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Committee on Environmental Policy

# ENVIRONMENTAL PERFORMANCE REVIEWS

## ESTONIA

### Second Review Synopsis



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## **NOTE**

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## *Preface*

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A first Environmental Performance Review of Estonia was undertaken in 1995 as a pilot project by UNECE. In September 2000, the UNECE Committee on Environmental Policy agreed to the Estonian request for a second review. Preparations for the second review began immediately thereafter.

During the pre-mission in March 2001, final decisions were reached on both the structure and the organizational details of the project, taking into account the results of the first EPR of Estonia as well as the considerable changes that had meanwhile occurred.

The review mission to Estonia took place in April 2001. The review team included national experts from Denmark, Finland, France and Hungary, together with the UNECE secretariat. The draft of the EPR report was finalized and assessed by the EPR Expert Group (19 September 2001) and submitted to a peer review by the UNECE Committee on Environmental Policy at its annual session in Geneva on 25-26 September 2001. The Committee approved the recommendations as they are set out in this report. A delegation from Estonia, led by the Minister of Environment, assisted the Committee in its deliberations.

Since this is a second review, it follows a different approach from other environmental performance review projects. The focus is placed on three themes: a broad overview of developments since the first review, an assessment of problems encountered and solutions sought with regard to five priorities for Estonian environmental management, and an evaluation of the progress made in implementing the recommendations of the first review.

The UNECE Committee on Environmental Policy and the UNECE review team wish the Estonian Government success in their important future tasks, including the implementation of the recommendations contained in the present report.

UNECE would also like to express its deep appreciation to the Governments of Denmark, the Netherlands and the United Kingdom for their support to this Environmental Performance Review.

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# Conclusions and recommendations

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## Chapter 1: Overview of decision-making framework

### *Legislation and its implementation*

Estonia passed a new set of environmental laws in 1995 but they were too broad, insufficiently precise and contained wide gaps. In 2001, the situation is quite different: Estonia has adjusted its legislation taking into account the EU accession process and now has more modern laws. All the major pieces of legislation are in place, but are often the culmination of a series of successive amendments made hastily to meet EU deadlines. In a number of cases, this has resulted in duplication and disparity between the provisions of different acts. Conscious of the problem, Estonia has begun ironing out the inconsistencies as it incorporates the acts into an environment code.

### *Institutions*

The number of laws that were drafted, amended and adjusted within the space of ten years is impressive and is made possible, in part, by the strengthening of the MoE legal team to ten specialists. The current challenge for Estonia is to implement and enforce this series of laws. As implementation and enforcement are carried out mainly at the regional level, this requires the County Environmental Departments of the Ministry of Environment to have sufficient staff with adequate training. This could be a problem when the implementation of new and up-to-date laws is at stake, such as the IPPC Act and the EIA and Auditing Act, both adopted in 2000 and entering into force in 2001. The Environmental Management and Technical Department of the Ministry is providing methodological assistance on EIA to its County Environmental Departments. Regarding IPPC, staff of the inspectorate and of the Environmental Departments was trained systematically at both the national and local levels. The situation is less satisfactory for EIA and auditing in County Environmental Departments of the Ministry of Environment where capacity is lacking, whereas the bulk of implementation expertise should be concentrated there.

### Recommendation 1.1:

*The Ministry of Environment should ensure that the County Environmental Departments of the Ministry of Environment have sufficient capacity in staff specialized in Environmental Impact Assessment.*

At the local level, the environmental capacity of the municipal authorities is weak, in particular in small cities and villages. Municipalities are not equipped to work out their environmental solutions by themselves, since for the most part they have no environmental specialist. Nor are they organized to tackle problems together. This is particularly problematic at a time when the implementation of important laws and programmes on waste and water management in particular will generally be assigned to them. Municipalities need guidance to decide when it is more beneficial for them to work out solutions separately and when in common with other municipalities; and given their specific situation, what type of management systems for their utilities better match the interests of their citizens. In this process, it is important that they be guided by the County Environmental Departments, a function that tends to be neglected by these bodies that are overly involved in paper work.

### Recommendation 1.2:

*The Ministry of Environment should initiate a governmental programme to help the municipalities cope with their environmental problems, as well as with the new and enlarged responsibilities assigned to them through the EU directives. The programme should help the municipalities develop tailor-made responses to their specific circumstances and facilitate coordinated action among them, as appropriate. This Programme should be implemented with the help of the National Municipalities Association and County Environmental Departments of the Ministry of Environment. The Programme should also ensure that municipalities have access to sufficient technical and legal advice.*

The restructuring undertaken early in the year 2000 rationalized the structure of the environmental institutions by dividing the responsibilities of implementation and enforcement between separate bodies, thus ensuring more objectivity in their respective work. This is the case of the County Environmental Departments that issue permits and the local inspectorate offices that oversee their enforcement. However, a matter of concern is that of communication of the information contained in permits from the County Environmental Departments (that not only issue the permits but also collect the fees) to the inspectors when they make an inspection. While the permit contains helpful information for conducting an efficient inspection, it is made available only following a formal written request, a lengthy process. With the upcoming database providing permit details and conditions, the inspectors will possess all the elements necessary for cross-checking their information. Conversely, the County Environmental Departments that issue the permits may consult the inspection reports, useful references when permits come up for renewal.

*Recommendation 1.3:*

*The Ministry of Environment should evaluate the organization and work of the inspectorates and County Environmental Departments to ensure that they work efficiently and coherently, especially in implementing and enforcing the permitting system. Every two to four years, the Ministry should organize independent auditing activities of the County Environmental Departments and regional Inspectorates in areas related to air, water, waste, and nature protection.*

*Monitoring*

The 1994 National Programme for Environmental Monitoring and the Law on Environmental Monitoring of 1999 are two cornerstones of the progress made in environmental monitoring. A monitoring programme was set up in the year 2000 and a national monitoring system (NMS) is being developed in 2001. Plans for 2001-2003 provide for other progress in the field, from the repairing of laboratory facilities, laboratory accreditation and inter-calibration, and improvement of laboratory methodologies, to staff training and the introduction of software for laboratory management. The financing of these measures has been arranged but efforts still need to be made regarding the sharing of responsibilities for data collection and reporting, in particular the requirements for self-monitoring and environmental data reporting by the business sector. While the new Ambient Air Protection Act gives precise guidelines on who should measure and report on what and how, the Water and Waste Acts seem too vague and leave the polluter too much room for subjective interpretation.

*Recommendation 1.4:*

*The Law on Environmental Monitoring (1994) should follow the example set in the 1998 Air Protection Act with respect to data reporting and collection issues. In addition, the Water Act and the Waste Act should specify the respective data-reporting responsibilities of Ministry of Environment and the business sector, indicating clearly who should report on what and to whom. Reporting from business should be formalized so as to become clear and compulsory.*

## **Chapter 2: Environmental conditions and Management of pollution and Natural Resources**

*Air*

Air pollution is still an important problem in Estonia. Estonia remains an important net exporter of acidic air pollutants. The two major sources of pollution are transport and the burning of oil shale. While road traffic is increasing, the big polluter in Estonia remains the oil-shale industry. Measures both to reduce pollution and to make the necessary investments are planned. The technical solutions mostly rely on end-of-pipe abatement technology and could be effective once all the investments have been made. A problem that would then need to be solved is that of dust pollution arising from combustion ash that is simply heaped up in the open and later scattered by the wind, particularly in the northeast part of the country.

Estonia has taken and continues to take steps to reduce air pollution, employing regulatory measures and economic instruments. In addition, Estonia facilitates investment in environmental protection during the privatization process. It is also applying measures to limit traffic pollution, has increased gasoline prices and introduced measures such as new motor technologies and mandatory inspections to reduce car emissions.

### *Water Management*

Estonia has been very active over the past ten years in its efforts to improve the way it manages water. It has modernized legislation, set up policies and strategies, and implemented regulatory and economic instruments, the latter having clearly proved their efficiency as water consumption has drastically declined. Consistent with both the HELCOM Convention and more recently the European Union, clear objectives and targets have been set up for the improvement of water supply and the abatement of pollution discharged into water bodies. Substantial investments have been made in water infrastructures, focusing in particular on water supply and wastewater treatment in the larger towns. The results are clearly positive even if there is still a need for further abatement of nitrogen and phosphorus discharges into water bodies.

The problems now lie more in those low-density urban or rural areas, where municipal water services are not available and alternative solutions need to be worked out. The management of the discharge of industrial wastewaters should also be noticeably improved through a stricter enforcement of permits for industries that discharge their effluents directly into water bodies and the use of stricter contracts with municipalities when the discharges flow into municipal sewerage (see Chapter 3). The efficient functioning of the water services, whether in terms of the supply of high quality drinking water or the abatement of pollution from wastewater, cannot be achieved without a real commitment on the part of the municipalities and greater competence in managing their facilities, since their capacities in this matter require improvement (see Recommendation 1.2 and 1.3 in Chapter 1 and Recommendation 3.5 in Chapter 3).

### *Soil contamination (past pollution)*

The inheritance of contaminated sites has been a heavy burden for Estonia. Rehabilitating the sites is a costly and lengthy process that cannot be tackled all at once. Since 1995, Estonia has inventoried the sites and is registering them. The most dangerous sites polluted by inflammable or toxic products were treated first, and Estonia continues to allocate funds towards completion of the task. A major problem lies with the attribution of responsibilities. Soil contamination legislation should be clarified to cover soils contaminated by chemicals or wastes and to define the responsibilities of the competent authorities. Estonia should also specify the related liability of new property owners to take remedial action to repair past damage to the land. See Recommendation 4.7 in Chapter 4.

### *Mineral resources*

Estonia's major mineral resource in the years to come will still be oil shale, and mining activities will continue. Mine tailings, piled in outdoor heaps, impact on the landscape, and the different chemical compounds they contain contaminate underground water, seawater and air. The increase in mining taxes that are reinvested to solve or mitigate mining-related environmental problems is slowly improving the situation. Research to find new solutions to diminish the impact of oil-shale mine tailings, in particular where they exert a toxic effect, is to be encouraged.

## **Chapter 3: Water management trends and water basin schemes**

Since 1995, Estonia has clearly improved its water management legislation. The Ministry of Environment has been successful and productive in drafting laws and regulations and adjusting them to EU requirements. There is still a lot to be done on this issue but the Ministry is now endowed with sufficient capacity (in particular qualified and competent staff) to meet its objectives. What is now missing is the capacity to effectively and correctly implement these regulations. Strong action should be taken at local level to train more people, conduct pilot projects, define standard terms of reference, and draft procedural guidelines, in order to implement the authorization, control and water fees scheme, to prepare the water basin management plan, to organize public debate on water issues, to raise awareness of the relevance and importance of hydrobasin systems among the Estonian people, and to develop better aquatic ecosystem management and better agricultural practices. Some of these capacities are needed within government bodies; others should be developed within professional associations and private environmental engineering firms.

### *Water basin management*

To follow the EU directives, Estonia is now switching from traditional water management by administrative units to a more integrated approach by catchment areas. The division of Estonian territory into eight surface-water basins and one specific sensitive groundwater area (i.e. nine sub-basins) is a smart measure. Due to the small size of Estonia, the Ministry of Environment considers that efficiency requires that a single general water management plan should be worked out for the whole country, which is also a positive decision. It is equally important that water planning be consistent with national objectives and that specific and detailed sub-basin plans are elaborated locally and identified as forming part of the general water management plan.

As a consequence, at the ministry level there should be a comprehensive basin project with a single team and a single budget for the country as a whole. This project should be divided into sub-projects for each of the nine sub-basins delimited at territorial level for Estonia. As problems are better identified, and more appropriate solutions are found close to their origin, i.e. at local level, objectives, management plan, and monitoring should first be worked out at the sub-basin level and then further consolidated into a larger national framework.

A real difficulty in this approach will be to ensure the coherence and integration of the water planning with the existing national and local land use plan managed by the strategy and planning department, as the local water resource management plans will include components on water protected areas, protection belts along rivers and canals, protection of aquatic flora and fauna, and drainage and irrigation infrastructure. Interference might therefore occur with the spatial planning and land use-planning systems.

#### *Recommendation 3.1:*

*As required by the amended Water Act, the Ministry of Environment should elaborate a comprehensive national water basin plan, subdivided into nine hydrographical sub-basins plans, with specific objectives according to the local features of the water basins (including their surface, underground and coastal waters as appropriate), management plan and monitoring for each sub-basin.*

The success of a water basin management approach necessitates that all segments of civil society of the related territory are well informed and involved in decision-making. Rivers are still too often understood to be water and pollution vectors rather than natural aquatic ecosystems with real economic and social value. A general policy of the Ministry of Environment is to make environmental data and technical and regulatory documents widely available to the public through the Internet and accessible to a majority of the population. Open public debate and real public participation in water issues and decision-making at the local level are needed but still too rare at present. All citizens are affected daily by water policy options and the elaboration of water management plans requires a system of communication with the general population (through exhibits, public debates, press coverage, and school material) that both informs the public and takes public opinion into account. Estonian local administrations, elected officials, and water users need some training before becoming involved in the drafting and approval of local water resources management plans and their implementation. The working commissions have already been set up but have insufficient information on the issues, while their members have no formal mandate from the different segments of the population concerned with the project. It is recommended that the scheme of committees, consultations, and approvals proceed from legal and regulatory documents giving them official roles in the decision-making process.

#### *Recommendation 3.2:*

*The Ministry of Environment should ensure the involvement of civil society, including industry and agricultural communities, local authorities, and the administration, in the process of elaboration and approval of water management plans at the sub-basin and national levels and in decision-making. The Estonian Water Association (NGO) could form a good partner in this regard.*

Besides the above-mentioned Committees, a permanent institutional section should ensure the day-to-day operations of water basin management. It would be in charge not only of the planning process but also of supervising the actual implementation of the plan with the involvement of the stakeholders. It would be involved in the determination of the level of water fees, in technical and financial programming of investments and actions, and in the evolution of monitoring. This would give more legitimacy to the plans and later to an effective implementation of water management by basins.



This operating body (with the role of a water basin agency) would have the responsibility to organize water data collection, set up quality objectives, work out projects, and manage the charging, financing and permitting at the level of the nine sub-basins. It would operate under the decisional or consultative authority of the sub-basin and national water committees. A government water committee could complement the scheme with representatives from government bodies involved in water matters.

*Recommendation 3.3:*

*Consistent with EU Directives and good water management practices, the national plan for water basin management should establish permanent institutional arrangements for management at the national and sub-basin levels with extended responsibilities. These responsibilities should include taking charge of the actual implementation of the water management plans, and being involved in setting the level of water fees in programming investments and projects, and in the development of monitoring.*

*Monitoring of water bodies*

Apart from the monitoring of pollution discharges, the current water monitoring system is well organized. Contracts are negotiated between the Ministry of Environment and a number of specialized organizations, which provides for cost-effectiveness and flexibility in a competitive market.

In the context of water basin management, the monitoring certainly needs to be extended as it should not simply be strictly limited to measurement of the water element, but should include the entire ecosystem. Estonia has many valuable lakes, rivers, and on-shore aquatic ecosystems that deserve better knowledge and protection. Monitoring must be viewed and organized as a necessary tool to devise and administer water policies and control rivers appropriately. A general survey and diagnosis of the water bodies should be performed and a more detailed monitoring of river ecosystems (including river bed, banks, and riverside space) organized. A progressive increase of the number of monitoring stations and measured parameters as well as of the sampling frequency should be a priority in order to achieve parity with EU countries within ten years.

The method of evaluation of rivers and water quality classes should be refined and, in conformity with practices in EU countries, used to set quality objectives for stretches of river, and introduced as a management tool in future water basin management plans. The setting of objectives, planning, and financing for the protection and use of this national heritage should be major issues in the national and sub-basin water management plans.

*Recommendation 3.4:*

*The Ministry of Environment should make a general survey of the present monitoring of river ecosystems. This survey should be used to:*

- *Reconsider the number and location of the monitoring stations in order to ensure a better coverage of the water quality of the hydrographic network;*
- *Help classify the river stream segments according to the quality of their water;*
- *Design appropriately the water policies and river management objectives according to the uses and purpose of the rivers.*

*Capacities for water management*

At municipal level: With the introduction of the water basin management approach and the introduction of other EU directives, the decision-making process will be increasingly transferred to the local level. The municipalities should develop the competence to better assume these new responsibilities by:

- Providing for drinking water and waste-water disposal;
- Managing the complete or partial ownership of water companies;
- Sub-contracting water companies.

Municipalities should have sufficient technical understanding of regulations and water engineering in this field to be able to provide for good quality long-term general planning for drinking water and used water. The

general long-term plans should be worked out between neighbouring municipalities or with municipal associations if appropriate. In line with EU practice, before designing, financing, or implementation, such public projects should be appraised and approved at government level.

In low density urban or rural areas, where municipal water services are not available, it may be more effective to organize used water disposal at a very local or even individual level. Appropriate techniques are available and may be more efficient and less expensive than collective solutions. Were such techniques to be selected for some areas however, they would still require some form of public organization and control. For instance, local or individual drinking wells subject to low-level treatment would need their sanitary protection zones to be effectively protected from domestic and agricultural pollution. This local option should be assessed in general long-term water management plans.

A national programme to organize technical and legal advice for municipalities should be implemented with the help of national municipalities' associations and the County Environmental Departments. See Recommendation 1.2 in Chapter 1.

At the level of industry: The management of the discharge of industrial waste waters should also be improved. Waste-water discharges from small and medium-sized enterprises are usually connected to public sewerage systems. Some legal and regulatory provisions exist that shape waste-water pre-treatment, monitoring, and treatment contracting conditions for those discharges, but they are not sufficiently precise. Therefore, some sort of mandatory form and minimal terms for the contracts between waste disposal companies and industries discharging polluted water into public sewerage systems would be needed. The technical content of such contracts should be similar to the permit system. The County Environmental Departments should get copies of the contracts and of the reports on discharge monitoring of connected industries.

At County Environmental Departments and inspectorate level: The authorization process should be clearly linked to the acceptance capacity and the quality objectives of the receiving water body. Today, the procedure for permit management by the Counties' Environmental Departments is not standardized. Firstly, the method of monitoring and evaluating the real pollution emitted requires improvement. It should not be based only on a single selective measurement of the pollution flow by the inspectorate, but in the absence of regular self-monitoring and reporting obligations, pollution can also be evaluated from the quantities of product processed.

Recommendation 3.5:

*The Ministry of Environment should define more precise permit procedures by the County Environmental Departments. The permitting process should be clearly linked to the capacity and the quality objectives that have been defined for each respective water body (e.g. sea, rivers, lakes, or underground water) and should provide for the evaluation of the actual pollution discharged into it.*

In addition, some details of institutional reorganization need further refinement. As mentioned in Chapter 1, another weakness of the authorization system is the insufficient level of information exchange on permits between the County Environmental Department that issues the permits and the inspectorate that controls them. The situation should be evaluated and organizational steps taken to develop efficient and coherent cooperation between inspectorates and County Environmental Departments within stated objectives. An effective implementation of the system would necessitate that the staff of the Ministry of Environment issuing and reissuing permits and the inspectors both know exactly what the permits allow, what the charges, fees and fines are, and the extent to which the permit holder complies with the permit provisions and limits. Their close cooperation is a necessity, and it would be opportune to improve the overall coherence of their action through precise ministerial directives and to undertake independent auditing every two or four years of each body charged with implementing an aspect of MoE water-related activities. See Recommendation 1.3 in Chapter 1.

## **Chapter 4: Waste Management**

Since the mid-1990s Estonia has been negotiating issues and prerequisites for joining the European Union. Together with other initiatives like the UNECE first Environmental Performance Review of Estonia, this process has been and still is the driving force behind developing Estonian waste management policy and

preparing for the full implementation of the European Union legislation. Considering its starting point and its resource limitations, Estonia has performed quite well in creating new environmental legislation, establishing a waste management infrastructure and striving towards a huge socio-economic leap in waste management towards the Western European countries.

However, there are still many problems deserving special attention in the near future. Among them are the outdated and environmentally indifferent or hostile large industries based on the exploitation of oil-shale and former phosphate and uranium mining, and, for such a small country, an unusually large number of military sites left in a critical condition by foreign troops. Economic growth, although showing some of the best indicators among the countries in transition, has not been as rapid as had been hoped.

#### *Waste statistics and classification*

Data on waste generation should be clarified. At present, it is not always clear which wastes are included in which statistical category or whether they are covered at all (e.g. timber waste, cement production waste, metal waste, construction and demolition wastes and waste-water sludge). The waste definition and classification system should be entirely brought into line with the European Union system, in particular regarding the identification and classification of hazardous waste (Directive 91/689/EEC), and the format and procedure for reporting on it (75/442/EEC). Comparability between the old and present waste classification systems should be achieved. *See recommendation 4.1.*

#### *Dissemination of information on wastes and waste management*

Waste prevention - although the first priority in EU waste strategies and policy - is difficult to achieve and is therefore even more challenging in a country looking forward to a considerable economic growth. On the other hand, the situation may provide a good opportunity to influence new industries and production processes in their early development phases. With the build-up of waste management infrastructure, it is also necessary to provide explanations and information, particularly to citizens and SMEs, on the practical organization of waste management. *See recommendation 4.1.*

#### *Recommendation 4.1*

*The Ministry of Environment and the Environment Information Centre should:*

- *Compile and systematize information on waste generation in such a way that it is more coherent and complete in order to improve its comparability with information from EU member states. Waste generation and waste management follow-up should be carried out so that data could be used for statistical purposes as well.*
- *Establish, together with regional and local authorities and all stakeholders of the waste management services, a programme of disseminating information on waste and waste management. Distribution of information should concentrate on waste prevention in particular, and practical waste management, and be targeted to citizens and small and medium-sized enterprises. Moreover, campaigns for waste collection and information-dissemination should be organized frequently.*

#### *Waste management planning*

Waste management planning on all levels should be completed soon, including the updating of county and local government waste management plans. Realistic timetables and completion of this work should be clearly expressed and enforced. In updating waste management plans, it is necessary to look further ahead and focus more on prevention and recovery of waste and waste management integrated with industrial production processes. The periodic updating of the waste management plans should foresee, at the minimum, a more integral and developed product policy in relation to advanced waste management, instead of simple landfilling as the solution to waste management.

#### *Recommendation 4.2:*

*The Ministry of Environment, through its County Environmental Departments should promote the drawing up or implementation of municipal waste management plans, and instruct county and municipal authorities to meet the set deadlines. The plans should be periodically updated.*

### *Producer responsibility*

Adopted EU directives on packaging and packaging wastes and end-of-life vehicles and the emerging directive on waste from electronic and electric equipment call for producer responsibility in organizing waste management. This producer responsibility is wider than that of the present Waste Act that is limited to end-of-life products endangering health or the environment. Consequently, the Waste Act should be amended to facilitate the adoption of producer responsibility for new waste categories.

#### Recommendation 4.3:

*The Ministry of Environment should amend the Waste Acts and their implementing regulations to more clearly and extensively address the responsibility of producers.*

### *Packaging*

The Packaging Act set the goal of recycling 50% of total packaging waste by 2001, reprocessing 25% and reusing 15%. The Packaging Excise Act aimed at introducing economic incentives to help reach the recycling objectives, but was enforced only for beverage (alcoholic and soft drink) packaging. The presently too limited producer responsibility for packaging and packaging waste should be extended in practice to other sectors of the packaging industry as well as the beverage industry. For this purpose, the packaging industry would, for example, need to co-operate and form producer corporations, which would organize national collection, reuse, recovery and recycling of packaging and packaging waste. The responsibilities should be defined so as to include consumer and industrial packaging and packaging wastes, i.e. all such materials and wastes regardless of the type of holder of the packaging waste. Packaging deposits should be defined by regulations and the deposit system be extended to the whole country. The set of legislative acts (a total of 11) could be simplified and all provisions included in the legislation should be implemented effectively.

#### Recommendation 4.4:

*The Ministry of Environment and the Ministry of Economic Affairs should amend the Packaging Act to correspond with the actual situation. At the same time, measures need to be undertaken in order to extend the management of packaging wastes to all sectors of the packaging industry and consumers and establish a uniform national system throughout the whole territory.*

### *Development of R & D*

Development of waste management is a cross-sectoral task. It appears that much of it has been carried out almost entirely by foreign consultants. R & D in this sector has been limited while there have been urgent practical problems to solve. However, the development of Estonian R & D activities would be highly advantageous as there are still considerable efforts to be made. It would be desirable to evaluate critically the achievements so far and to try to obtain a clear picture of the uses of different policy instruments in further development of the waste sector. Obviously, all available policy incentives (administrative, economic and informative instruments) need to be used simultaneously, but more emphasis needs to be placed on the use of economic instruments. Full coverage of landfill operations and aftercare costs for all landfills and considerable increases in waste disposal pollution charges (waste taxes), are measures worth serious consideration. Also, appropriate R & D of integrated waste management and the use and application of new technologies in waste recovery and treatment should be initiated and financed. See Recommendation 6.1 and its implementation regarding in particular the waste management sector.

### *Recovery and treatment of certain waste streams*

Waste prevention, reuse, recycling and recovery should be emphasized instead of the traditional landfilling. There are many possibilities of organizing and developing waste management systems, as has been demonstrated in the draft documents of the national waste plan. The proposals to organize waste recovery separately for various waste categories are correct and provide the maximum possibilities for the recovery of separately collected wastes. (a) For several waste categories, such as discarded tyres, waste paper, end-of-life vehicles and electric and electronic waste, batteries and accumulators etc., the implementation of full producer responsibility would enhance recovery and safe disposal. (b) Producer responsibility for packaging wastes

should be expanded. (c) It is important to keep a constant watch on industry, especially the oil-shale industry, as it is the main waste producer whose waste management problems seem to be very difficult to solve. The power generation and cement industries are also important waste producers. (d) The frequent problem of construction and demolition wastes ending up in illegal places should be tackled by legislation. (e) The proposal of “integrating” the management of certain kinds of organic waste should be considered very carefully, paying attention to the directive preparations in the European Union, the dilution ban and the public and animal health care considerations. (f) The use and discharge of hazardous chemicals into the environment and sewers should be reduced by bans, and control mechanisms. (g) In the future, more attention will need to be devoted to integrated product policy and waste management.

Recommendation 4.5:

*The Ministry of Environment together with the Ministry of Economic Affairs should negotiate agreements with industry, sector by sector, setting up the targets on waste recovery that each branch of industrial activity should reach. Waste management provisions should be included in all construction and demolition permits (see recommendation 7.2).*

*Landfills and municipal waste management*

It is not possible to get rid totally of landfills in the foreseeable future. The most common way to manage wastes for the time being is to put them into landfills. This is the case in Estonia as in all other countries. Most of the existing landfills do not meet EU requirements and the construction of new landfills is very costly; for that reason Estonia has requested a transition period until 2013 to implement the EU Landfill Directive (1999/31/EC). Old illegal landfills are still in use and new landfills have little attraction because of their high waste treatment charges. Improvements in landfilling are needed urgently.

Development alternatives for municipal waste handling have been described in the preparatory documents of the national waste plan. It seems that a system of a few large landfills combined with waste collection points and reloading stations in remote locations would be the proper system. Simultaneously, biodegradable waste treatment should rely on separation at source, and central biological waste treatment plants in urban areas and backyard composting in rural areas. Remaining organic waste could be source separated and collected separately for energy production purposes, especially in the northeast where the power industry is located.

New incentives and guiding instruments should therefore be adjusted or reshaped in order to ensure that there will be a shift from the use of old landfills towards new ones, while the old ones are simultaneously closed. At the same time, supervision must be improved to avoid illegal dumping of wastes into the environment because of higher waste management fees.

At present, the Ministry of Environment has prepared a regulatory framework for the establishment, construction, operation, closure and aftercare of waste management facilities, especially landfills. It is also considering an increase in pollution charges in order to be able to recycle more funds to the construction of new landfills and the closure of old ones. Both actions are pointing in the right direction. They should be complemented with a modification of the permitting system to ensure that new landfills are used to their full potential.

Recommendation 4.6:

*The Ministry of Environment should develop the permitting system and other related legislation in such a way that the service area of new landfills for municipal waste will be clearly defined and that the old landfills of the service area will be closed at the moment of bringing the new landfills into operation.*

*Soil contamination (past pollution)*

As explained in Chapter 2, Estonia has tried to tackle the serious problem of contaminated soils in a rational way, starting with a site inventory and mapping and the rehabilitation of the most dangerous sites. However, the legislation needs to be improved to cover all kinds of waste and clearly attribute responsibilities.

**Recommendation 4.7:**

*The Ministry of Environment should provide regulations to deal with all aspects of soil pollution not already covered in waste or other environmental legislation. Such regulations would target, for example, soil pollution, procedures for clean-up, financing, liability and the administrative arrangements required to implement the regulations. The Ministry might also consider the possibility of combining and rationalizing these regulations into a single soil protection act.*

**Chapter 5: Biodiversity management and compensation schemes**

En general, it is an outstanding achievement that Estonia has been able to preserve its existing system of protected areas through the difficult period of political, economic and social transition.

Because the bulk of Estonian efforts, capacities and resources are presently concentrated on the EU accession process, the implementation of the Convention on Biological Diversity is not the highest priority. However, the state budget for 2001 for implementation of CBD has increased more than 10 times compared to 2000, and it is likely to continue to increase. In addition, certain moves towards accession (e.g. the harmonization of the national legal framework with the EU Aquis Communautaire and the implementation of the harmonized legal framework) are concrete steps towards CBD implementation.

Overall, the recommendations on biodiversity conservation and nature protection of the first Environmental Performance Review have been carried out. Remarkable progress has been made in the field of policy formation and the formulation of legislation, programmes and plans. Initiatives have been launched in the agriculture, forest and rural development sectors to tackle the issue of biodiversity management outside protected areas. The institutional capacity of the Nature Conservation Department of the Ministry has been considerably strengthened.

The challenge for Estonia now is to concretize the various strategies and policies aiming at biodiversity conservation. Success in the majority of areas identified as needing improvement in biodiversity management is dependent on the implementation of the policy and legal framework, the achievement of which will necessitate finding adequate financing.

*Policy, strategy and legal framework for biodiversity management*

The 1999 Estonia Biodiversity Strategy and Action Plan has now to become a genuine instrument for CBD implementation. All sectors concerned need to commit funds to its implementation, and an inter-sectoral coordinating mechanism is also required.

**Recommendation 5.1:**

*The Office of the Prime Minister should set up an intersectoral Cooperation Fund for the Convention on Biological Diversity (CBD), supported by financial contributions from all relevant sectors. It should also establish a high-level intersectoral CBD Coordination Unit consisting of delegated staff from the various economic sectors to implement the 1999 National Biodiversity Strategy and Action Plan.*

It is further recommended that the Government consider revising its legal framework in certain areas to tackle threats to biodiversity. Abandoned hydropower dams in rivers should be dismantled in the medium term and existing river dams, as well as new ones, should be equipped with fish ladders to enable the free migration of economically and ecologically valuable fish resources. Attention should be given to the question of whether landowners should be legally required to manage their land according to its registered land use category (a constitutionally based obligation in the interest of the public) to reduce the threat to valuable semi-natural areas in need of management.

The ENECONET could be the ideal tool to pursue nature conservation objectives through sectoral and multi-sectoral spatial strategic planning exercises. However, there is as yet no legal basis for the ENECONET. A positive development is that the preparation of detailed county development plans is going ahead within the framework of the EESTI 2010 plan (see Chapter 1). These county development plans also determine the “green layers” (i.e. green corridors and valuable landscapes reservations), for which the ENECONET should be used.

Support to agro-environmental measures should be legally upgraded to become a separate agricultural support category in terms of the Rural Development and Agricultural Market Regulation Act, 2000.

*Recommendation 5.2:*

*In the context of revising the act on nature protection and in order to eliminate certain threats to biodiversity, the Ministry of Environment should make proposals to:*

- *Make it compulsory to equip operating and new river dams with fish ladders and, in the medium term, to dismantle abandoned hydropower dams;*
- *Encourage landowners to manage their land according to its registered land use category, in particular in valuable, semi-natural areas;*
- *Upgrade agro-environmental measures so that they become a separate agricultural support category in the Rural Development and Agricultural Market Regulation Act, 2000.*

Appropriate enforcement of these measures should be ensured and sufficient funds allocated accordingly.

*Institutional framework for biodiversity management*

In addition to the creation of an Inter-sectoral CBD Coordination Unit as recommended above (see Recommendation 3.1), the following improvements in the institutional framework should be considered:

In relation to the additional tasks that will emerge from the implementation of EU accession, legal instruments on biodiversity conservation and nature protection, the institutional framework of nature conservation needs to be strengthened (2-3 positions at the Ministry of Environment for the agro-environmental programme and ecological networks; at least 1 position at each County Environment Department for Natura 2000 implementation; and possibly IT consultancies for servicing computer systems and training staff at the County Environment Departments and at the 16 separate protected area administrations). Since the effective functioning of the Environmental Inspectorates seems to be hampered by staff and budget shortages, consideration could be given to the creation of a “Civil Ranger Service”, consisting of volunteers willing to make an active contribution to the protection of the environment.

The Ministry of Environment should consider establishing a clear and direct “line of command” in technical matters between the Nature Conservation Department at the Ministry of Environment, the nature conservation staff at the County Environment Departments, and the 16 separate protected area administrations.

*Recommendation 5.3:*

*The Ministry of Environment should strengthen and rationalize its institutional framework for nature conservation, particularly with respect to ecological networks, agri-environmental issues and NATURA 2000 implementation. Sufficient trained staff at both the national level (MoE and protected area administrations) and the regional levels (County Environmental Departments) should be ensured. The creation of a volunteer “Civil Ranger Service” could also be considered to monitor compliance with legislation and regulations.*

*Financial support to biodiversity management and inter-sectoral involvement*

The Government should generally improve the salary scales for civil servants (making them competitive with the private sector) to avoid a rapid turnover of professional staff, and its damaging effects on biodiversity management. The foregoing recommendations on reinforcing the institutional framework for biodiversity management have of course direct implications for the state budget and mention was made above of the importance of establishing an intersectoral CBD Cooperation Fund.

The following further recommendations are made in relation to financial support to biodiversity management:

- At present, most of the policies and plans have been worked out, and the legal framework and programmes for the management of biodiversity have been installed. The Government should now consider increasing financial support to the biodiversity management task itself, particularly in view of the increased workload resulting from the EU accession process. The financial support could be increased through a higher state budget allocation, better utilization of EU pre-accession programmes and through increasing the share of

biodiversity funding from the Environment Investment Fund. Sufficient funds should be provided to speed up the preparation of management plans for protected areas, to revise the Agriculture and Rural Development Plan (SAPARD 2000–2006) so as to begin the funding of agro-environmental measures earlier and with higher contributions than those presently planned. Budget allocations should be increased so that the staff of County Environment Departments can carry out the necessary fieldwork. Incentive, subsidy and compensation schemes should also be strengthened by systematically coordinating them with other sector ministries. Financing should be increased for important research and education issues, such as research on freshwater ecosystems and alternative farming methods and to develop educational resources on ecological farming including the revision of curricula, and the establishment of a medium-term support programme to overcome the fish migration problem caused by river dams. Alternative farming practices must be investigated and supported. The financial means available are considered insufficient for the research on and experimentation with alternative farming systems. Another shortcoming seems to be the lack of educational capacity at all levels with regard to alternative and ecological farming systems. A need to “train the trainers” was identified.

- The nature conservation staff of the Ministry of Environment, with its entire institutional framework, should undertake increased efforts to become a more important part of the Agriculture and Rural Development Programme (SAPARD 2000-2006) and agro-environmental programme. The opportunities to use future EU structural funds for rural development for nature conservation purposes now need to be determined.

Recommendation 5.4:

*The Ministry of Environments should increase financial support to implement the biodiversity management tasks, including: Preparation of management plans for protected areas;*

- *Introduction of agro-environmental measures; and*
- *Implementation of compensation schemes, and provision of support for important research and education issues (freshwater ecosystems and alternative farming systems and practices).*

Recommendation 5.5:

*The nature conservation staff of the Ministry of Environment, both at national and regional levels, should work closely together with the Ministry of Agriculture for the implementing of the Agriculture and Rural Development Programme (SAPARD 2000 - 2006) and the Agri-Environment Programme.*

### *Compensation Schemes*

The protracted and cumbersome land exchange system should now be reviewed and modified to better serve pressing biodiversity conservation needs. The buying up of private land in protected areas, combined with long-term contractual management agreements with former owners, is certainly an option that should be seriously considered. Further, incentive schemes should be introduced, to encourage the development of sustainable alternative land management systems that could productively contribute to the national economy and at the same time fulfil biodiversity conservation objectives. In addition, a biodiversity damage assessment and compensation scheme should be developed.

Recommendation 5.6:

*The Ministry of Environment should work out in partnership with other concerned ministries a biodiversity damage assessment and compensation scheme. Incentive systems should be developed to support the development of sustainable alternative land management patterns.*

## **Chapter 6: Further development of environmental economic instruments**

Over the past decade Estonia has been successful in developing the basic and necessary framework and structures regarding economic instruments and financing as seen from the environmental point of view. An environment fund has been created and economic instruments modernized and developed. The development and diversification of economic instruments have been significant, resulting in a comprehensive and consistent range of charges and taxes. Many attempts have also been made to develop advanced economic instruments (CO<sub>2</sub> tax) and economic incentives (substitution schemes). At present, the challenge for Estonia is less a matter of introducing new economic instruments, and more of ensuring that their implementation and use are as



efficient as possible. Toward this end, both the design of the economic instruments and their management and related institutional arrangements play an important role.

Economic instruments are not just static tools to be designed administratively. Every environmental economic instrument has a political impact on and implications for the economic sectors. In addition to the political considerations, there are other elements involved in the successful design and operation of economic instruments, including design philosophy, the information basis, revenue collection structure and monitoring, that should also be taken into account. It appears that at present the Ministry of Environment focuses too much on the technical issues relating to these economic instruments. The aim of the instruments as direct tools for implementing the economic policies to change environmental behaviour is therefore somewhat unclear. Due to the very limited MoE capacity for economic analysis, monitoring of the effects and impact of the economic instruments is limited. In addition, environmental taxes and charges should have an industrial restructuring purpose, while so far in Estonia this effect appears very limited. Co-ordination among actors should be improved, in particular between ministry sectors and sector ministries, since environmental economic instruments such as CO<sub>2</sub> tax or taxes on heavily polluting fuel may have strong effects on other economic sectors.

In 1996, the first EPR recommended a strengthening of the economic analytical capacity within the Ministry of Environment (see Annex 1 on the status of implementation of the 1995 EPR recommendations). Although it is a very basic requirement, this recommendation has not been implemented. During the past five years the basic framework of instruments was completed. Now, for all the reasons mentioned above, the need for an increased economic capacity within the Ministry of Environment is crucial. It is also advisable that the Ministry of Environment establish twinning arrangements with other countries to transfer experience of use in establishing and structuring an economic section within the ministry.

*Recommendation 6.1:*

*The Ministry of Environment should strengthen its capacities for the management of environmental economic instruments. It should in particular become able to:*

- *Research and evaluate relevant experiences with environmental policies and economic instruments from other countries;*
- *Establish affordability models for forecasting, at the design stage, the possible effects of the instruments;*
- *Evaluate the existing fees and charges and, based on this evaluation, propose the introduction of new fees and charges with documentation explaining the need and purpose.*

*The Ministry of Environment should also establish twinning arrangements with other countries to transfer experience on the above issues.*

Different institutions administer different funding sources (Investment Department of the Ministry of Environment, Environmental Investment Centre of the Ministry of Finance, and sectoral departments in other ministries). Their interaction appears based on individual relationships rather than on a transparent, competitive selection process.

At present, all applications for environmental projects (on waste, water, air, biodiversity, clean technology, etc.) are submitted for evaluation directly to the individual technical sectors that are internal to the Ministry of Environment. These departments—together with experts from County Environmental Departments, other ministries, and NGO's—select what they consider the best projects and forward them for financing to the EIC. Neither the Investment Department of the Ministry of Environment nor the Environmental Investment Centre of the Ministry of Finance has the resources required for professional project handling, from the point of call-for-application throughout the project cycle until completed implementation and ex-post evaluation. In the near future, the EU requirements for ISPA project management will require a considerable strengthening of the overall project management capacities. The sharing of responsibilities along the environmental project management chain should be reconsidered.

Currently, all applicants for project support are required to submit full and detailed documentation and description of their project (including feasibility studies, technical specifications, environmental permits, etc.) at the time of their initial application. Consequently, to have a real chance of being selected, professional

applications generally require the expensive assistance of external consultants. Project preparation is therefore a costly issue for the project proponent, often a municipality with limited financial resources, and the ratio of rejected projects is very large (80-90%) with most preparation costs then being lost.

A two-step approach should be developed in Estonia as is applied in most CEEC countries to save effort and money. The management board of the EIC should define the overall environmental fund criteria regarding eligible types of projects and priorities. The financial feasibility should initially be expressed by the project's IRR and, in a first step, the applicant should submit only the elements needed to take a basic decision on eligibility and the possibility of funding. This is sufficient to rank the project among the other applications competing for the same funds. A further step may then include elaborate technical and financial statements to confirm the first IRR.

**Recommendation 6.2:**

*The Environmental Investment Centre should manage all activities related to investment funding (in accordance with its existing statutes). The Environmental Investment Centre should utilize technical expertise inside and outside the Ministry of Environment and be responsible for assessing projects for presentation in accordance with criteria and priorities decided by the management board and in line with the internationally accepted practices. The Environmental Investment Centre should modify the application process and the application forms for environmental projects by dividing them into two steps:*

- *Step 1 (or project fiche): containing limited information sufficient to decide if the project is eligible within the year's priorities (both main and sub-criteria), if co-financing is secured, if the implementation preparation and organization are in place, as well as an assessment of the overall criteria for environmental effects and financial feasibility.*
- *Step 2 (or detailed documentation): provided that step 1 is successful, the applicant will be requested to submit detailed documentation.*

The success of any instrument, including economic instruments, depends on the inspectorate's ability to exercise efficient control over and monitoring of its implementation. Inspectorates should be consulted prior to the issuing of permits to ensure that the permit includes a monitoring programme and parameters that are in fact controllable. At present in Estonia the inspectorate receives no information on the content of permits (except upon specific written request), the permitted pollution volumes, or the charges collected as this information is managed by the County Environmental Departments. These departments are also aware of complaints or sanctions against enterprises, information that is not automatically passed on to the inspectorate. In general, both the environmental departments and the local inspectorate offices have very limited background information on companies.

*The system of complaints and follow-up between the environmental departments and the inspectorates needs to be co-ordinated and, preferably, a standardized system implemented. The new joint info-base under development could prove to be an asset in solving this problem (see also Chapters 1, 3 and 7 and Recommendations 1.2 and 1.4).*

**Chapter 7: Sectoral integration and partnership with the private sector**

The environmental problems caused by sectoral activities are widely acknowledged in Estonia. This is an important first step for effective policy-making. Sectoral strategies reflect the commitment and responsibility of the sectors, and, subsequently, action plans and programmes are developed to reduce their impact. The commitment could be improved, as insufficiently clear and measurable targets are set for the desired environmental quality. Currently, goals are translated in terms of "minimize" and "reduce" without operationalizing them into quantifiable and measurable targets. Setting clearer environmental targets will result in better accountability and improve sectoral integration. Environmental quality targets, set by the Ministry of Environment, should provide the basis for this target-setting.

**Recommendation 7.1**

*The Ministry of Environment should further develop measurable goals as the desired outcome of the national environmental strategy. Based upon these environmental quality goals, clear, achievable, and measurable*

*sector specific environmental targets should be set in the respective action plans and programmes (see recommendation 3.5).*

The Ministry of Environment has taken the initiative to co-operate more closely with private enterprises. So far, it has signed five voluntary agreements and another ten are expected in the near future. The voluntary agreements, however, seem rather to focus on improving a weak permitting system with low standards, all conditions that are very favourable to industry. In other places, co-regulatory instruments have proven to be useful instruments and, by making the agreements binding and more ambitious, they could be efficient in Estonia too. Ambitious targets, that normally are not set in permits, like improved energy-efficiency per production unit, could be negotiated. Co-regulatory instruments, however, will only fulfil their role as part of a combination of instruments of which strong legislation and permitting should form the basis.

#### Recommendation 7.2

*The Ministry of Environment should negotiate enforceable agreements with both enterprises and sectors. These agreements should provide incentives to enterprises and go beyond normal compliance.*

Cleaner production is an important element of the National Environment Strategy. The introduction of IPPC – including stronger enforcement – and the increase of resource taxes and pollution charges will motivate industry to increase the application of cleaner production. The dissemination of information on best practices, case studies and technical options is not currently taking place. Only when externally funded projects facilitate this, does industry become actively approached and involved. The IPPC website could be a platform for this dissemination. Furthermore, experiences from the cleaner production centre and other consultancies should be widely disseminated in industry.

#### Recommendation 7.3

*The Ministry of Environment, in cooperation with the Ministry of Economic Affairs, should actively promote the dissemination of information on best practices with cleaner production in all sectors. A Clearing House, for example on the national website on Integrated Pollution Prevention and Control (IPPC) of the Ministry of Environment, should be established.*

In the years to come, environmental costs for industry will increase considerably. On the one hand the implementation of integrated permits and Best Available Techniques will require investments in new technologies and processes. On the other hand, for those who do not invest in cleaner technology, the pollution charges and resource taxes should increase to a sufficient level to form an incentive for cleaner production investments (see Chapter 6). Currently, commercial banks are not really interested in providing favourable conditions for environmental investments. The Environment Investment Centre should consider the possibility of providing loans on favourable terms with a rapid pay-back time. Co-operation could be sought with institutions and organizations that have experience in revolving funds for environmental investments, like the Nordic Environment Finance Cooperation (NEFCO) and Environmental Funds in other countries.

#### Recommendation 7.4

*The Ministry of Environment and the Ministry of Finance should consider providing favourable loans for cleaner production projects and investments required for the implementation of integrated permits through the Environment Investment Centre to facilitate environmental investments in enterprises.*

Joint ventures and public-private partnerships have proven to provide a spin-off to secure investment for environmental improvements. The experience with these forms of partnership is, however, limited while more partnerships are expected in the near future due to the poor financial situation of many municipalities. It is important that the government become aware of the problems associated with partnerships and that experiences are shared in order to ensure long-term investments in public services.

#### Recommendation 7.5

*The Ministry of Economic Affairs and the Ministry of Environment should develop guidelines on the development of public-private partnerships addressed to local authorities and disseminate case studies of such partnerships. The guidelines should draw upon national experiences (best practices) as well as experiences in other countries. In the case of public services with environmental impact, such as waste collection, water*

*treatment and public transport, environmental authorities at both national and local levels should contribute to the design of these partnerships in order to ensure that local environmental concerns are represented.*