monitoring is undertaken by most enterprises, enabling an assessment against prior predictions in EIAs. REIs have laboratories sufficient to analyse site monitoring samples.	The capacity is probably sufficient, although some review of IPPC requirements may be needed. The REIs should also assess whether local self-governments fully implement their obligations for smaller processes.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	A national surface water monitoring system is in place with sampling taking place at 150 sites through the country. In March 2000 three new automatic water quality-monitoring stations were installed along rivers, to assist with the implementation of the Directive on the quality of surface water used for the abstraction of drinking water. Monitoring for ecological status is not undertaken.	Some duplication occurs between regional authorities which should be rectified. A review is necessary to determine whether the REI laboratories have the capacity to undertake the monitoring requirements of the water framework Directive.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water treatment facilities. Also important are permits that are	Most discharges are self-monitored and checked by the REIs, which have sufficient capacity. Local self-governments monitor some sewage discharges and their	Efforts should be taken to reduce duplication at a regional level. A review is also needed of the effectiveness of the role of local self-governments.

	set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	capacity is probably insufficient.	
Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	This is undertaken by the REIs together with the local self-governments. Data availability from companies is sufficient, but municipal waste data need to be improved.	It is important to improve monitoring of waste arisings from domestic sources.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	Waste disposal facilities are monitored by REIs and local self-governments. There is concern at the ability of the latter to undertake this task.	Monitoring of waste disposal is a priority for improvement.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	This is undertaken by the National Park Directorate with expert staff.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

4.2.7 Latvia

The REBs are the main state institution responsible for the monitoring of the exploitation of natural resources, emissions of polluting substances into the environment and observance of conditions of shipping, storage and use of hazardous loads and waste. Each REB has it's own laboratory which serves its monitoring functions.

The recently established Latvian Environment Agency are will be responsible for general ambient environmental monitoring and will:

- develop and co-ordinate environment monitoring systems compatible with national and European policy needs and EEA recommendations and guidelines;
- develop the set of national environment and sustainable development indicators as a basis for any monitoring and reporting mechanism;
    - perform environmental analyses (surface water, groundwater, wastewater and drinking water, air and soil pollution) by chemical, physical (including automatic gamma-radiation monitoring), physical-chemical, hydrobiological, microbiological methods. The Latvian Hydrometeorological Agency undertakes the monitoring of water and air. The LEA is also committed to undertake a gap assessment of Latvian monitoring in comparison with EU requirements.

Each REB has about 4-6 persons working in each REB laboratory. The national LEA lab has about 30 employees. This is sufficient for current needs. It is also expected to be sufficient for emission analyses in future. However, the implementation of EU legislation (see Table 4.2.7) requiring more extensive assessment of the ambient environment (especially for water) may require additional resources. A review of these resource requirements has not yet been carried out.

The LEA will act as the 'National Reference Laboratory' and will ensure that laboratories adopt both ISO and EU standards. There is doubt whether the REB laboratories are large enough to develop good quality assessments for all media.

At the REBs self monitoring reports based on water use permits can be used for compiling monitoring data. Inspection results can also be used for compiling monitoring data. Latvia is enhancing its environmental data collection and dissemination efforts in keeping with EU and other international obligations. A unified environmental data information system is under development. Major co-operative activities include participation in the European Environment Information and Observation

Network (EIONET). Latvia was planning to enter the EEA's environmental data information system and network at the end of 1999.

State of the environment reports are produced regularly. MEPRD produces the annual report which is available to the public. Each of the REBs produces an annual report on administration, activities and state of the environment which are available eg. through the internet.

In conclusion the monitoring systems in Latvia have the following strengths:

- Relatively extensive networks for the assessment of air and water pollution;
- New legislation on air pollution has aligned monitoring to that of the EU for ambient assessment;
- Installation of new equipment has been taking place;
- Monitoring is well linked to reporting;
- Self-monitoring requirements are required.

However, significant weaknesses that need to be addressed include:

- Improvement is needed in water pollution monitoring and, in particular additional resources will be needed for the implementation of the framework Directive;
- Waste monitoring capacity is insufficient and must be increased;
- Self-monitoring requirements have yet to be revised to provide sufficient information for the more detailed permits to be issued under IPPC.

Table 4.2.7. Summary of monitoring capacity for compliance assessment in Latvia

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	The LHA is responsible for ambient monitoring. A relatively extensive network exists and new equipment for substances such as ozone has been obtained. The LEA acts as the reference laboratory.	The LEA is to undertake a gap assessment in relation to EU requirements. As this is not completed, details of required improvements would be premature.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	The REBs are responsible for emissions monitoring. Each has its own laboratory with dedicated staff and quality assurance procedures. Self-monitoring is required, although the conditions for monitoring are not sufficient to meet the requirements for compliance assessment for IPPC permits.	The framework for monitoring undertaken by the REBs only requires some fine alignment to ensure compliance with EU requirements. However, significant improvement is necessary for self-monitoring, requiring additional equipment, monitoring frequencies and quality assurance.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	The LHA is responsible for ambient monitoring. A relatively extensive network exists. However, there are gaps in the monitoring of some dangerous substances and in bathing waters. The LEA acts as the reference laboratory.	The LEA is to undertake a gap assessment in relation to EU requirements. As this is not completed, details of required improvements would be premature.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring	The REBs are responsible for emissions monitoring. Each has its own laboratory with dedicated staff and quality assurance procedures. Self-monitoring reports are produced as part of permit conditions. However, these may not meet all EU	A gap analysis remains to be undertaken on EU requirements and self-monitoring for water discharges. It is likely that extra resources will be required for the REBs to assess diffuse pollution sources.

	necessary to ensure compliance.	requirements. A gap exists in monitoring diffuse pollution sources.	
Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	REBs monitor waste movements, but local governments and companies have to report on arisings. Data quality is variable and not yet sufficient to enable EU targets for waste management to be accurately determined.	A reform of waste statistical information is required, with municipalities placing greater emphasis (and, if necessary, resources) on this requirement.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assesses achievement of best practice rather than emission limits.	Monitoring of landfill sites varies, with some adequately monitored, while for others data acquisition remains poor.	Additional self-monitoring and compliance checking is required. This may require additional resources.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	A significant number of staff are involved in assessing the status of nature conservation sites. Many are well trained as biological specialists. However, there are major differences in the national conservation objectives and that of FCS as well as which sites need to be monitored.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

4.2.8 Lithuania

According to the Law on Environmental Monitoring there are three institutional levels of monitoring in Lithuania: operator's monitoring (ie self-monitoring), municipal monitoring and monitoring by state-level institutions, ie:

- **Operators** of plants and installations monitor their own emissions.
- **REPDs** are part of state environmental monitoring under guidance of Joint Research Centre. Inspectors of REPDs and agencies are also involved in collecting data on pollution.
- **State Environmental Protection Inspection** undertakes monitoring of compliance.
- **Joint Research Centre** is the main institution for environmental monitoring. This institution, together with 8 regional laboratories, is responsible for state monitoring and laboratory control, data collection and processing. State of the environment reports are published regularly.
- **Public Health Centre** (PHC) monitors drinking water (at the tap) and bathing water quality.
- **Geological Service** monitors ground water.

The JRC has 91 employees and a recent study estimated that about ten new staff are needed to meet new obligations required by EU legislation. However, this review does not take account of ecological monitoring required by the water framework Directive.

Laboratories are within government institutions. The accreditation of JRC lab has started in November 1997. Intercalibrations are carried out twice a year by JRC and once a year by State Metrology Centre. The equipment of laboratories is being updated. PHARE 1997, 1998 and 1999 programmes have been used to improve monitoring capacities. PHARE 1999 is financing a Twinning project which will assist in developing the monitoring programme according to EU requirements and includes a plan for modernisation of laboratory equipment.

In conclusion, the main strengths of the monitoring systems in Lithuania are:

- accredited laboratories are established;
- information obtained during monitored is available and used for permit revisions and inspections;
- self-monitoring is well-established.

The primary weaknesses that must be addressed are:

- Reviews have shown some additional staff are required;
- Equipment update programmes should be completed;
- Monitoring of waste arising and waste facilities needs to be improved;
- enforcement of self-monitoring is not fully implemented and not fully linked to permit requirements under IPPC.

Table 4.2.8. Summary of monitoring capacity for compliance assessment in Lithuania

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	The REPDs and JRC are responsible for ambient monitoring, including quality assurance. Monitoring equipment has been upgraded and a further upgrade programme is underway. It is expected that this will meet the EU air monitoring requirements.	Until the current upgrade programme is complete it will not be possible to assess whether additional improvements will still be required.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	The REPDs are responsible for overseeing emissions monitoring. A self-monitoring regime is in place. However, it does not fully implement national requirements yet and it would not meet the more complex technical requirements for IPPC permit assessments.	Additional emphasis must be given to ensuring effective implementation of self-monitoring requirements. This should initially address Lithuanian national law and then consider the additional requirements of IPPC.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	The REPDs and JRC are responsible for ambient monitoring, including quality assurance. Monitoring equipment has been upgraded and a further upgrade programme is underway. However, Lithuania does not have a monitoring programme to assess ecological status for fresh or marine waters.	Until the current upgrade programme is complete it will not be possible to assess whether additional improvements will still be required for chemical parameters. However, additional monitoring will be required on ecological and hydromorphological issues to meet the requirements of the framework Directive and this may require additional resources. To determine this a gap analysis needs to be undertaken.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques	The REPDs are responsible for overseeing emissions monitoring. A	Additional emphasis must be given to ensuring effective implementation

	specified, eg urban waste water treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	self-monitoring regime is in place. However, it does not fully implement national requirements yet. Little monitoring is available that provides information on diffuse pollution sources.	of self-monitoring requirements. The REPDs should undertake an analysis of diffuse pollution monitoring requirements and determine the resource needs to implement the necessary improvements.
Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	The REPDs collect waste data based on reporting from companies and municipalities. Such data are variable in quality and insufficient to provide an accurate inventory necessary to determine implementation plans for EU legislation.	Municipalities, and to some extent companies, have to revise their waste data collection procedures.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	Landfill site monitoring is variable. Some provide accurate self-monitoring, while there are others for which the disposal and maintenance information is poor and far from accurate.	The monitoring of disposal facilities must improve. The REPDs must place a greater emphasis on enforcing the self-monitoring requirements for this sites.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	A significant number of staff are involved in assessing the status of nature conservation sites. Many are well trained as biological specialists. However, there are major differences in the national conservation objectives and that of FCS as well as which sites need to be monitored.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

4.2.9 Malta

The main institutions responsible for monitoring in Malta are:

- Currently the EPD has monitoring capability through the PCCU and a very limited enforcement capability through its inspectorate. There is an active intention within the PCCU of avoiding duplicating the work of other government departments such as the Ministry of Health.
- The Discharge Permit Unit of the Drainage Department monitors discharges to water.
- The Waste Management Unit of the Drainage Department collects waste data.
- Drinking water sampling takes place at tap source at two generally public locations in each Local Council district in Malta and Gozo, on a weekly basis.
- Bathing water sampling is carried out once weekly at 118 different points around the three islands for all required tests, except for viruses (because of the expense) during the bathing season (15th May to end October). Outside the bathing season, sampling is carried out once a month.
- Both the Public Health Department and the Water Services Corporation conduct monitoring programmes for groundwater.
- A national sulphur dioxide, nitrogen dioxide and ozone monitoring programme is run by the EPD's air pollution section. A national lead monitoring programme is to be launched at some point in the future. Malta has one mobile unit which is being used to monitor in serial fashion 32 zones (28 in Malta and 4 in Gozo) which have been chosen on the basis of various characteristics, including traffic intensity, proximity of power plants, population density, industrial activity, etc. Four more monitoring stations are planned over the next 3 years.
- The Planning Authority's Enforcement Section monitors planning conditions. It utilises the EMU for technical expertise on environmental matters. In addition to work done in-house by the EMU, in specific cases of major projects that could have potential major environmental impacts (e.g. the land reclamation (from the sea) works for the extension of the Cirkewwa ferry terminal that are currently underway), the Planning Authority hires the services of a specialist Environmental Monitoring Team which is permanently resident on site and ensures compliance with the environmental conditions imposed by the Planning Authority.

The relationship between monitoring activities in Malta and EU requirements is summarised in Table 4.2.9.

There was some interest in creating an EPD (PCCU) laboratory that was to be used as an investigative tool. However, the impetus behind this faltered and not all of the necessary equipment was purchased

and the equipment that was purchased is now scattered. M£ 200,000 (EUR 500,000) (+ staff costs) is therefore needed to create a laboratory. Unfortunately the Ministry of Finance is not supporting this.

Staffing and resource levels have been assessed to be generally inadequate with the exception of the Planning Authority. Staffing a laboratory would also be a problem as there are very few people in Malta with degrees in environmental science or environmental management (and such degrees are not currently offered by Maltese educational institutions). There would inevitably be a time lag while people with chemistry or biology degrees were trained. A project proposal to develop the PCCU laboratory using pre-accession funds has been submitted. The Department of Public Health will also be issuing tenders to procure all the monitoring equipment required to upgrade its microbiological monitoring programme (NPAA 2000).

Currently, public and private institutions are not legally bound to provide information to the public and consequently the provision of information to the public is quite weak. Although regular monitoring of the quality of potable water reaching the consumer is undertaken this is not normally published. However the Ministry for the Environment published a State of the Environment Report for Malta. Also, both the Planning Authority and the Environment Protection Department provide information on the Internet. Furthermore, draft amendments for the Development Planning Act, 1991 provide for access of information.

In conclusion Malta's monitoring systems have the following strengths:

- Some laboratories in place a sufficient capacity;
- Self-monitoring is undertaken.

However, significant weaknesses that must be improved include:

- Upgrading and expansion of many laboratories has been analysed as necessary;
- Extension of monitoring parameters is needed, eg microbial and ecological in water and some waste statistics;
- Improved quality assurance is needed;
- Information provision to the public must be improved;
- Self-monitoring requirements must be more closely linked to permit requirements under IPPC.

Table 4.2.9. Summary of monitoring capacity for compliance assessment in Malta

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	The EPD's air pollution section monitors air quality. The current network is not yet sufficient, but a programme is being implemented to increase this. Some additional monitoring for organic air pollutants is necessary.	The current improvement programme is likely to be sufficient given the size of the islands. However, some additional equipment may be required for toxic organics such as benzene.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Emissions monitoring is poor, with some self-monitoring, but not the requirements of Directives such as IPPC. Such data are collected by the EPD.	Emissions monitoring are a priority for improvement. It is important to clarify and enforce self-monitoring requirements for installations.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	Marine waters are not adequately monitored, although a programme to improve microbial monitoring is in place. Groundwater monitoring is undertaken by the PHD and the WSC. There is no monitoring to assess the ecological status of coastal waters.	The current improvement programmes may be sufficient for chemical and microbial parameters. However, additional programmes will need to be developed to determine coastal ecological status.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	These data are collected by the Discharge Permit Unit of the DD. These are obtained from self-monitoring. However, the level of detail obtained does not fully comply with EU requirements.	The Discharge Permit Unit should enhance the self-monitoring requirements for water discharges.

Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	These data are collected by the Waste Management Unit of the DD. Given the constraints on waste disposal in Malta effort has been given to this issue. However, detail on waste types is not always sufficiently categorised as is needed in EU legislation.	Improvement is needed in clarifying the waste statistics.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	With few waste disposal sites the self-monitoring and reporting is reasonable. However, it is uncertain if this fully compliant with EU legislation.	A gap analysis of EU compliance should be undertaken.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	The nature conservation monitoring in Malta is limited in scope. In particular, much of the habitats Directive implementation in this country may be marine in its designation. Serious gaps exist in the ability to determine FCS in this habitats.	List of Natura 2000 sites not yet agreed, so uncertain implications. However, additional resources will probably be required if a significant number of marine SACs are designated.

4.2.10 Poland

The main monitoring institutions in Poland are:

- Voidvoships: installations with significant influence on the environment and much ambient monitoring.
- Poviat - other activities.
- National (inspectorate) – 'List of 80' most polluting installations.

Extensive monitoring networks have been established for some time, especially for air and water environments. However, these do not reflect the detailed requirements in EU legislation. Where such requirements have been taken account of, eg ambient air quality monitoring, this is still limited to certain areas (eg major cities). Self-monitoring has been an important component of emissions monitoring in Poland for many years. However, this has focused on pollution taxes and more detailed reforms of self-monitoring have been limited to the most polluting installations (eg the list of 80). The level of information and techniques for assessing emissions for many smaller installations is poor. Waste monitoring is especially problematic and studies have shown that data on waste arisings and on the management of disposal facilities (especially the many small landfill sites) is well below the standards required by EU legislation.

The monitoring infrastructure, especially at the level of Voidvoships, has been assessed in approximation studies as insufficient to meet EU requirements (see also Table 4.2.10) and, although improving it was regarded as a priority in the 1999 Regular Report, no improvements have been recorded by 2000 (European Commission, October 2000). The air monitoring system will start to be established from the beginning of 2001 (European Commission, November 2000). The costs of upgrading and expanding the monitoring network are estimated at EUR 21 million. Most of this cost is expected to be covered from the state budget. Some of these costs concern equipment upgrades, especially for the new responsibilities now required at the sub-national level. However, it also includes increased staff requirements, again because of these devolved responsibilities.

It is not clear how environmental (monitoring) data is currently made available but by the end of 2001, public agencies responsible for collecting, keeping and disseminating environmental information will be established at central and regional levels. These agencies will also prepare reports that will be publicly available. 800 new employs are planned to be recruited between 2001-2003 for these agencies.

In conclusion the monitoring systems in Poland have the following strengths:

- Extensive networks for monitoring air and water pollution are in place;
- Requirements for self-monitoring are established and, in some cases, these requirements are detailed;
- Self-monitoring requirements are often linked to permitting and inspection activities;
- Reviews of monitoring requirements for some sectors have been undertaken and plans are in place for improving monitoring capacity.

However, the following weaknesses must be addressed:

- The reform of institutional responsibilities has placed a great strain on the capacity of sub-national institutions to undertake monitoring and upgrade programmes (staffing and equipment) must be implemented quickly;
- Ambient monitoring systems are far from complete in terms of location of monitoring and parameters to be monitored. This applies to air and water for chemical and, especially, biological parameters;
- Self-monitoring requirements must be reformed, especially for smaller processes, to align the technical and reporting systems to those required under IPPC;
- Monitoring of waste arisings and disposal is very poor and a detailed reviewed must be undertaken of future requirements, together with a costed action plan for reform.

Table 4.2.10. Summary of monitoring capacity for compliance assessment in Poland

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	The air monitoring system is not limited in its geographic scope and in its coverage of pollutants, especially organic pollutants.	Current upgrade programmes to comply with EU requirements are only slowly being implemented. This must by introduced more rapidly, especially in areas where management decisions need to be taken to meet limit value requirements.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Emissions monitoring is overseen by different institutions depending on the size. Very large and small installations are the responsibility of the national inspectorate and the poviats respectively, but most installations are overseen by the Voidvoships. Self-monitoring is the norm. This is effective for the large installations, but poorly implemented in intermediate and smaller installations and geared towards taxation issues. There are significant gaps in the level of detail and technical monitoring obligations compared to EU requirements.	Self-monitoring requirements must be significantly improved. Much of the burden for ensuring this lies with the Voidvoships. Given their increased role in regulation, effective self-monitoring would ease some of their additional regulatory burden and prove cost-effective. It must, therefore, be a priority in the overall revision of the permitting, monitoring and inspection system.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and	The ambient water monitoring network is extensive (though limited in the Baltic Sea), but the number of parameters monitored is too limited to meet EU requirements in many instances.	A major improvement in ambient monitoring is required. Recruitment programmes for staff are in place and this must be supplemented by a review of technical requirements. Implementing the framework

	hydrological monitoring.	The monitoring of biological and hydromorphological parameters to determine ecological status is not yet undertaken.	Directive will require extensive additional monitoring requirements beyond that current in place.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	Most installations are overseen by the Voidvoships. Self-monitoring is the norm. This is effective for the large installations, but poorly implemented in intermediate and smaller installations.	The requirements for self-monitoring need to be more clearly established in law and enforced. However, this also depends upon efficient adoption of new procedures within the Voidvoships.
Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	Waste arisings data are variable in their quality, with relatively good data for major conurbations, but little of value in many rural areas. This exacerbates site monitoring problems (see below).	Waste collection and disposal authorities must significantly improve their monitoring procedures. This should not require extensive additional resources, but adaptation of existing working methods.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	There are significant problems with the monitoring of the many landfill sites which are regulated by the Voidvoships. Data on type disposal and management are often lacking.	Site reporting is a major problem which requires action by the Voidvoships. The operators should undertake much of this. The law must clearly establish responsibilities and encourage tough enforcement.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	For a number of conservation sites, extensive monitoring is undertaken. However, it is not yet clear how this relates to FCS.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

4.2.11 Romania

The main monitoring institutions are:

- IEPs: compliance monitoring, environmental monitoring.
- ICIM.
- Enterprise: self-monitoring of emissions.
- National Company Romanian Waters: monitoring of water resources.

A relatively extensive ambient environmental monitoring is undertaken in Romania by a Department of the Ministry and by the EPAs. However, this is also complicated by a separate network operated by the Ministry of Health. Such duplication is unnecessary and redundant. Such a situation did exist in other candidate countries, but has since been reformed. This is important in that the separation of the systems also can lead to a separation of concern between establishing criteria for health protection and the enforcement action needed to achieve this. It is important that both are brought together within the MoE.

The expertise of the staff of IEPs is relatively good, within the constraints that they operate, i.e. limited staff, poor equipment in need of extensive enhancement. However, equipment is largely in a poor condition and requires extensive enhancement. It is also important to note that expertise is limited in relation to some 'new' pollutants introduced by EU legislation (eg some toxic air pollutants and priority substances in water). The IEPs also do not have sufficient monitoring and inspection capacities to assess compliance with permit conditions. Historically no assessment was made of actual air emissions and the main activities related to water. Given the severe constraints on staff and equipment this has been difficult to remedy.

The EPAs do not have sufficient monitoring and inspection capacities to assess compliance with permit conditions. Historically no assessment was made of actual air emissions and the main activities related to water. Given the severe constraints on staff and equipment this has been difficult to remedy.

The most obvious solution is to require self-monitoring. However, enterprises have little or no expertise and experience in this area and laboratory capacity and proves difficult for many enterprises to afford given economic conditions.

Having described the state of monitoring in Romania, the legal requirements are outlined below. These differ from the practical implementation significantly (and both differ from EU requirements – see Table 4.2.11).

External monitoring performed by the IEPs is regulated by ministerial order and it provides for:

- Mandatory inspection for all new investment, during the whole period of construction and technological trial, verifying compliance with the Environmental Agreement.
- Inspection after completion of the investment, prior to the issuance of the Environmental Permit.
- Further control is performed periodically and on a sampling basis, according to the IEPs *best judgement;* most targeted are important potential polluters. IEPs perform also circumstantial evaluation in case of accidental pollution and prepare reports and special evaluations on the request of the MoWEP.

Internal (self-monitoring) system is mandatory for all enterprises. Parameters to be monitored are established in accordance with the requirements included in the environmental agreement and permit. Companies have to conclude a contract with accredited laboratories for sampling and data analysis.

External Monitoring System performed by the NC Romanian Waters is related to the use of water resources. NCRW levies fees for raw water abstracted and for wastewater discharged into the water receivers, as well as fines in cases of exceeding effluent quality limits. NCWR administers the National System of Water Quality Surveillance (NSWQS), which contains a sub-system for the surveillance of water pollution sources. These sources (e.g. wastewater treatment facilities) are monitored on a monthly basis.

The difference between the legal and actual monitoring systems in Romania is a cause for concern. Ultimately this is a concern for the rule of law – ie the adoption of environmental legislative requirements that are not enforced. However, it also raises problems concerning approximation, ie care needs to be taken in rushing to add even more legal requirements on a system which is not enforced. It is clear that simple capacity problems of the monitoring institutions are not the only problem, but that economic constraints on industry severely limit their self-monitoring capacity.

In conclusion, the strengths of the Romania monitoring systems are:

- Extensive networks for ambient monitoring are in place;
- A wide dispersion of trained staff are available across the country;
- Good communication with the public through the media.

- The legal requirements for self-monitoring linked to permit conditions are in place.

However, the weaknesses that must be addressed are:

- A fragmented monitoring system involving too many national institutions;
- A lack of sufficient technical equipment of modern standards to ensure the accuracy of the monitoring results;
- Self-monitoring requirements are poorly implemented due to economic constraints;
- Monitoring of air and water environments has to be extended both in terms of sampling locations and parameters in order to meet EU requirements;
- Internal and external laboratories are not accredited.
- Data on waste arisings and on disposal facilities is very poor and will require extensive reform of the role of sub-national institutions in this regard.

Table 4.2.11. Summary of monitoring capacity for compliance assessment in Romania

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	Extensive monitoring networks exist for ambient air pollutants. However, in few cases are the locations, techniques and parameters aligned to those in EU legislation. Expertise is relatively good, but equipment condition is poor.	A major reform is needed to integrated current systems, revise the location and technical assessment of ambient air pollutants to EU legislation. Additional resources for equipment upgrades will be needed.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Self-monitoring is required for all processes and this must be undertaken through accredited laboratories. Although such monitoring is linked to permit conditions, it is too limited to meet all requirements, eg for IPPC. However, experience and the ability to undertake self-monitoring is severely limited due to economic constraints.	More detailed self-monitoring is required to take account of additional techniques and frequencies required under IPPC. Given the problems that companies experience in undertaking self-monitoring a programme should be developed to identify the priorities in this area for a staged introduction.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	Extensive monitoring networks exist for ambient water pollutants. However, there are a number of gaps in the locations and parameters monitored to compare with EU legislation. In particular, ecological status information is lacking. Expertise is relatively good, but equipment condition is poor.	A major reform is needed to integrated current systems, revise the location and technical assessment of ambient water pollution to EU legislation. In particular some dangerous substances, microbial and ecological parameters need to be included. Additional resources for equipment upgrades will be needed.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water	Self-monitoring is required for all processes and this must be undertaken through accredited	More detailed self-monitoring is required to take account of additional techniques and frequencies required.

	treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	laboratories. However, this is far more limited than for air pollution and would not meet all the requirements for permits issued under EU legislation. However, experience and the ability to undertake self-monitoring is severely limited due to economic constraints.	Given the problems that companies experience in undertaking self-monitoring a programme should be developed to identify the priorities in this area for a staged introduction. A review is needed of monitoring requirements for diffuse pollution sources.
Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	Monitoring of waste arisings is highly variable. In no instance is it complete and in many cases data are often lacking. The current system is far from able to provide the data necessary to plan for the implementation of the waste framework, landfill and other EU Directives.	A complete review of monitoring systems is needed. Companies and municipalities must be required to collect the basic data upon which waste policy can be developed. This may require some additional resources.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	Monitoring of waste sites is poor. Many sites are reported as failing to comply with national legislation, but little information is available due to lack of monitoring. This is particularly so for small, rural facilities.	The IEPs and local authorities must develop programmes to undertake the monitoring of facilities. This requires significant staff time, so a review of staffing levels to achieve this is also required.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	A significant amount of nature conservation monitoring will well-trained staff is undertaken. However, this does not necessarily coincide with the requirements for FCS (or the future list of SACs).	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

4.2.12 Slovak Republic

The main monitoring institutions are:

- **Slovak Hydrometeorological Institute**: monitoring of environmental quality standards for air and water (both generally and in relation to specific discharges/sites)
- **River Basin Enterprises (within the SWME)** – monitoring of surface waters (both generally and in relation to specific discharges/sites)
- **Polluters** are obliged to monitor their own discharges (self-monitoring)
- **DED** and **RED** receive regular results on monitoring (annually).
- **SEI** might conduct the monitoring in the case of suspect.

Staff numbers are given in section 3.12 and assessments have shown that the numbers of staff in monitoring positions is generally considered adequate, but that some updating of equipment needs is necessary. However, these assessments have not included the more detailed ecological monitored required by the water framework Directive and, therefore, an assessment of whether additional capacity is required should be undertaken.

The laboratories used, both internal and external, are accredited. There is a National Reference Laboratory (for water) that tests and ensures the analytical quality control of labs conducting the sampling. Only certified (by the Ministry of Environment) labs are allowed to conduct ambient air monitoring

Self-monitoring by installations is required by law and has been the norm for many years. Requirements for self-monitoring have been revised, although the techniques involved and frequency of monitoring are still too limited for more complex EU legislation such as IPPC.

The MoE reports on emissions via the State of the Environment Reports. Environmental quality data are collected and reported by Hydrometeorological Institute. Specific reports (for example on solid waste disposal, water providers, etc) are available at the individual monitoring agencies (SHMI, WRI, SEA). At present this applies only to general (background) monitoring data, but the new Act on access to public information allows for release of any publicly collected and processed data.

Strengths of the monitoring systems in Slovakia include:

- Competent, accredited or AQC tested laboratories.

- Links to (and involvement of) Inspectorate (SEI).
- Well trained and, generally, sufficient numbers of staff.

However, more monitoring needs to be done to meet new EU requirements and other problems include:

- Infrequency of formal monitoring reports (annual).
- Fragmented monitoring responsibilities (SHMI, WRI, SEA plus self-monitoring).
- Poor monitoring of waste arisings and waste disposal facilities which must be improved in order to implement waste planning.
- No clear, transparent co-ordination between different monitoring systems.
- Limited monitoring capacity for some pollutants and ecological status of waters.

Table 4.2.12. Summary of monitoring capacity for compliance assessment in the Slovak Republic

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	Ambient monitoring largely undertaken by the SHI. A good network exists with sufficient staff. Monitoring sites and parameters monitored are limited. Some equipment is out of date and is limited for pollutants such as benzene.	The current system is easily built upon. Some additional equipment (new pollutants and upgrades) is necessary together with a review of the network locations. Staff resources are sufficient.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Self-monitoring is required, overseen by the REDs and DEDs. This covers many air pollutants, but is limited in its scope in relation to IPPC requirements.	Self-monitoring requirements need to be revised to take account of IPPC requirements. However, the current system forms a good basis for this.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	Monitoring is undertaken by the SHI and SWME. Networks are relatively comprehensive, but not full co-ordinated. Some parameters are not monitored, eg priority substances and ecological status. Staff resources are sufficient for current needs.	The networks should be reviewed to provide an integrated system and reduce duplication. Some additional parameters must be added. The network review should also consider whether the implementation of the framework Directive will necessitate additional staff/equipment.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	Self-monitoring is required, overseen by the REDs and DEDs. This covers many water pollutants, but is limited in its scope in relation to IPPC requirements, though probably sufficient for other Directives. Monitoring of diffuse sources is poor.	Self-monitoring requirements need to be revised to take account of IPPC requirements. However, the current system forms a good basis for this. An analysis should be undertaken of diffuse pollution monitoring requirements.

Waste: arisings, etc	Information is required for various purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	There are variable data on waste arisings. Some good data are produced by companies and major municipalities, but there are gaps in the national overview.	Municipalities and companies must improve their capacity to provide more accurate data on waste type and quantity.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	Monitoring of waste facilities is variable. Some landfill sites are poorly managed, but a push towards large new incinerators will improve some data reliability.	Emphasis must be placed on waste monitoring requirements. This is the largest gap in the monitoring network systems in Slovakia.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	Slovakia has significant expertise is the monitoring of nature conservation sites, with sufficient trained staff.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

4.2.13 Slovenia

Background monitoring of environmental standards (air & water quality) is carried out directly by the HMI, or by approved monitoring contractors acting on its behalf, and may be carried out in the vicinity of a potentially-polluting facility or more generally (e.g. river water quality, urban air quality).

The MESP issues authorisations for laboratories to conduct monitoring on request of companies. This list is publicly available (issued in the Official Gazette). Site Monitoring of permitted facilities is carried out by approved contractors, certified by the National Standardisation Office and approved my MESP to standards set by the monitoring regulation, but paid for by the site operator and with data submitted (initially) to the NPA as permitting authority.

Local Monitoring may also be carried out by or on behalf of local authorities, particularly (but not exclusively) in relation to the identification and characterisation of polluted sites (for example, former landfills) for which there is no longer an operating license.

About 20-30 staff in HMI are involved in background monitoring. Perhaps 5% of the NPA's 110 staff have duties linked to monitoring (processing data from 'self monitoring'). Resources available for 'self-monitoring' are adequate at present. Present laboratory capacities and technology are adequate to meet demands of present and projected demands.

The NPA is responsible for permitting, and has a role in relation to the output from 'self monitoring' of permitted sites. The IRSEP is responsible for enforcement, and must obtain monitoring information from HMI (background) or NPA (site monitoring). This is a cumbersome process, and in practice local inspectors often obtain monitoring data directly from the organisation with the permit. In addition, local authorities have (at least a limited) role in a whole range of different tasks (permitting, monitoring, inspection and enforcement etc.)

'Self-monitoring' information is made available directly to the permitted site, as well as being passed to the NPA. Background monitoring data (recorded by HMI) is made available to the public, but often only after a relatively long period to allow the raw data to be processed. In theory, monitoring data is available on demand. It is obligatory for public and private institutions to allow public access to the data. Companies must publicise their monitoring data through the municipal information system. The costs for obtaining the information shall not exceed the material costs of submission. In practice, no municipality has yet established an information system for site monitoring data from companies, and

the NPA never issues any data (although they collect site monitoring information from all companies). However, the vast majority of companies issue their site monitoring data free of charge if anyone requests them. But if a company were to refuse to provide such data, the judicial remedy would be very difficult to achieve. No-one has so far sued a company for not providing this information.

In conclusion the strengths of Slovenia's monitoring systems are:

- It has generally an adequate ambient monitoring capacity in terms of staffing and equipment;
- Self-monitoring requirements are adequate although they may need improving to take account of all IPPC requirements;

However, it has a number of weaknesses that should be addressed, including:

- Too many institutions are involved in the monitoring of the environment, leading to some lack of co-ordination. However, the future integration of NPA and HMI into an Environmental Protection Agency should improve this situation.
- There are still problems with the monitoring of waste information which should be improved;
- Some additional monitoring resources may be needed for implementation of the water framework Directive;
- Provision of information to the public needs improvement.

Table 4.2.13. Summary of monitoring capacity for compliance assessment in Slovenia

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	HMI, local authorities, etc, undertake ambient monitoring. An adequate network exists, with sufficient staffing and equipment.	Some improvement in co-ordination is required. The network should maintain a review of its facilities as new daughter Directives are adopted.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Self-monitoring is required and is adequately overseen with full quality assurance. However, additional monitoring requirements are expected with full implementation of IPPC.	A review of the self-monitoring requirements included in permits must be undertaken as IPPC is progressively implemented.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	HMI, local authorities, etc, undertake ambient monitoring. An adequate network exists, with sufficient staffing and equipment for current needs. However, it does not yet include the ecological status monitoring required by the water framework Directive.	An assessment should be made of the equipment and staffing needs necessary to determine ecological status under the framework Directive. Some improvement in co-ordination is also required.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	Self-monitoring is required and is adequately overseen with full quality assurance. However, there is little monitoring of diffuse pollution sources.	A review is necessary of diffuse pollution sources and the capacity of the monitoring systems to assess their impacts.
Waste: arisings, etc	Information is required for various	Reasonable data are provided for	Improved guidance must be given to

	purposes, eg on generation and movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	waste arisings. However, some local authorities, particularly in rural areas, still do not provide sufficient information.	local authorities on monitoring of waste and this must be enforced.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	Monitoring of waste disposal facilities is inadequate. Although monitoring does occur, the level of detail and frequency is poor.	Monitoring of waste disposal facilities must be improved.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	Slovenia has a network of conservation sites which are monitored by specialists.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

4.2.14 Turkey

No review has been undertaken of the relationship between the Turkish environmental monitoring systems and their relationships to EU requirements. It is, therefore, difficult to provide details of approximation problems. However, there are clearly some important gaps and these will be highlighted. Given the longer time period for eventual membership of the EU, it is perhaps more appropriate to consider the general structure of monitoring in Turkey, rather necessarily the absolute frequency by which, for example, nitrates are monitored in groundwaters.

The primary ministry responsible for monitoring is the Ministry of Environment. However, given its limited geographic presence (see section 2.14) and the historic role of the Ministry of Health, the latter is also important. In practice, however, the office of regional governor and the municipalities are responsible for many of the practical aspects of monitoring.

Air quality monitoring is carried out by the provincial offices of the Ministry of Health and the results published by the State Institute of Statistics. The results are assessed annually by the MoE. This enables the provinces to develop policies concerning air protection.

The State Hydraulic Works (DSI) monitors water quality in a limited number of rivers and 126 lakes and groundwaters. These monitoring stations were established in 1979, with a total in 1996 of 1080 sampling points. DSI laboratories measures 40 water quality parameters. The information is collected by the State Institute of Statistics. The Ministry of Health undertakes monitoring of drinking water and microbiological quality of bathing waters is monitored on selected beaches at 15 day intervals in the bathing season.

The structure of Turkish monitoring is, therefore, fragmented. Ministerial responsibility is unclear and the sub-national devolution of responsibility is not backed-up with clear guidance of what should be monitored, when and how. Only in high profile cases is sufficient guidance provided (eg bathing waters in tourist areas). As a result in some sectors monitoring is sometimes poor or non-existent, eg for much of the waste sector. One benefit that should derive from the EU *acquis* is that it does provide a structure for guidance from the centre.

The adequacy of staff numbers need to be studied. However, this is a major undertaking, as only following a major review of the entire monitoring system (and a gap analysis compared to EU requirements) would it then be possible to assess resource requirements, both personnel and equipment. A simple view of the monitoring structures at present shows that urban air quality, river

water quality, waste facility monitoring, etc, all have deficiencies in relation to the EU *acquis*. However, what those deficiencies are (and which are probably better known in Istanbul than, for example, eastern Turkey) in absolute terms is unknown. Thus at this point all that can be said is that the capacity is insufficient, but to an unknown degree.

Emissions monitoring is variable. Self-monitoring is promoted and larger installations must provide this. The promotion of voluntary agreements with industry goes hand-in-hand with self-monitoring. However, it is unlikely to meet the detailed requirements of legislation such as IPPC.

There are laboratories in several Universities (ITU/ METU/YTU/EU/BU, etc) and research Institutes (TUBITAK) and the Turkish Standard Institute (TSI) where laboratories with modern equipment are functional. Some of these are accredited. However, there is a need to make an inventory of these labs and their equipment resources. Overall, however, laboratory facilities are not of sufficient standard or quality to implement the *acquis*.

The State Statistical Institute publishes environmental data on a yearly basis. The data published are very limited and their reliability is questionable. Some data are also available at the MoE and the Ministry of Health as well as at the administrations of greater city municipalities.

In conclusion, the strengths of the monitoring system in Turkey are:

Responsibilities for environmental monitoring are identified;

- There are skilled staff for most areas of monitoring and specialised laboratories;
- Self-monitoring is well established.

However, key weaknesses that must be addressed include:

- Responsibilities are confused, fragmented and not always clear;
- The scale of the monitoring network is clearly less than is required by the *acquis*, but a review is needed to determine the gap;
- Resource levels are also insufficient to meet EU requirements, but any real assessment must wait until the monitoring gap review is undertaken;
- Self-monitoring systems also should be reviewed to improve the level of information provided.

Table 4.2.14. Summary of monitoring capacity for compliance assessment in Turkey

Sector	EU requirements	Current monitoring status	Improvements required
Air: ambient monitoring	Limited number of specified pollutants - but includes some 'new' to CEEs Locations specified - agglomerations at risk of poor air quality Equipment, techniques and sampling regimes all specified	Ambient air quality monitoring is undertaken in a range of locations and for a range of parameters. However, the scope of the network is far from complete and responsibilities are not integrated.	A review of current monitoring systems should be undertaken, including how responsibilities for requirements are established. Following this an assessment of additional resource requirement can be made.
Air: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg incineration. IPPC - requires process monitoring, but broad need to ensure permits are complied with and information for emission registers obtained.	Installations are required to self-monitor. However, this is far from complete for small installations and the detail required of self-monitoring is less than would be required under, for example, IPPC.	Self-monitoring requirements should be reviewed – extending the scope and detail. It is also important that existing (and future) requirements are fully enforced.
Water: ambient monitoring	Wide range of parameters, locations, sampling and analytical techniques defined - dangerous substances, microbial parameters, nutrients, etc. Water framework Directive will add major emphasis on ecological and hydrological monitoring.	Ambient water quality monitoring is undertaken in a range of locations and for a range of parameters. However, the scope of the network is far from complete and responsibilities are not integrated.	A review of current monitoring systems should be undertaken, including how responsibilities for requirements are established. Following this an assessment of additional resource requirement can be made.
Water: process monitoring	Some detailed requirements for individual pollutants and techniques specified, eg urban waste water treatment facilities. Also important are permits that are set to meet water quality standards. Conditions may vary, but monitoring necessary to ensure compliance.	Installations are required to self-monitor. However, this is far from complete for small installations and the detail required of self-monitoring is less than would be required under, for example, IPPC.	Self-monitoring requirements should be reviewed – extending the scope and detail. It is also important that existing (and future) requirements are fully enforced.
Waste: arisings, etc	Information is required for various purposes, eg on generation and	Monitoring of waste arisings from municipalities and companies is	Improving waste monitoring is a priority, given the range of impacts

	movement of hazardous waste, proportion of biodegradable waste to landfill and recycling targets, etc, for packaging waste.	poor. For larger cities and companies data are available. However, for many it is complete or lacking.	that this can have and the increasing population pressures.
Waste: disposal facilities	Some are regulated under IPPC. All must be operated to meet ambient environmental standards. Much compliance monitoring assess achievement of best practice rather than emission limits.	While some larger facilities are monitored, many rural landfill sites remain unmonitored.	Basic monitoring requirements must be established for all waste disposal facilities.
Nature conservation	On Natura 2000 sites monitoring is necessary to ensure favourable conservation status is achieved or maintained and pressures and known and managed.	Some nature conservation areas are monitored. However, the scope of designation is limited.	List of Natura 2000 sites not yet agreed, so uncertain implications. Some sites will require monitoring and assessment beyond what is undertaken now, but whether this can be achieved with re-assigning current resources and requires new resources is uncertain.

4.2.15 Conclusions

Most of the candidate countries had monitoring networks for the ambient environment and emissions monitoring in place prior to the approximation process beginning. However, these were limited in scope and directed to ends other than simple compliance assessment (eg pollution taxes). In most cases major gaps were in existence, eg for the waste sector or for much of Turkey.

The EU *acquis* identifies what needs monitoring in the ambient environment, when and how. These conditions change, of course, as new legislation is adopted. Many candidate countries have amended (or begun to amend) their systems in line with the *acquis*. For some, eg Slovakia or Slovenia, they are largely compliant for air and water. For others, eg Romania, much remains to be done. No gap assessment has been undertaken for Turkey. It is, however, important to note that the extensive monitoring requirements of the water framework Directive will pose significant problems (as is already being noted in the Member States also). Having said this, most candidate countries have significant gaps for the waste sector, both for arisings and disposal monitoring.

From the above analyses, it is clear that for some countries an assessment has been made of capacity improvements, ie staff and resources, to close the gap for EU requirements. For others such assessments are not complete. Where current networks require small additions to meet EU requirements only minor resource additions may be needed. Where major deficiencies exist, there will clearly be a resource need, but until the details (eg actual number of sampling locations) are determined, any resource assessment is provisional.

An essential capacity requirement for compliance monitoring is sufficient technical equipment. Many countries report problems with this, although Estonia, for example, is probably at sufficient capacity. Major problems exist for Romania. The type of monitoring required depends on the pollutants for which limits are established and any potential threats that they may pose. As EU requirements increase (eg widespread specific limits on waste incineration) the capacity of even the best systems may need improvement. Thus it is important to ensure that technical capacity assessments take account of specific future requirements and are not based on current ranges of pollutants monitored.

It is also important to stress that having staff, equipment and monitoring sites is not in itself sufficient. Quality control (eg accredited laboratories) is essential. Many candidate countries have these and others, eg Malta, are in the process of implementing these requirements.

The ideal monitoring for compliance assessment is self-monitoring. Results from such activity must be trustworthy and most Candidate Countries have well established accreditation systems to ensure this. However, problems exist in countries such as Romania and Turkey to ensure that enterprises can achieve even this.

In conclusion, most countries have important improvements to make to their monitoring systems for compliance assessment. Failure to monitor or to require adequate self-monitoring means that adequate results from inspections are difficult to achieve and permit revision is problematic. Having said this, where installations have resources to self-monitor, the indication from most countries (with exceptions such as Romania) are that information of emissions from industrial installations is not the limiting factor in achieving effective enforcement, but may be more likely in relation to permitting and inspection. Of course, this does not apply to the waste sector, where monitoring and inspection are both far from adequate.

4.3 Inspection bodies and capacity

4.3.1 Introduction

Inspection is an essential component of any effective system to ensure compliance with environmental legislation. While permits establish the boundaries for the activities of an installation, inspection (using monitoring information) ensures that the permit is being complied with.

The explicit requirements for inspection in EU Directives are, in fact, minimal. The term 'inspection' is not for example even used in the IPPC Directive. However, what EU Directives do require is that competent authorities ensure that permit conditions are complied with. These conditions may be established in the Directive (eg for incineration) and are, therefore, similar across the Member States. Where an environmental objective is established in a Directive (especially where this is site specific, as in the water framework Directive) then different installations will have different permit conditions and, possible, different inspection requirements.

The most detailed requirements for inspection developed at an EU level is the Recommendation on minimum criteria for inspections of April 2000, discussed in section 2.2. This, together with improving practice in the Member States, provides an excellent basis for assessing, and reforming, inspection systems in the candidate countries. Key elements of a successful inspection system include:

- A need for a management plan for inspections – this guides the inspectorate to efficiently use its resources;
- Identifying when routine and when 'surprise' inspections take place;
- Identifying the frequency of inspections (this may be done using a risk based approach);
- Identifying the depth of inspection required (see below);
- Identifying what information is needed in order to undertake an inspection (eg from self-monitoring or taking samples during the inspection);
- Having clear procedures in the event of non-compliance (upgrade notices, fines, closures and eventually legal action);
- Ensuring full and clear reports on inspection activity are produced.

While there are significant opportunities to improve the efficiency of compliance assessment (eg the use of effective self-monitoring data from enterprises), such assessments will always require the use of inspections. Inspection is a term that can cover a range of activities. An inspection may consist of a simple 'walk through' of a facility to a full-blown examination of its operation, including the taking of samples for analysis. The 'depth' and frequency of inspection activity is influenced by various factors.

These include the qualification of the inspectors, the perceived risk of the facility, public complaints and external pressure. For routine inspections, a risk-based approach is preferable, targeting scarce resources as facilities which are, for one reasons or another, either more likely to be non-compliant or for which the consequences to health or the environment of non-compliance are more severe.

Inspection is only part of a wider set of activities. The results of inspection should be fed back into permit reviews and detection of non-compliance with permit conditions should result in some form of response, including prosecution in serious cases. This section will, therefore, describe inspection systems and processes on a country by country basis and the context in which they operate. Again it will provide some general conclusions at the end.

Assessing inspection procedures in the candidate countries according the principles set out above is far from simple. This is due to the wide range of permits that are issued and, in some cases, by the range of institutions that issue them. To take an example, in Poland there is an inspection system which seems to more than meet all the requirements for planning, frequency, depth and reporting established in the EU's minimum criteria. This is the national inspectorate's regulation of the 'list of 80' most polluting processes. However, the inspection of rural landfill sites at the sub-national level is poor and sometimes non-existent. These are two extremes within the same country, but concerning different types of facility and different institutions. This poses a problem of detail which this study can identify, but which needs to be addressed in more extensive studies in individual circumstances in the future.

4.3.2 Bulgaria

The main institutions responsible for inspection are:

- The RIEWs, in certain cases assisted by the EEA or MoEW experts.
- The municipalities have also responsibilities related to urban planning and communal services.

The level of integration is not very high. Usually inspections are carried on separate medium basis – water, air, waste. Practically all the inspectors in RIEWs are specialized in different media. The level of integration will increase significantly in future by implementing integrated permitting. At present some training on such inspections is provided in parallel to issuing of pilot integrated permits. There are insufficient staff. Additional training and equipment for the inspectors should be provided.

The annual number if inspections is over 5000 for the whole territory of the country and differs between RIEWs. It should be noted that the scope of inspections also varies (by time, media, visited

objects, type of facility). In general the inspections are oriented towards the large enterprises and problematic facilities such as landfills, combustion plants and waste water treatment plants. The frequency of inspections is only partially adequate, because of limited scope of inspections. Generally EU minimum criteria for inspections are poorly understood by the inspectors. The scope of national guidance is also limited.

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: RIEWs	Institution: municipalities
Planning inspections	RIEWs do develop a management plan covering inspection activity for routine and surprise inspections.	Variable – some produce plans.
Scope	Do not cover all installation – medium specific.	Simple checks on small local facilities.
Frequency	Variable – according to type of facility and different RIEW.	Variable – some facilities rarely visited.
Surprise inspections?	Yes	Yes – but not common.
In-depth inspections?	Yes	Yes – but less often than needed.
Non-compliance responses	Strict – immediate suspension of activity or fines may be required. Latter are too low.	Suspension of activity possible, but rarely used.
Co-ordination	RIEWs may be assisted by EEA or MoEW experts.	Some link to RIEW staff if needed.
Reporting	Reports produced for every inspection.	Reports produced, but variable in information coverage.

RIEWs are both permitting and inspection authorities with different departments being responsible for different media. Inspections always take account of monitoring data. There are unannounced as well as pre-notified inspections.

Inspectors may suspend the operation of production lines in an installation if necessary and the Minister for Environment can issue an order to stop the whole operation of the installation. The Inspectorate can levy administrative penalties and these charges and sanctions are defined by Law. For of small infringements only prescriptions are made. The sanctions and fines are implemented where the violations are severe. However, charges need increasing and require greater correlation with the pollution caused. The most severe penalties apply to:

- Violation of emission limit values for air and water.
- Illegal or improper disposal of waste.

In conclusion, the inspection system in Bulgaria has the following strengths:

- The RIEWs have a planned inspection programme;
- A range of different types of inspection are undertaken by the RIEWs, some of which are of considerable depth;
- Non-compliance responses are available to take sufficient action in case of permit breaches;
- Reporting is sufficient for the RIEWs.

However, there are also a number of weaknesses that should be addressed:

- The inspection by RIEWs is medium-based leading to multiple inspections for the same facility and thus inefficiency;
- The fines imposable by RIEWs are too low to be a deterrent.
- The inspection system operated by municipalities is often well below those needed, in terms of frequency, depth and non-compliance response.
- A review of inspection is urgently required.

4.3.3 Cyprus

Inspection is generally carried out by the ministries and departments responsible for permitting and monitoring, supported by the State General Laboratory (analysis) and the Law Office of the Republic (prosecution). The Department of Labour Inspection of the MLSI plays a particularly important role in monitoring and enforcement, because of its rights of access and wider remit in relation to environmental issues within industrial (and similarly regulated) sites. MANRE inspectors also have a right of access to all permitted installations, or those where a permit might be required. The role of MANRE also relates to environmental issues outside the site (effluent discharges, waste to be disposed of, etc.). The Law Office of the Republic provides specialist support to the inspectorates (particularly ES, DLI and PHS) on the enforcement of environmental legislation.

Inspectorates and inspections are medium-based, involving different Ministries, let alone different Departments or Units. Some co-ordination of inspection does occur, but this is generally at an informal level (e.g. MLSI DLI may cover on-site waste issues). There are unannounced as well as pre-notified inspections.

The number of inspections carried out each year is not known. The frequency of inspections is also

not clear. This is probably not adequate, owing to lack of resources (manpower) in main organisations responsible for inspection. Staff numbers are not sufficient – especially within the Environment Service of MANRE. Plants do not have full-time inspectors, but may be there for long periods during construction.

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: MANRE and other national institutions
Planning inspections	Each national institution does plan its inspection activity.
Scope	Inspections are medium based due to different institutional involvement.
Frequency	This is unknown
Surprise inspections?	Yes
In-depth inspections?	Yes
Non-compliance responses	Only fines and these are rarely imposed.
Co-ordination	Little co-ordination occurs between the permitting authorities.
Reporting	Reports are produced following inspections detailing the activity and results.

The inspectorate can only levy administrative penalties (charges/fines) through prosecutions. This sanction is rarely used, however.

The inspection system in Cyprus has the following strengths:

- It is planned;
- A range of types of inspection can be undertaken;
- Full reports are produced.

However, key problems for the inspection system that must be addressed include:

- Lack of resources (see earlier sections);

- fragmented administrative structures, leading to many inspections for the same facility, thus wasting the limited resources.
- Complex and overlapping responsibilities.
- Medium-based approach to all aspects of environment.
- Frequency of inspections is unknown, but given resource constraints it is unlikely to optimal;
- Non-compliance responses are far too limited – inspectors must have powers to take further action.
- Difficulties recruiting new staff.

4.3.4 Czech Republic

The main institutions involved in inspection are:

- The Czech Environmental Inspectorate is the main body responsible for environmental enforcement. It has a national office and nine regional offices. It is responsible for inspecting major facilities.
- District Authorities/Offices also have a role in relation to air pollution control, water and nature protection, while smaller local authorities (Municipalities/Towns) are responsible for the smallest sites.
- The Ministry of Health is responsible for drinking water and bathing water quality.

There is no cross-media integration of co-ordination, since even where the same organisation has responsibilities across more than one medium these are covered by different sections. MoE, District Offices, CEI and Municipalities/Towns have separate units/departments responsible for different media. The only exception to this is Environmental Impact Assessments, where a more integrated approach is adopted.

The number of people working solely on inspection/enforcement is unclear but, given general administrative capacity weaknesses (see earlier sections), it is unlikely that their numbers are adequate. A detailed breakdown of inspection resources alone is not possible, given that the same staff may be responsible for permitting and in some cases they are not (eg CEI staff permit and inspect air pollution sources, but mostly only inspect water pollution sources).

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: CEI	Institution: Districts
Planning inspections	The CEI develops management plans for inspection.	Some planning is undertaken by most Districts.
Scope	Inspections are currently medium based, However, plans are in place for integrated inspections for IPPC.	Inspections are medium based.
Frequency	Variable, depending upon the facility and 'risk'. Large facilities at least once per year.	Highly variable – can be as low as once every five years.
Surprise inspections?	Yes	Yes (but not common)
In-depth inspections?	Yes	Yes
Non-compliance responses	Can suspend activity and impose fines.	Can impose fines.
Co-ordination	This depends upon the regional CEI office, but progress on bringing specialist staff together is taking place.	Limited, but can call upon CEI staff.
Reporting	Detailed reports are produced.	Reports are produced.

In many cases the same organisation is responsible for both permitting and inspection/enforcement, so the approach allows feedback. Monitoring is normally self-monitoring by independent (accredited) laboratories. Inspecting authorities can require self-monitoring data to be provided to them. They can also commission their own monitoring for comparison purposes. Plants do not have full-time inspectors, only company employees (e.g. environmental managers).

The frequency of inspections is as follows, with both programmed and unannounced inspections taking place:

- Inspection of sources of air pollution is partly on a regular basis (25%) and partly when problems occur (75%). Large sources of pollution are inspected every other year, the medium sources once in a period of five years.
- The frequency of inspections in waste management is dependent on decisions of waste management departments at Regional Inspectorate of CEI. There is generally a one year plan of inspections.

- Water discharges are inspected when conditions are changed. Large industrial enterprises are inspected minimally once a year.

Inspectors of CEI have power of entry to installations. They have right to limit, or to stop immediately damaging activity, if it is a hazard to human health. They can investigate persons responsible for breaking law. In the case of criminal offences CEI collaborates with the courts and Police. The CEI has the power to fine - although often the level of fines is too low to constitute a real deterrent. Fines are usually in the range 20,000 to 100,000 CZK (maximum levels are specified in legislation).

In conclusion, the strengths of the Czech inspection system include:

- Technical capacity.
- Planning of inspection activity by CEI.
- Links between permitting and enforcement (often the same organisations).

Key problems for effective inspection include:

- Legislation specifying 'maximum sum' fines/penalties which are too low.
- Wide range of organisations involved.
- Medium-based approach.
- Limited progress towards cross-media integrated inspection/enforcement.
- District offices capacity is limited and inspection protocols need improving.

4.3.5 Estonia

The main institutions responsible for inspection are:

- The **Environmental Protection Inspectorate (EPI):** overall enforcement and inspection responsibilities.
- **CEDs:** enforcement and supervisory responsibilities.
- **MoSA:** enforcement of drinking water quality standards.
- **MoE:** enforcement and inspection of fuel quality standards.
- **MoA:** enforcement and inspection related to the Nitrates Directive.
- The **Health Protection Inspectorate**: handles cases of non-compliance with drinking water standards.

- The **Veterinary and Food Inspection:** inspection and enforcement related to animal testing.

Inspections are now integrated for all activities, except for certain specialised forest inspectors. Information from permits forms an important basis for inspections. There are unannounced as well as pre-notified inspections and EU minimum criteria for inspections are familiar to the EPI. Some large companies (Tallinn Port) have internal inspectors for supervision of environmental compliance of port operators.

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: EPI
Planning inspections	The EPI has a fully planned programme for inspections.
Scope	Fully integrated for each facility – in preparation for IPPC.
Frequency	Variable, but at least once per year for large installations.
Surprise inspections?	Yes
In-depth inspections?	Yes
Non-compliance responses	Facilities may be closed, fines imposed or legal action taken.
Co-ordination	Fully integrated approach, co-ordinated with other aspects of the regulatory cycle.
Reporting	Full reports are produced following each inspection.

The **EPI** has 260 staff (European Commission, October 2000). The future law on IPPC will introduce some new tasks for inspectors also. Training has been provided eg. through the IMPEL comparison programme. Also bilateral comparison with Latvia has taken place. Target groups in need of training are water and agricultural enterprises, ministerial and county specialists in charge with sampling and analysis and health protection specialists (MoE, 1999).

Fines are levied, with smaller sums by the inspector and larger amounts by the head of inspectorate. In case of severe violations, the EPI may take the company to court.

In conclusion, the Estonian inspection system has the following strengths:

- It is a planned programme of inspections;
- Inspections are full integrated across media;
- Frequency of inspections is generally adequate;
- Surprise and in-depth inspections are well established;
- Non-compliance responses are in place;
- Full reports are produced.

However, the following weaknesses should be addressed:

- Improved training is needed in some specialised areas;
- The levels of fines should be kept under review to ensure they act as a deterrent;
- The degree of integration within the inspection system should also be reviewed to ensure that it is meeting its objectives (including those of IPPC, etc).

4.3.6 Hungary

Enforcement is carried out by all of the authorities that issues permits (see section 4.1.6), including the 12 Regional Environmental Inspectorates (REIs) and, in the nature protection section, the Nature Conservation Authority and its 9 National Park Directorates.

The REIs are responsible for on-the-spot inspections and monitoring of implementation/enforcement. They have the power to impose fines. The REIs also have responsibility for permitting and monitoring – as well as for inspection/enforcement, thus co-ordination between inspection and monitoring is probably satisfactory.

Around 1400 people work in the 12 REIs, but of these around 350 are responsible for inspection and permitting. Thus it is difficult to assess the level of resources available for inspection activity alone.

The frequency of inspection varies. In some cases, the frequency is established in law, in other cases it is at the discretion of the REI. Typical frequencies are:

- emissions to the air: annually.
- waste water discharges: two times per year.
- noise emission: in case of problem.

- Hazardous waste: once every three years.

The method of inspection depends on the medium and the inspector. Some inspections assess the technology and available documents to check on information supplied by self-monitoring (eg for hazardous waste). Samples may be taken for analysis on a regular basis (eg waste water), or emissions monitoring may be assessed on site (eg air or noise). Simple 'walk through' inspections are not undertaken, nor are inspections at the response to public complaints. Inspectors are able to make surprise visits.

Inspections are medium-specific (as with the permits). However, the MoE has urged the REIs to adopt integrated inspections. This is implemented in a few cases. However, this is achieved by the relevant inspectors for the different media visiting the site together and writing joint official reports. It is not yet a fully integrated process.

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: REIs
Planning inspections	The REIs produce a general plan for inspection activity.
Scope	The scope is entirely that of the permit, ie it is medium or issue specific
Frequency	This varies from twice per year to once every three years.
Surprise inspections?	Yes
In-depth inspections?	Yes
Non-compliance responses	The REIs are able to close facilities, impose fines and take legal action.
Co-ordination	There is good co-ordination between the permitting, inspection and monitoring activities. However, co-ordination with others addressing other medium specific permits is highly variable.
Reporting	A full report is produced, signed by both the inspector and operator.

While non-compliance responses are available, there is little discretion available to the inspector. The law establishes fixed penalty systems. These systems are established in laws of varying dates. Thus the penalties for breaches of air permits (older legislation) are too low to act as a deterrent. However, those concerning hazardous waste (more recent legislation) are severe. REIs have complained that in

some cases negotiated settlements with improvement notices would have been a more equitable solution to problems than costly fines.

In conclusion, the inspection system in Hungary has the following strengths:

- A range of inspection types is available;
- Inspections are linked strongly to assessing permit conditions and are backed up by efficient monitoring;
- The frequency of inspections is sufficient;
- Staff capacity is also sufficient.

However, the following weaknesses need to be addressed:

- Integrated inspections need to be developed – in a more convincing way that initial attempts so far;
- The inspection activity of self-governments needs to be reviewed;
- Greater flexibility needs to be available for non-compliance responses.

4.3.7 Latvia

The following are the main institutions responsible for inspection:

- The REBs undertake inspections and are the most important body in enforcement of environmental legislation.
- The Environmental State Inspectorate (ESI) has the overall responsibility for monitoring the inspection activities and methodological guidance. ESI undertakes inspection in those cases where complaints of REB inspections have been submitted. The communication goes through MEPRD - there is no direct link (administrative) between ESI and REBs. However when ESI carries out inspections, the REB inspectors are normally involved.
- The Hazardous Waste and Chemical Substances Control Division monitors the transport of hazardous waste if transportation occurs across two or more regions.
- The Land Control Division monitors compliance with land and soil protection regulations and management of residential waste according to the requirements of legislation. It also controls activities in the protective belts of the Baltic Sea and the Gulf of Riga and inland water bodies.

- The Air Control Division checks compliance with air protection regulations, controls the operation of air emission treatment facilities and supervises the operation schedule for boilerhouses.
- The Water Control Division monitors compliance with the requirements of legislative/ normative Acts concerning the use/protection of water and supervises water supply pumping stations and waste water treatment plants.
- The Subsoil Control Division controls the implementation of regulations in the field of environmental protection and subsoil resources.
- The Nature Protection Control Division observes compliance with the requirements of normative acts concerning the protection and exploitation of water resources in Latvia and the Gulf of Riga. The Division also ensures compliance with nature conservation regulations.

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: ESI	Institution: REBs
Planning inspections	A full plan of inspection activity is produced.	A full plan of inspection activity is produced.
Scope	Currently inspections are medium based, but integrated inspection is already planned for the near future.	Currently inspections are medium based, but integrated inspection is already planned for the near future.
Frequency	Variable depending on the facility, but 1-2 times per year on average.	Variable depending on the facility, usually about once per year.
Surprise inspections?	Yes	Yes
In-depth inspections?	Yes	Yes
Non-compliance responses	The ESI can impose fines, close the facility and take legal action.	The REBs can impose fines (lower than ESI) and close the facility.
Co-ordination	The new integrated inspection system will improve co-ordination.	The new integrated inspection system will improve co-ordination. The REBS will call upon the ESI if necessary.
Reporting	Full reports of inspections are produced.	Full reports of inspections are produced.

The ESI undertakes 400 – 500 inspections per year, while each REB will undertake 700-1000 per year. These are quite often undertaken in Spring, when the self monitoring data (for the purposes of

defining the environmental tax) of enterprises is newly available. There are unannounced as well as pre-notified inspections. Plants do not have full-time inspectors.

The number of staff of the two main institutions is:

- ESI: ~40
- REBs: estimated at 120 – 140

The number of inspectors for enforcing the forthcoming integrated permits is regarded as sufficient. However some training is needed to meet the new challenges not included at present in the separate permits.

Different departments/units/sections are responsible for different sectors. The usual practise in REBs is that there are separate inspectors for each media. Only in one REB inspectors are responsible for certain installations and have the cross media responsibility. Within the Environmental State Inspectorate, the Water Control Division deals with water quality, the Land Control Division deals with the effects of waste management practices on land and soil quality and the Air Control Division undertakes inspection activities related to air quality.

REB permit authorities and monitoring experts have the inspection data for their use. They also give the inspectors background data if needed. At REBs the monitoring data is available for inspectors. ESI can obtain data from REBs and LEA on request.

National environmental inspectors may apply administrative punishment in the case of violations of environmental protection as provided in the Code of Administrative Violations. The ESI imposes penalties about 200-250 times per year. The **Latvian Environmental Protection Fund (LEPF)** receives all revenue from fines, compensation for damage done to the environment and late payment of charges (as well as the natural resources tax and excise tax on oil products). The LEPF manages these funds on behalf of the MEPRD. These funds are used to finance measures/projects for environmental protection, financing programmes of environmental studies and projects, training and continued education of specialists in the environmental protection area, and other environmental protection activities.

Overall the inspection institutions in Latvia have the following strengths:

- The inspections are well planned;
- The frequency and type of inspections are sufficient;

- Currently inspections are medium specific;
- There is co-ordination between the ESI and REBs;
- Staff resources are sufficient and have a good knowledge of local conditions and inspection methodologies;
- Full reporting is undertaken.

However, problems that remain to be addressed include:

- A need to introduce the integrated inspection system effectively;
- Training is needed for undertaking integrated permitting;
- Level of fines need to be reviewed to ensure they are an effective deterrent;
- Laboratories small (it is unclear if all the necessary analysis is available);
- Role of municipalities is unclear and they lack resources.

4.3.8 Lithuania

Enforcing environmental legislation, regulations and standards is the responsibility of inspectors from the regional departments and agencies operating under the Ministry. The enforcement process is largely based on a system of permits and self-monitoring, with environmental inspectors periodically checking emission levels to verify the accuracy of operators' reports. The main inspection institutions are:

- **State Environmental Protection Inspectorate.**
- **REPDs** inspectors at 8 regional environmental departments and 56 city and district agencies.

The inspection system is not generally integrated. Some REPDs have media-based inspectors, some have territory-based inspectors. When integrated inspection is required team is organised by the REPDs. In more complicated cases the Ministry of Environment provides media specialist from its specialised units.

There are currently 280 people working as state environmental inspectors and another 450 employees have inspectors' rights. It is thought that staffing levels are adequate. About 8,700 inspections are undertaken annually. Each installation is inspected 1-6 times per year, with both announced and unannounced inspections taking place. Plants do not have full-time inspectors, but this is planned in the future.

REPDs and agencies inspectors have access to plants and installations and the operators are requested to keep inspectors informed. Inspectors can order laboratories to monitor pollution and they can impose penalties if regulations or permit conditions are violated (MoE, September 2000).

Inspectors can access data from REPDs or the JRC under request. A database is under development for inspectors, where they can find the necessary information concerning installations to be inspected.

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: SEPI	Institution: REPDs
Planning inspections	Inspection activity is planned.	Inspection activity is planned.
Scope	Generally integrated inspections take place.	Variable: some medium-based, some integrated, depending upon the REPD.
Frequency	Can be up to six times per year.	Variable, but usually 1-2 times per year.
Surprise inspections?	Yes	Yes
In-depth inspections?	Yes	Yes
Non-compliance responses	Closure of facilities, fines and legal action can be taken.	Closure of facilities is possible, though fines are more frequently used.
Co-ordination	SEPI inspectors can call upon technical specialists within the SEPI or the ministry.	REPDs can call upon expertise from the SEPI. Integration with REPDs is variable.
Reporting	Full reports of inspection activity are produced.	Full reports of inspection activity are produced.

Inspectors can impose administrative penalties. 15,700 penalties were sanctioned in 2000. It included about 7,000 penalties levied for violation of environmental quality requirements. The largest penalty in 2000 was for an oil spill from railway accident, which amounted to 2 million litas.

The inspection system is considered adequate though a more clear division of responsibilities with local authorities would be beneficial. Local authorities could undertake permitting and inspection of some of smaller installations.

In conclusion, the inspection system in Lithuania has the following strengths:

- EU guidelines on minimum requirements for inspection have become familiar to inspectors through training;
- Integrated inspections are developing;
- The planning of inspections is sufficient;
- The frequency of inspections for industrial facilities is sufficient;
- There are a range of non-compliance responses available;
- New IT systems have been introduced and are expanding, to facilitate information flow for inspection.

However, the inspection system also has the following weaknesses:

- Many inspectors in the REPDs have to address activities not related to EU obligations, eg fishing permits;
- The process of introducing integrated inspections must be increased;
- The level of fines needs to be reviewed to ensure they act as a deterrent;
- Municipalities do not have the capacity to take over the task of inspecting smaller processes;
- The distribution of inspection activity to staff is based on geographic area rather than categories of industrial activity, thus reducing the ability of an inspector to become deeply familiar with the technologies of specific industrial applications.

4.3.9 Malta

The main inspection institutions are:

- The **Enforcement Unit** of the Planning Authority inspects and enforces conditions imposed in planning permits. Offenders are prosecuted with the assistance of the Authority's legal section and also the police where necessary.
- The **Discharge Permit Unit** of the Drainage Department enforces regulations on the discharge of substances into water, as well as offering related scientific advice.
- The **Reserves and Habitats Unit** of the Environment Protection Department co-ordinates with other authorities regarding the enforcement of regulations for protected areas.
- The **PCCU** only has monitoring capability at the moment. It has no enforcement capabilities

Baseline information collection from businesses is undertaken by PCCU staff. They are very understaffed, especially given the number of SMEs in Malta (there are lots of single person firms) and the fact that, since many business proprietors are uneducated on the environmental issues, the scale of

the problem is very severe. If an effective permitting system was in place, self-reporting on the part of businesses would be much more viable. This would free up a lot of time and resources.

The level of integration across media is unclear. However, Malta's small size results in a high level of familiarity between different operating units. This also applies to interaction with monitoring institutions. Staff and other resource levels are generally inadequate in all inspection institutions (see earlier assessment of institutional staffing).

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: Enforcement Unit of PA
Planning inspections	Inspections are planned, but it is uncertain if this is adequate.
Scope	Some integrated inspection is undertaken. However, some inspection only assesses medium-based permits.
Frequency	Variable – larger facilities inspected at least once per year.
Surprise inspections?	Yes
In-depth inspections?	Yes
Non-compliance responses	Fines can be levied for non-compliance, but these can be limited in scope.
Co-ordination	Formal co-ordination between central authorities in Malta is poor, but informal co-ordination is sufficient.
Reporting	Inspections result in full reports.

The Planning Authority makes both announced and unannounced inspections. The number of inspections which is undertaken is unclear. Regular inspections are undertaken by Planning Authority staff where conditions in planning permits have been imposed. The frequency of inspections is not sufficient, especially where installations are not covered by a planning permit.

The need for plants to have full-time inspectors is unclear. However the Planning Authority imposes such a condition in a number of major developments that are permitted. A good example is the current ongoing extension of ferry facilities at Cirkewwa (North Malta) where the Planning Authority has imposed a condition that the project must have a resident Environmental Monitoring Team (EMT). The existing EMT consists of around 10 scientists, one (and sometimes 2) of whom is normally resident permanently on site.

At present pollution incidents can only be punished under the Litter Act. The Environment Ministry is currently waiting for new legislation in this area. The Planning Authority can levy fines when it permits a development that has already been commenced without due authorisation. The Planning Authority frequently imposes bank guarantees/bonds which could be withdrawn in the event of lack of compliance with conditions.

The Planning Authority generally fines illegal development. Bank guarantees have been withdrawn in the case of major lack of compliance with permit conditions. The most severe penalty imposed was Lm 50,000 in the case of the Hilton redevelopment project.

In conclusion, positive aspects concerning inspection in Malta include:

- There is good co-operation between the PA and the ALE on a number of aspects of environmental enforcement.
- The Planning Authority regularly inspects sites that are covered by planning permits.
- The Planning Authority fine system and system of bank guarantees/bonds.
- The Planning Authority is involved in a lot of prosecution of cases concerning damage to environmentally sensitive areas.

However, the following problems remain to be addressed:

- Very little inspection is carried out on development/installations not covered by PA permits.
- Lack of resources for the inspection of development/processes that are covered by PA permits.
- An integrated inspection system needs to be developed (alongside the development of an integrated permitting system – see section 4.1.9).
- Lack of a proper fine system/structure for environmentally damaging activities. Lack of prosecution capabilities by EPD.
- Level of fines needs to be reviewed to ensure they are an adequate deterrent.
- Other powers of inspectors need to be increased, including closure of facilities and ability to take legal action.
- Lack of staff motivation in certain government agencies.

4.3.10 Poland

The main institutions responsible for inspection are:

- Inspectorate for Environmental Protection.
- Environmental Departments (voidvoships, poviats, gminas).
- Integrated Pollution Inspectorate.

It is important to stress the fact that the administrative structures have recently changed in Poland, including the scope of regulatory activity by the Voidvoships. This reform places a much greater inspection burden upon this level of administration and it is too early to assess the capacity problems that this brings. The information below concerns their previous inspection activity. However, the new requirements will require additional resources to implement them. However, the degree to which new staff, procedures, etc, are required is unknown as yet.

The IEP is a well-established organisation with extensive experience of inspection. However, its role is limited to the regulation of the 'lost of 80' most polluting processes. For these it has established detailed inspection programmes, which generally meet EU criteria for minimum inspections.

The Voidvoship Inspectorates employ around 600 environmental inspectors. They need training on enforcement of the *acquis* (European Commission, October 2000). They need training in each new EU regulation which will be in force. Usually there are different specialists responsible for different media. But often the Inspectorate undertakes inspection and controls all media in a plant. Data from inspections are not well co-ordinated with data from monitoring. In 1999, Voidvoship Inspectorates conducted 16,000 inspections to 13,450 permit users. Plants do not have full-time inspectors, although some have full time staff responsible for environment issues.

A major problem for inspection in Poland concerns waste management. For many rural waste facilities, inspection by the Voivoidship or Poviats is minimal and, sometimes, absent. This is a major problem for introducing effective and comprehensive inspection in Poland.

In 1999, Voidvoship inspectors imposed 6,800 fines for non-compliance (European Commission, October 2000).

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: IEP	Institution: Voidvoships
Planning inspections	Inspection activity is elaborated in detailed plans	Inspection plans are produced, but are limited in scope.
Scope	Usually integrated inspections occur, but issue-specific inspections may also take place (eg checking on improvement requirements).	Variable – some integrated inspections, but often inspections are medium-specific.
Frequency	This is risk dependent, but can be several times per year.	Variable – most industrial facilities about once per year, but waste facilities may rarely be inspected.
Surprise inspections?	Yes	Yes
In-depth inspections?	Yes	Yes
Non-compliance responses	Can close facilities, impose fines and take legal action.	Can impose fines and close facilities.
Co-ordination	Well co-ordinated.	Variable – can call upon expertise of the IEP.
Reporting	Full reports of inspections are produced.	Full reports of inspections are produced.

In conclusion, the strengths of inspection in Poland include:

- There is a strong planned, integrated and effective inspection system operated by the IEP tackling the largest processes.
- Thus, a model for good inspection practice is in place.
- Voidvoship inspection systems have the basis for a good system, with planning, range of inspections and responses to non-compliance.
- Technical expertise related to monitoring is generally strong.

However, the following problems need to be addressed:

- The new responsibilities of the Voidvoships are likely to mean they are below capacity in staff (and probably equipment).
- Inspection procedures of Voidvoships need to be improved, especially in relation to integration and frequency.
- The inspection of waste management facilities is especially poor for most EU criteria and urgent action is required.

4.3.11 Romania

The main institutions responsible for inspection and enforcement are:

- The IEPs.
- The National Company Romanian Waters (NCRW) – inspection and enforcement in the water sector.
- Health Inspectorates – inspection and enforcement for pollution affecting public health (air, water and soil).
- The Environmental Inspectorate.

The IEPs perform inspection on an integrated basis, inspectors' responsibilities covering all media. Inspections are planned on a yearly basis, but they are carried out additionally on special request and for authorising the start of operation.

The staff involved in inspection is limited to around one third of the IEP's personnel. Details of the staffing are provided in section 3.11.

The inspectorate is poorly equipped, which can make inspection ineffective. While they are able to undertake basic inspection activities, they are severely constrained by the lack of adequate equipment with which to reach objective assessments. This only hampers feedback to permitting as there is little point in changing permit conditions if compliance cannot be ensured.

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: IEPs
Planning inspections	IEPs produce a plan for inspection activity.
Scope	Inspection is integrated, with an inspector addressing all aspects of an installation's permits.
Frequency	This is variable, but inspections are usually annual.
Surprise inspections?	Yes
In-depth inspections?	Yes
Non-compliance responses	Inspectors can close facilities and impose fines, but these responses are only used on a limited basis due to economic pressures.
Co-ordination	IEPs can draw upon national experts, but most seek expertise within their own staff.
Reporting	Inspection results in reports.

The Inspectorate can levy administrative penalties for non-compliance. Fines are levied on a case-by-case basis. These are usually too low to cause an effective deterrent. However, penalties can go as far as closing down the polluting entity (e.g. a section of the Doljchim Craiova chemical plant has been recently closed down after polluting the River Jiu with nitrates).

The key strengths of the inspection system are:

- The good professional expertise of inspectors.
- Inspections are planned.
- Inspections are undertaken on an integrated basis.
- Flexibility of response in case of complaints and accidental polluting.
- Good public communication through the media.

The weaknesses are related to:

- The limited staff and poor laboratory equipment of IEPs.
- Expertise of staff will need to be improved as more complex permit requirements such as IPPC are introduced.
- The low general level of fines.
- The limited number of regular inspections.
- Lower levels of administration inspection activity are less well understood.
- Inspection of waste facilities is often poor and must be improved.

4.3.12 Slovakia

The main institution involved in inspection and enforcement is the **Slovak Environmental Inspectorate (SEI).** It comprises a central (headquarters) body reporting to the MoE, with separate, medium-based inspectorates covering water, waste, air and nature and operating at a regional level. The SEI has 157 staff (2001). The inspectorates check compliance with the requirements of permits through a programme of site inspections.

Inspectors prepare and work to annual plans covering site inspections and related tasks. Prior to each inspection, water quality is sampled and samples are analysed by an independent organisation (accredited laboratories). During the inspection, the sampling results are compared with permit conditions, and a summary report is prepared and discussed with the legal representative of the company. Penalties can be imposed for non-compliance, and recommendations can be made for technical improvements. Where a penalty is issued, the SEI must order the schedule and tasks to be met by the operator and, therefore, the SEI would not inspect this issue again until the time period for improvement is completed.

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: SEI
Planning inspections	The SEI produces a detailed inspection plan
Scope	Inspections are medium-based. This creates inefficiencies, even though co-ordination is sought. This will require changing as IPPC is implemented.
Frequency	Variable, although large facilities can be inspector more than once per year.
Surprise inspections?	Yes
In-depth inspections?	Yes
Non-compliance responses	The SEI can close facilities, impose fines and take legal action.
Co-ordination	There is close co-ordination between the different medium-based inspectors within the SEI.
Reporting	Each inspection results in a report detailing the results.

Where needed, sampling and independent analysis is carried out by accredited labs for all media. In the water sector, the accreditation is in the form of Quality Control Assurance (by the National reference Laboratory). In the air sector the Ministry of the Environment adopted a Regulation stating that only professionally qualified persons, that are granted by the certificate of the Ministry, are entitle to sample. Inspectors can also check self-monitoring data.

Inspectorates are not integrated but they are closely co-ordinated; compliance is checked for each environmental medium. At present there is no attempt to integrate inspections (e.g. same time, single report, sharing data), but this will clearly be necessary in the course of preparation for IPPC legislation.

The following number of inspections are undertaken:

- Air: 400 per year (around 100 sites practice self –monitoring).
- Water: 1,000 per year.
- Waste: 400-500 per year.
- Nature protection: 430 per year.

The adequacy of the frequency of inspections is not known. Given staffing levels and the number of permits (by media) this seems unlikely.

In order to involve institutions responsible for permitting and monitoring, each inspection is notified to the DED (RED) and they are invited to join the inspectors. Exchange and co-ordination is ensured by reporting on each inspection.

As well as planned inspection, unannounced inspections are carried out. These may be triggered by complaints, and the SEI is obliged to respond to these. In the case of an "appropriate" complaint, the SEI Inspector goes personally to the site.

The Inspectorate can levy administrative penalties for non-compliance. Data from the SEF in 2000 reports:

- water penalties: 6 mill. SKK,
- air: 1.6 mill. SKK,
- waste: 6 mill. SKK .

However, the penalties collected represent however only 1 – 3% of revenue from total pollution charges.

Key strengths of the inspection system in Slovakia are:

- Inspections are planned.
- A range of inspection types is undertaken.
- There are good links to monitoring and permitting activities.
- Inspectors are highly professional.
- Flexibility of response (e.g. to complaints, for additional monitoring).
- Full reporting is undertaken.

However, the following problems remain:

- Medium-based approach to inspection inhibits an effective, integrated, multi-media approach. This will need revising as IPPC is implemented.
- It is unclear whether the procedures for inspection of small processes are adequate – this needs to be reviewed.
- Approach is also inefficient in terms of resource requirements, both for SEI and for the regulated community.

- Inspectors are not paid appropriately, and they escape from the "state service" to be "company inspectors". An increase of inspectors required.

4.3.13 Slovenia

The main inspection institution is the Inspectorate (IRSEP). Local authorities also have a limited inspection role for very small facilities. Inspections are based primarily on IRSEP's regional offices. There are recognised 'experts' on some sectors based at the national level, who are called in when the local inspectors identify issues that are beyond their competence/experience.

Inspectors cover all media. While inspections are integrated from the perspective of IRSEP, the fact that permits for different media are drawn up by different sections in NPA inhibits a truly integrated approach.

IRSEP has 32 staff with environmental responsibilities – virtually all of whom are engaged in inspection. Despite additions in 2000, the number of staff is still inadequate. Thus priority is given to inspections at the expense of other tasks (for example, consulting with NPA on the issue of permits. Other resources are also inadequate: in particular, it is difficult to carry out 'spot check' monitoring and too much reliance must be placed on the data generated by 'self monitoring' on behalf of the NPA.

The primary method of enforcement is site visits. Inspections are carried out by specialist staff from the local (regional) office of IRSEP, sometimes accompanied by staff from the IRSEP head office in Ljubljana. The NPA is involved primarily in the provision and review of 'self-monitoring' data: NPI staff do not normally attend inspections. HMI is involved primarily in the provision of background monitoring data. HMI staff do not normally attend inspections. According to Ministry sources, in 2000 IRSEP carried out 25,866 inspections, plus 9,590 provisions, 705 executions and 1,733 announcements for court proceedings (37,894 actions in all).

Inspections may be carried out on a routine basis (without advance notice) or in response to complaints submitted by the public through a dedicated telephone hot-line. In practice, the number of unannounced inspections is small – mainly because of resource constraints. The frequency of inspections is not adequate. Also self-monitoring data is not always adequate to provide the complete picture. The main problem is the lack of unannounced monitoring visits. Except for continuous processes, companies can always prepare themselves before the inspectors arrive.

The following table summarises the current state of inspection activity in relation to key elements of EU requirements.

Inspection activity	Institution: IRSEP
Planning inspections	National and regional offices produce planned inspection programmes.
Scope	Inspections are integrated, covering all of the medium-specific permits in one inspection.
Frequency	This is limited and large facilities are inspected about once per year.
Surprise inspections?	Yes
In-depth inspections?	Yes
Non-compliance responses	Inspectors can close facilities, impose fines and take legal action. However, in practice only fines (which are limited) are imposed.
Co-ordination	Inspection activity is better co-ordinated than permitting. The regional offices can call on specialist assistance from the national office.
Reporting	Following inspections full reports and produced.

Environmental monitoring data are not normally collected in the course of inspections, but are provided to the NPA through 'self-monitoring' by approved contractors. Inspectors may generate non-environmental data (e.g. production), which may then be co-ordinated with the environmental data.

Where the inspection reveals an infringement of permit requirements, the inspector generally issues a compliance notice requiring the operator to take specified action within a defined period. Failure to comply with the requirements of the notice within the period makes the operator liable to legal action. This may be primarily administrative in nature (specified financial penalty, but no criminal record) or, for more serious offences, result in criminal proceedings that can result in fines, imprisonment or withdrawal of the operating license (i.e. closure). Prosecution may be dealt with through a dedicated office for legal issues within IRSEP, although individual inspectors can deal with more routine cases (particularly administrative infringements) themselves using standard pro-forma letters.

According to Ministry sources, in 2000 IRSEP inspectors made 19 suggestions for remediation programmes, issued 233 reports on minor offences (infringements), and prepared 2 reports on economic crime (2 crimes were detected). While infringements are relatively rare, this in part reflects the small number of regulated sites. So far, there has been no 'landmark' criminal prosecution for environmental offences in Slovenia. This results in part from the reluctance of the judiciary to

proceed with actions in what is a new field and where procedures and practices (particularly in relation to admissible evidence) have not yet been defined.

The most common penalty is 500-1,000 Euro for a company and 50-250 Euro for an individual. The highest penalty in the last year was 7,500 Euro for a company and 5,000 Euro for a 'independent entrepreneur'. The level of administrative penalties is generally too low to provide a serious deterrent to polluters. Indeed it is often cheaper to pay the penalty for (assumed) non-compliance than to pay for the monitoring needed to demonstrate compliance, let alone invest in environmental improvements.

In practice, the efficacy of site inspections can be inhibited by the lack of appropriate, site specific monitoring data. Inspectors cannot require operators to provide additional data not specified in their operating permit. Furthermore, the inspectors do not have the resources (or the legal right) to carry out or commission additional monitoring themselves.

In conclusion the inspection system in Slovenia has the following strengths:

- Inspections are part of a planned programme.
- An integrated approach is adopted by IRSEP for inspections.
- Local staff know local industries.
- Inspections can be unannounced as well as planned and can be carried out in response to complaints.

However, the following weaknesses remain which must be addressed:

- An integrated approach is not adopted by NPA, which prepares permits.
- Specialist expertise may not be available locally.
- Inspectors totally dependent on NPA data from self-monitoring.
- Frequency of inspections and monitoring data often inadequate.
- Fines are too low to act as a deterrent.
- The IRSEP has no powers to require additional monitoring.
- It is important to ensure that the IRSEP will not be integrated into the proposed Environmental Protection Agency along with NPA and HMI

4.3.14 Turkey

Municipalities have the legal duty to undertake inspection/enforcement but to what extent (if any) they actually perform this role is unclear. The municipalities have a lack of trained and specialised staff, lack of financial resources and lack of equipment. Large plants which are run by the public enterprise and the private industries with international plans/organisations have resident inspectors. There is, therefore, a need for the creation of environmental inspectorates with strong and well-determined powers.

The level of integration for inspection and enforcement is very basic. Several units are involved in the process. This is the area that is the weakest in the whole system. This weakness, combined with lack of transparency of this process, is the major reason for most of the non-compliance.

There is no systematic and/or organised activity for data inspection co-ordinated with data obtained from monitoring.

There are unannounced as well as pre-notified inspections especially in large cities where greater city municipalities are in existence. The frequency of inspections and the methods of inspections are not adequate.

The inspectors can levy administrative penalties ranging from fines to closure of the facility for a certain period of time. However, economic pressures make these applications very limited. These sanctions are used rather infrequently. The general trend is to find a solution by giving a written notice to the facility rather than implementing fines/charges and closure.

Enforcement of environmental rules does not appear to be assured due, in part, to the involvement of various bodies and institutions at different levels and thus conflicting interests and responsibilities.

In conclusion, the deficiencies of the Turkish inspection system in comparison with the EU requirements are extensive. In every area of activity problems are seen. Most importantly, inspection is highly variable across the country, so even where instances of reasonable levels of activity are known (eg by the city authorities in Adana), this is an isolated example and not typical. A proper review is required before more concrete statements can be made about the strengths and weaknesses of the inspection systems in Turkey and such a review must take a broad overview of the situation across the country, not being limited to a few case examples.

4.3.15 Conclusions

Most Candidate Countries have reasonable inspection procedures. The types and nature of the inspections are similar to those in Member States. Inspectors examine records, check emissions, operation and take samples where needed. Limitations are imposed on inspectors by resource constraints (eg staff numbers of laboratory access), but the nature of the procedure, if not the extent of its implementation, is generally adequate (with the exception of Turkey).

The degree to which the inspection systems meet the EU minimum criteria vary. In some cases, eg Estonia or the IEP in Poland, most of the criteria are met. However, it is important to distinguish best practice from general practice. Thus in Poland, sub-national institutions have some improvements to make before the minimum criteria can be met. The main common problems that candidate countries face in meeting these criteria are:

- Poor co-ordination, eg the lack of an integrated approach to inspections covering the entire installation;
- The frequency of inspection systems;
- Feedback to permitting;
- The level of non-compliance response, including the degree to which fines act as a deterrence.

Inspection may be undertaken by the same staff involved in permitting (eg Bulgaria) or by separate staff in separate institutions (eg Slovenia). These variations are important, as it is essential that there is feedback to the permitting process. A number of countries report problems with this and it is an area that requires training, probably best undertaken within the context of direct experience from inspectors in Member States.

Most countries impose fines for non-compliance, or enforcement notices where non-compliance can be rectified. However, there is concern over the efficacy of these fines. Significant penalties can be imposed (as shown in Latvia). However, many fines are often absorbed as running costs by facilities. This system cannot be reformed simply by raising penalties or by imposing them more widely. It forms part of a wider problem of ensuring effective permit conditions in the context of the economic development of the country. Such conditions should not be set on the expectation that they will be breached and money collected as a tax. This undermines the rule of law generally and the role of environmental legislation more specifically. As EU limits become further incorporated into national legislation such conditions become increasingly absolute and it is important that old 'habits' relating to

fines and pollution taxes are reformed. Ideally this should be done prior to inclusion of EU requirements.

Most countries (with the exception of Estonia at the regional level) state that staff numbers need increasing to improve inspection. Small increases are required in some cases (eg Latvia), with others suggesting major increases (eg Czech Republic or Turkey). Efficiency of activity is part of the capacity problem and some training and greater use of self-monitoring through accredited laboratories should assist in improving capacity. However, EU requirements can only stretch current resources and investment will be required.

5 Conclusions and Recommendations

5.1 Conclusions

A range of specific conclusions for each Candidate Country are given in the previous sections. However, the following provides a summary of key capacity issues for each.

Bulgaria

Key conclusions include:

- A relatively integrated administrative structure is in place with practical implementation at the regional level and close links between national and regional structures.
- Competence for the main requirements of the *acquis* is identified.
- Permitting is not integrated, with separate media assessed by separate departments.
- Inspection is also not integrated, with separate media assessed by separate departments.
- Thus structures are in place to facilitate integration and this should form a priority for administrative development.
- Technical equipment capacity is limited and requires enhancement.
- Staff numbers are severely constrained and plans should be put in place to rectify this.
- Expertise in national legislation is reasonable, but there is clearly a skills gap for forthcoming EU requirements.

Cyprus

Key conclusions include:

- The administrative system is fragmented at the national level, where most regulatory activity occurs.
- Competence for the main requirements of the *acquis* is identified.
- There is no integration of permitting or inspection and administrative structure inhibit development of this.

- Emphasis should be placed either on restructuring of competencies or the adoption of significant formal integrative mechanisms.
- Technical equipment capacity needs some enhancement.
- Staff numbers are not sufficient and pressures are in place to reduce numbers further. This deserves early attention.

Czech Republic

Key conclusions include:

- Administrative arrangements for implementing the *acquis* varying according to the sector. Some are nationally based, others regionally.
- Competence for the main requirements of the *acquis* is identified.
- Permitting is not integrated, although plans are in place to examine this.
- Inspection is not generally integrated, although the CEI does achieve this to some degree. Links between permitting and inspection vary by sector (relatively good for air and very poor for water).
- Administrative reform is complicating capacity enhancement and stress must be placed on integrative mechanisms, if not on integrated structures.
- Water management institutional capacity deserves particular attention.
- Technical equipment capacity is variable, with specific gaps that need attention.
- Significant staff enhancement is identified, although it is not clear what the basis for such numbers is.

Estonia

Key conclusions include:

- A relatively integrated administrative structure is in place with practical implementation at the regional level and close links between national and regional structures.
- Competence for the main requirements of the *acquis* is identified.
- Permitting is not integrated, although current work on IPPC is examining this.
- Monitoring capacity is sufficient for current requirements, but may need enhancing for assessing compliance with IPPC permits and for ecological status monitoring under the water framework Directive.

- Monitoring and inspection of waste facilities is inadequate and should be a priority for improvement.
- Inspection is also not integrated. This needs addressing as integrated permitting is introduced.
- Technical equipment capacity is reported as adequate.
- Staff numbers are generally adequate, although some enhancement at local level is probably needed.
- Expertise is generally adequate, but new EU developments (especially IPPC) will require training.

Hungary

Key conclusions include:

- A relatively integrated administrative structure is in place. However, poor coordination at the national and the national/regional level is reported. Practical implementation is largely at the regional level.
- Competence for the main requirements of the *acquis* is identified.
- Permitting procedures are complex. While this ensures detailed requirements are incorporated into permits, it is not efficient. Some reform of the overlapping competencies and co-ordination procedures is required.
- Monitoring capacity is considered adequate, although there is duplication and there may need to be additional resources for assessing ecological status of surface waters.
- Inspection procedures are generally adequate, although there needs to be increased flexibility. Integrated inspections are not used and trials in this area are so far inadequate. This must be tackled at an early stage.
- Non-compliance responses are inflexible, with inspectors being unable to require effective fines or take other action if they think appropriate. This area of the legal system should be reviewed.
- There is reasonable expertise, but significant training is still required to take account of EU requirements.
- Staffing levels are reported as not sufficient, particularly for local self-government.

Latvia

Key conclusions include:

- A relatively integrated administrative structure is in place with practical implementation at the regional level and close links between national and regional structures.
- Competence for the main requirements of the *acquis* is identified.
- Permitting is not integrated, although current work on IPPC is examining this.
- Inspection is also not integrated.
- Expertise is generally adequate, but new EU developments (especially IPPC) will require training.
- Laboratory facilities need upgrading.
- Staffing levels are reported as not sufficient.
- Municipalities lack resources to implement their responsibilities.

Lithuania

Key conclusions include:

- A relatively integrated administrative structure is in place with practical implementation at the regional level and close links between national and regional structures.
- Competence for the main requirements of the *acquis* is identified.
- A single permit is issued, but this consists of separate media sections. It is not, therefore, truly integrated. This should improve with work on IPPC.
- Integrated inspection varies between regions and this should be made consistent.
- Inspection is generally adequate, although enhancement is needed at the local level.
- Technical equipment capacity of some laboratories requires enhancement.
- Only limited additional staff are required.
- Training is necessary to take account of new EU requirements.

Malta

Key conclusions include:

- Administrative for environmental enforcement is focused at the national level, but is fragmented with poor coordination. Where coordination occurs it is due to personal contacts rather than formal mechanisms.

- Malta's size should present major opportunities for effective integration and this needs to be grasped.
- Competence for the main requirements of the *acquis* is mostly identified, but gaps remain.
- There is no integrated permitting or inspection and it is unclear if any programme is in place to remedy this. Emphasis on this might help stimulate some reform in administrative competence.
- Technical equipment capacity is reasonable, with some enhancement already planned.
- Staff numbers are a significant problem, with strict limitations on the budget.

Poland

Key conclusions include:

- Administrative arrangements have recently changed. While most practical emphasis has been on implementation at a regional level, such activities are now within regional governments, rather than regional divisions of a national body. What problems this will bring in terms of integration and coordination are unknown.
- Competence for the main requirements of the *acquis* is identified.
- There is no integration of permits for different media and, in some cases, different institutions may permit the same facility. Previous work on IPPC has yet to be implemented.
- Permitting on a medium specific basis covers all necessary issues for the larger installations. However, sub-national institutions are variable in the permitting capacity. This should be rectified.
- Monitoring networks exist for ambient monitoring. However, these are insufficient for the level of detail required by the air and water framework Directives and data on waste arisings is poor.
- Emissions monitoring is often self-monitored and, for large installations, is sufficient. However, for many smaller installations (and especially waste disposal facilities) it is poor and sometimes non-existent. This is a priority for improvement.
- Fines imposed at the sub-national level are often too low to act as a deterrent. The system for introducing fines and the operation of other powers needs to be revised.
- Usually inspection is also not integrated. Inspection activity at the regional level is insufficient, due to new responsibilities and staff constraints.
- Particular concern exists on the capacity (staff numbers and expertise) at the local level.

Romania

Key conclusions include:

- While Romania has a central Ministry and regional EPAs covering most areas, these structures are weak. However, they do provide a framework for future capacity development.
- Competence for the main requirements of the *acquis* is mostly identified.
- Permitting and inspection are not integrated.
- Technical equipment capacity is extremely limited.
- Staff numbers and training are severely constrained.
- Romania has major capacity problems. This has affected not only its own environment, but has (and is still) affecting its neighbours on transboundary pollution (eg communication with Hungary).

Slovakia

Key conclusions include:

- A relatively integrated administrative structure is in place with practical implementation at the regional level and close links between national and regional structures.
- Competence for the main requirements of the *acquis* is identified.
- An integrated permitting system exists, although this is little more than a simple combination of medium-specific permits.
- There is integrated inspection.
- Communication and coordination is generally reported as good, with some improvement needed between monitoring institutions.
- Some technical equipment capacity enhancement is needed.
- Staff numbers need limited improvement, although needs may be greater at the local level.
- Training is still needed on new EU requirements.

Slovenia

Key conclusions include:

- For many issues competence is at the national level. However, it is divided between different institutions. Coordination is sometimes good (eg between ministries), but at other times is poor (eg with the NPA).
- Competence for the main requirements of the *acquis* is identified.
- Permitting is not integrated (separate institution from inspection), with poor communication between sections of the NPA.
- An integrated approach is generally adopted for inspections.
- Local authorities have a severe problem with staff capacity.
- The allocation of new staff budgets is a problem for the main institutions all of which require some enhancement.

Turkey

Key conclusions include:

- The creation of the Ministry of Environment was important, but formation of its regional offices has been so slow as to inhibit effectiveness.
- There is uncertainty in the definition of competence in some areas.
- Competence for the main requirements of the *acquis* is not identified.
- A permitting process is in place, but it is not integrated and unevenly implemented across the country.
- The role of the MoE in local permitting and inspection is limited and, therefore, many general environmental objectives can be ignored.
- While most aspects of the environment are monitored, the networks are patchy, without a full coverage in any area. The monitoring network needs to be enhanced.
- Inspection is uneven, not integrated and of uncertain effect. For many facilities no inspection occurs at all. The duties imposed on institutions, at any level, must be made clear and enforced by law.
- Major problems of technical and staff capacity exist.
- Turkey is a long way from having effective environmental enforcement capacity.

Administrative Structures

Most Candidate Countries have administrative structures in place with competencies identified for the environmental *acquis*. Clear exceptions to this are Malta (limited gaps) and Turkey (with major deficiencies). However, many different administrative arrangements are in place. These reflect the size of the country, administrative traditions and current political agendas.

Very few countries used an almost entirely centralised system (eg Malta and Cyprus). Most have a regional structure using regional offices of a national institution. However, Poland has adopted a system based on regional administrations *per se*. The Czech Republic has a more complex system with institutional arrangements based on specific sectors.

No particular system is more or less appropriate for the implementation of the *acquis* provided implementation is achieved in an effective way. However, each system presents its own problems in terms of on-the-ground knowledge, coordination, communication and integration. Each of these can be managed with effective formal and informal systems, but there many countries highlight problems in establishing these.

Capacity problems are highlighted in all Candidate Countries, although this is far more acute in some than in others. For example, in Estonia some local authorities may need additional staff, but more central staff are required in the Czech Republic. Most also indicate problems with sufficient technical equipment. Various factors influence staff numbers. Many Candidate Countries have problems obtaining funds for environmental institutions and finance ministries, etc, need to be informed of the priority accorded to this by the EU. Many have caps placed on ministry spending and may even have pressures to reduce this (eg in Cyprus). Poor salaries also fail to attract sufficiently qualified staff and lead to existing staff moving to the private sector. Finally, the system for allocation staff funding in Slovenia presents its own problems and is far from an efficient means of enhancing capacity.

An important mechanism to enhance the capacity of enforcement institutions is to improve co-ordination. This improves information flow and improves the effectiveness of the institutions involved. This can be done without additional resources. Many examples exist. For example, in Hungary permit applications to different institutions are widely consulted with other institutions. In many countries, eg Poland or Slovenia, national experts are available to assist regional enforcement. However, problems of co-ordination also occur. For example, attempts at integrating inspection within single institutions in Hungary has been poor and fragmentation in Cyprus remains a problem.

A further mechanism to improve co-ordination is to enhance environmental planning. This involves establishing objectives for environmental improvement, including for emissions and identifying the roles and actions to be undertaken by each institution. Such plans can be produced at a national level

or at a regional level. Currently plans of this type are often institution specific, but co-ordinated planning would enhance effectiveness and avoid duplication.

Training is especially highlighted as no Candidate Country has implemented Directives such as IPPC and this will pose a challenge to many staff. However, training is also need to take account of administrative changes at the regional and local level. Some countries are also adopting new legislation concerning appeals, prosecutions, etc, which require new skills from staff. However, lack of knowledge by staff, eg in Regions, can be driven by simple and basic constraints. For example, lack of photocopying capacity in the Ministry in Bulgaria prevented staff receiving copies of EU legislation. This type of constraint, while real, is unacceptable. Key examples of training requirements include:

- Integrated approaches to environmental management as required by IPPC and the water framework Directive;
- Techniques to monitor 'new' pollutants introduced by EU Directives (eg air framework);
- BAT development;
- Information systems for public access to information.

Staff morale problems are also a common theme. This is driven by low staff numbers (increasing work loads), poor pay, high staff turnover and the problems of working in changing conditions. The effects of poor morale are difficult to determine and can only be overcome with significant resource enhancement. However, it is an important factor that needs to be considered alongside more objective measurements of personnel numbers.

This study did not address the problem of corruption per se. However, there is anecdotal evidence of its existence in a number of instances (it is, for example, highlighted in the Regular Report for Romania) and its presence represents a capacity problem for environmental enforcement institutions. Corruption was endemic within the former communist systems. However, it has also been given a boost by the privatisation programmes within the CEE. In some cases privatisation has been used as an opportunity to distribute favours. This prevents restructuring and can hinder the application of environmental legislation. Corruption undermines the new democratic institutions by fuelling popular disillusionment with politics and government institutions. This may hinder the actualisation of public participation programmes, such as exists in much EU environmental legislation (although they may also be part of the solution). Initiatives such as the 'clean hands' campaign in the Czech Republic are important in restoring confidence and new anti-corruption measures in Estonia have sparked much public debate. One cause of the problem is, as discussed above, the low salaries paid to civil servants.

This can lead to government officials being willing to 'turn a blind eye' to compliance problems or inventing conditions that are not required. Where EU environmental legislation is specific in its requirements, this is harder to do. However, more complex Directives, such as IPPC, require interpretation on a case by case basis. For this reason officials from Estonia have stated that adoption of general binding rules under IPPC would assist in reducing the opportunities for corruption. Ultimately solutions to this problem rest in long-term investment in government services, enforcement of anti-corruption laws and campaigns to increase public participation and, therefore, confidence. At the level of the European Commission, seeking to ensure candidate countries comply with EU legislation, non-compliance due to corruption is difficult to detect, unless it there are blatant, high-profile cases. Examining compliance issues will, therefore, require that the Commission is able to respond to concerns generated directly from citizens of the new Member States.

Permitting processes

Permitting (and indeed inspection) processes can be assessed at two levels - the formal procedures adopted and the 'real' practice of individual staff. The latter is particularly difficult to determine, not least because of the representativeness of any particular examples obtained. However, it is at this level that real coordination (or lack of it) may occur.

Currently permits are issued largely according to emission limits established in regulation. This is a relatively simple process, whereby staff need to determine whether the facility can be 'trusted' to meet these limits. However, EU legislation is significantly more complex. IPPC requires a determination of BAT. The water framework Directive requires that permits take account of ecological status. Thus emission limits cannot simple be established in national regulations. How effective staff will be at accommodating these new requirements within their respective institutions is uncertain. However, it is an important issue that needs to be addressed as these Directives are implemented.

Integrated permitting is limited to Lithuania and Slovakia. In these cases both countries report that the integration refers more to the fact that there is a single permit, rather than any integrated assessment behind the medium specific emission limits that it contains. The lack of progress towards even basic single permits is of concern in 'front running' Candidate Countries, as this would be a useful means to enhance administrative integration before proper environmental integration is attempted. There will be severe capacity problems as integrated analyses are undertaken and assessed, as most staff are not trained to deal with these. In this regard it will be important to draw upon experience in Member States, taking account of the level of detail required and thus maximising efficiency.

There are some reports of permitting being subject to local pressures (political, economic, etc) and that sometimes is may be more targeted at tax revenues than environmental protection. The extent of this is very difficult to determine. One important way to overcome this is for permit decisions to be made fully public. The proposed amendment to the IPPC Directive (ie taking account of the Aarhus Convention) will achieve this and Candidate Countries should be encouraged to adopt this practice generally within their permitting regimes.

Feedback from inspection is variable. In some institutions staff may undertake both permitting and inspection, but in others this is either not the case or is limited to specific processes. Separating or combining these activities also varies within Member States. However, where separation of function occurs, it is important that formal mechanisms are in place to achieve this.

Monitoring

All candidate countries have systems to monitor both the ambient environment and emissions from installations, leading to an assessment of compliance. However, the scope and effectiveness of these systems varies considerably.

Effective ambient monitoring must allow an assessment of whether environmental objectives (including EU environmental quality standards) are being met (and hence an ability to respond if they are not). Effective process monitoring must provide a clear link to permit conditions and inform inspection activity so that corrective action can be taken.

Extensive ambient monitoring networks for air and water are found in countries such as Latvia, Hungary and Slovakia. In all candidate countries, however, such networks do not yet cover all the requirements of the *acquis*. In particular, certain chemical parameters (eg dangerous substances in water, or benzene in air) and the extensive biological monitoring required to assess ecological status under the water framework Directive is poorly developed. Importantly, even where extensive networks exist, they may also not cover all sites necessary under EU legislation (eg for air quality in urban areas or all bathing waters). The most inadequate ambient monitoring system is found in Turkey. Even in countries with good air and water monitoring, data on waste arisings is often poor. This area is one that deserves more investment than has been the case until now.

Process monitoring is also variable. It is reported that the regional inspectorates in Hungary have sufficient (if not more than sufficient) capacity in this regard. Similarly, in countries such as Estonia and Latvia, significant monitoring capacity is available. In cases where process monitoring is good, it is interesting to note that self-monitoring is also well developed. This should be promoted further.

However, again monitoring of the waste sector (eg landfills) is usually poorer than other types of facility. These pose significant hazards and this type of monitoring must be improved.

Processes of Inspection

Across most Candidate Countries the basic processes of inspection are well established. Inspectors examine emission, activities in the plant and may take samples for analysis. Results are compared with permit conditions. Types of inspections vary from simple walk-through to more detailed investigations. Generally, therefore, the basic nature of inspection activity is not a problem.

The quality of inspections are difficult to determine. If a site is visited and a report made, it is often impossible to determine the basis for the conclusions reached. Having said this there is rarely any reason to doubt the results. For many industrial activities the general frequency of inspection in most countries is similar to Member States (with exceptions such as Turkey). However, there does seem to be significant problems in achieving sufficient inspection of many waste disposal facilities, especially landfills. These are often managed at a local level and this reinforces potential capacity problems at this level.

However, questions do arise over whether the correct facilities are targeted for inspection. Inspectors in Poland emphasise activity on the most polluting List of 80 installations. This is a means to target inspection activity on a risk based approach and such approaches should be examined for adoption in other countries to optimise resource use to maximise environmental protection. While formal risk-based approaches are rare. However, individual staff may well take such decisions in their day to day work. Clearly flexibility occurs and they will respond to public complaints. Clearer guidance of risk-based inspection would be beneficial.

However, the need to determine pollution taxes in some countries, such as Romania, may not provide the same priority of activity as one driven by environmental risk. However, the older system of taxation, while in principle being beneficial, should be reviewed. Inspection must be focused on assessing compliance with permit conditions and not simply as a form of tax assessment.

Non-compliance responses

These issues were not investigated in depth in this study. However, it is apparent that many countries report that fines for permit violations are far from adequate and provide little deterrent. Severe sanctions (heavy fines or prosecution) are available in some countries, but are rarely used. Often there are economic and political constraints on some enterprises. Usually the response is to issue an

improvement notice. It is important to consider this issue in more detail as approximation proceeds. Failure to comply with IPPC permits could result in a similar approach. While such notices are used in Member States, the Commission should ensure that their use includes fixed deadlines and timetables and clear, tough penalties for any continued compliance failure.

Measures to enhance capacity

The context of the implementation of environmental legislation is changing in every Candidate Country. The closure of older industries, privatisation, foreign investment and changing attitudes of the population all affect implementation. Equally, the implications of some parts of the *acquis* is still uncertain. For example, even with the discussion of BAT within EU Member States, its full consequences for implementing IPPC in Candidate Countries is unknown. Similarly, until river basin plans have been developed and programmes and measures identified, the consequences of the water framework Directive are also uncertain, although they are likely to be considerable.

Capacity enhancement is needed where implementation is not effective. However, it is not just current effectiveness, but future effectiveness that needs to be determined and the changes noted above make this extremely difficult to determine.

There is also considerable debate within Member States (and other OECD countries) on how effectiveness for environmental enforcement is to be assessed. Governments and the public, at various times and on various issues, seek changes in enforcement institutions and their practices to enhance compliance, although it is not always clear if this is well targeted. Even simple measures of effectiveness are debatable, eg should detection of the number of instances of non-compliance with permit conditions go up or down?

These questions are most important as the effective capacity of institutions in Candidate Countries reaches levels that are of a similar order to (some) Member States. However, there are clearly some Candidate Countries where capacity is obviously significantly below what is needed. The most pressing capacity problems occur in Bulgaria, Malta, Poland, Romania and Turkey. However, there are specific capacity problems in almost every candidate country, especially when the roles of local administrations are assessed. Thus capacity enhancement programmes (technical equipment, training, etc) will prove of benefit.

5.2 Recommendations

This study has not been able to go into the depth of individual country projects. However, there are clearly some important conclusions that can be reached and recommendations to be made. The following are the most critical:

- A review (or reviews) need to be undertaken of the basis on which capacity assessments are made. Estimates, for example, of staff need vary significantly in Candidate Countries. While variation is to be expected, they do not necessarily relate to the size of the country, number of installations or existing staff complement. Significant increases are estimated for countries with inspector/installation ratios not much different to many Member States. Some figures may be based on accurate and detailed gap analyses, while others may, at least in part, include some element of a 'wish list'.

- The basic framework for capacity assistance to Candidate Countries is in place (structural projects, training, technical enhancement, twinning, etc). However, there is a question over how well such assistance is prioritised. Are priorities set by Candidate Country ministries, which may have their own vested interests? Are they targeted according to likely dates of accession or environmental need? Are the most active and forward looking ministries the most likely to gain assistance due to the way that projects are developed? The Commission should review its basis for prioritisation.

- There is also a question about how well integrated different funding initiatives are. Overlaps and gaps occur, especially where funding may come from different sources. Some mechanism needs to be established to bring these sources together and to produce integrated programmes based on the priorities to be identified.

- It is important to engage with the permitting and inspection staff 'on the ground'. Much support to Candidate Countries is focused on central institutions and even where these are not the target, it is channelled through them. Central institutions now appreciate approximation issues far more clearly than regional and local staff and they may also have their own agendas.

- Few Candidate Countries suggest that staff numbers are even near sufficient (indeed many similar institutions in Member States also make similar complaints). Even where investment does lead to sufficient well trained staff to implement key Directives such as IPPC, there will always be strains on compliance assessment for smaller facilities. The adoption of risk-based approaches to inspection activities should be promoted. Such systems are partially in place in some countries (eg

the List of 80 in Poland). However, risk assessments need to be made for much smaller facilities, especially small air and water pollution sources.

- This study has focused on 'classic' point source regulation. However, the nitrates and water framework Directives require extensive action on diffuse pollution sources. Many of the sources would currently be controlled by the agricultural ministries in most Candidate Countries. This is an area for active debate with the respective ministries so as to ensure either changes in competence or capacity building (which in some cases might have to begin from a very low level).

- There is clearly a major problem in many countries with the allocation of state funds for capacity enhancement. Much debate so far has focused on the costs (and benefits) of the major infrastructure investments necessary to implement the *acquis*. Much lower sums are needed to ensure sufficient staff, but pressures from other ministries or restrictions on public spending generally prevent this. This debate is, therefore, politically sensitive, but it is important to increase such pressure. This needs to be a clear message within the top level negotiations.

- Mechanisms need to be developed to assess whether compliance with permits is adequately implemented in Candidate Countries. Currently an assessment of the degree of approximation is obtained by a combination of information on state of environment, technical investment and permit condition information. This is a sensitive issue, but it is necessary to identify some similar technique to assess compliance with IPPC in Member States.

There are clearly exceptional countries that require different approaches. Although all Candidate Countries have unique features, four should be highlighted here for further consideration:

- *Malta*. While 'advanced' on many aspects of the overall *acquis*, Malta has significant problems with its basic environmental enforcement administration. Given its small size, this administration can remain practically at the national level. Gaps exist, integration and communication are lacking. It is important to determine whether assistance is required, or whether Malta has sufficient resources to overcome these problems. This shortcoming (especially in comparison with many CEEs) needs to be highlighted as Malta seeks to ensure an early date for admission to the EU.

- *Poland*. Poland has many deep-rooted and costly environmental problems to manage. However, its changing regulatory system may result in additional problems. This study has described the

changes, but it is far too early to determine whether the increased role of regional and local administrations will have practical consequences for enforcement. This issue deserves more detailed assessment.

- *Romania*. Romania is, as in most areas of approximation, significantly behind other CEEs. The basic administrative structure is in place. However, effective enforcement has a long way to go. Given Romania's long time span before membership, assistance should take a different character to other Candidate Countries. Rather than in-depth support on single issues (eg IPPC), basic capacity building measures should be promoted, which can then be built upon for ensuring more detailed full compliance with the *acquis* in the future.

- *Turkey*. Turkey is a unique country. This study has only superficially described its problems with environmental enforcement. It has major problems with establishing its environmental administration, with the Ministry of Environment only slowly becoming established at a regional level and effective environmental management being in the hands of the Ministry of Health. This study is not able to suggest priorities for action in Turkey, but we recommend that a scoping exercise is undertaken to identify such priorities for basic capacity enhancement upon which later detailed full compliance can be added.