

EUROPEAN PARLIAMENT



Directorate-General for Research

WORKING PAPER

**THE ENLARGEMENT PROCESS
OF THE EU:
CONSEQUENCES
IN THE FIELD OF ENVIRONMENT**

Environment Series

ENVI 106 EN

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04-2003

This study was requested by the European Parliament's committee on Environment, Public Health and Consumer Policy within the annual research programme.

This paper is published in English only. However, an executive summary is included at the start of this publication in the following languages: **EN/DE/FR**.

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Manuscript completed in April 2003.

Paper copies can be
obtained through: Publications service
Tel: (352) 4300-24053/20347
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Luxembourg, European Parliament, 2003

ISBN:

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Printed in Luxembourg



MEMBER STATES



APPLICANT COUNTRIES



THE ENLARGING UNION

MEMBER STATES

Country	Capital	Population	GDP*
Belgium	Brussels	10 225 000	26 800
Denmark	Copenhagen	5 228 000	24 620
Germany	Berlin	82 114 000	31 800
Greece	Athens	10 515 000	16 100
Spain	Madrid	39 248 000	16 620
France	Paris	59 375 000	22 300
Ireland	Dublin	3 775 000	24 320
Italy	Rome	57 688 000	27 300
Luxembourg	Luxembourg	425 000	47 620
Netherlands	Amsterdam	15 845 000	26 800
Austria	Vienna	8 105 000	24 900
Portugal	Lisbon	10 808 000	17 100
Poland	Warsaw	3 178 000	22 800
Sweden	Stockholm	8 943 000	22 300
United Kingdom	London	51 625 000	33 100
The Tennes		20 454 000	27 800

APPLICANT COUNTRIES

Bulgaria	Sofia	8 219 000	4 700
Czech Republic	Prague	10 245 000	12 900
Croatia	Zagreb	4 448 000	7 700
Cyprus	Nicosia	845 000	17 100
Estonia	Tallinn	1 243 000	6 800
Lithuania	Vilnius	3 253 000	4 300
Hungary	Budapest	10 878 000	10 700
Malta	Valletta	399 000	6 800
Poland	Warsaw	38 614 000	7 800
Romania	Bucharest	22 414 000	5 700
Slovenia	Ljubljana	2 195 000	16 800
Slovakia	Bratislava	5 285 000	10 200
Turkey**	Ankara	64 228 000	5 700
The Tennes		100 210 000	7 240

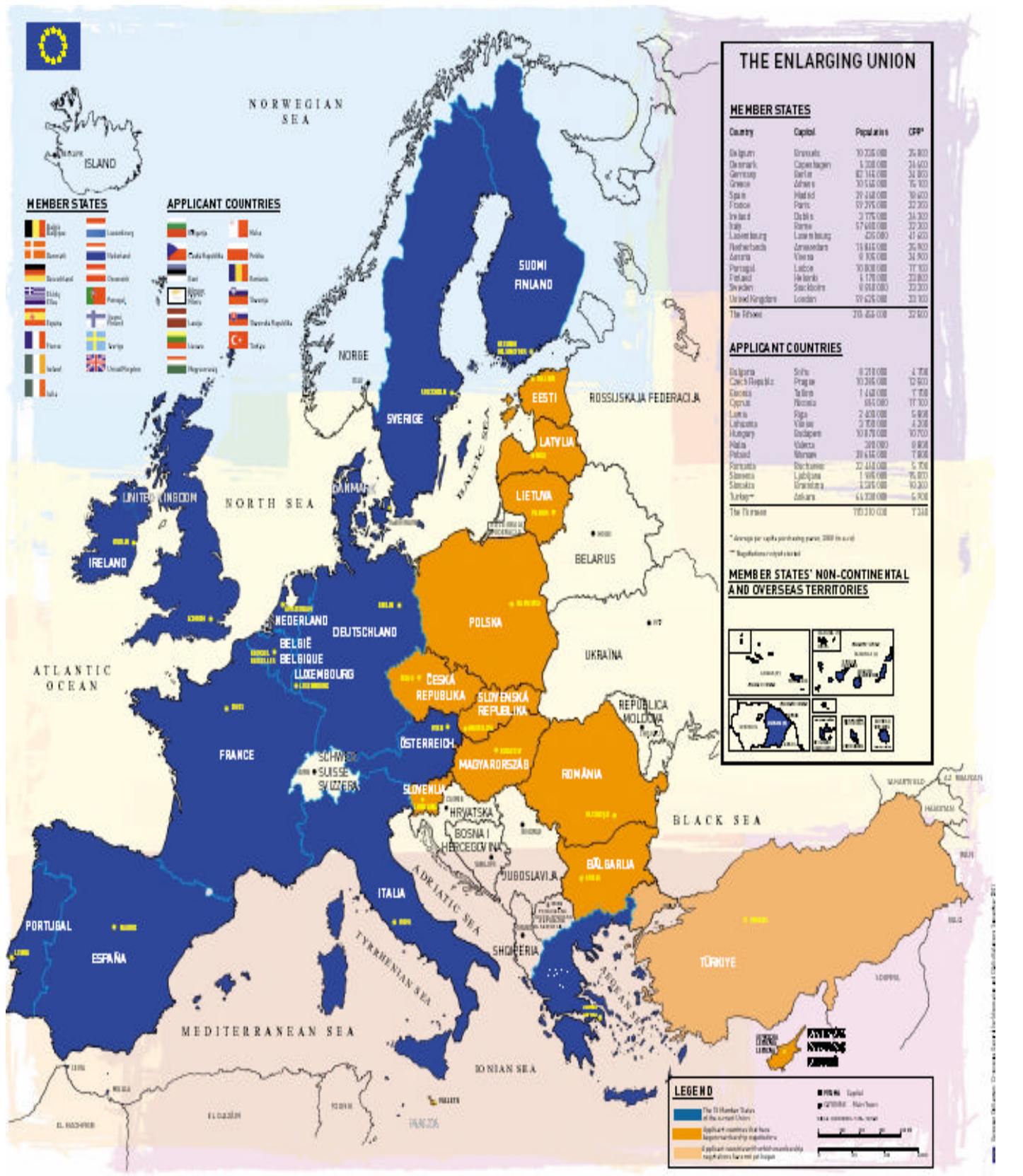
* Average per capita purchasing power, 2000 in euro
 ** Population not included

MEMBER STATES' NON-CONTINENTAL AND OVERSEAS TERRITORIES



LEGEND

- The 15 Member States of the current Union
- Applicant countries that have begun membership negotiations
- Applicant countries with which membership negotiations have not yet begun
- Capital
- Main Town
- Scale 1:100 000 000



Executive summary

In 2004 ten more countries (Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia) will come into the European Union. In addition, Bulgaria and Romania are scheduled to join in 2007, with negotiations with Turkey starting at that point. This study considers the implications of the 2004 enlargement for the European environment.

The accession countries are generally on track in changing their regulatory frameworks to conform to the environmental requirements of the EU, but achieving actual compliance is a challenge of a different order. Upon accession applicant countries must comply with all internal market-related environmental legislation as all framework Directives, (e.g. air quality, waste and hazardous waste framework, radiation protection), nature protection, access to information, and environment impact assessment requirements.

Requests for post-accession periods of transition were usually accepted where the applicant countries would not be able to comply fully with the requirements on the day of EU membership, e.g. for those environmental obligations requiring significant investment, such as the urban wastewater treatment and large combustion plant requirements.

Sector/Directive	Transition periods agreed at provisional closure of Environment Chapter ¹									
	CY	CZ	EE	HU	LT	LV	MT	PL	SK	SLO
Water										
- Urban wastewater treat	2012	2010	2010	2015	2009	2015	2007	2015	2015	2015
- Drinking water			2013			2015	2005			
- Dangerous substances							2007	2007	2006	
Waste										
- Landfill			2009 ²			2004		2012		
- Packaging	2005	2005		2005	2006	2007	2009	2007	2007	2007
- Incineration of Hazardous waste/ municipal waste (old)				2005					2006	
- Shipment of waste								2012		
Air quality										
- VOCs Stage I			2006		2007	2008	2004	2005	2007	
- Sulphur content of fuel	2004							2006		
Industrial pollution										
- Lg Combustion Plants	SP ³	2007	2015	2004	2015		2005		2010	
- IPPC						2010		2010	2011	2011
Nature										
- Wild Birds							2008			
Chemicals										
-Asbestos						2004				
Radiation Protection										
- Medical Exposures						2005		2006		

¹ Note that transition periods generally last until the end of the requested year. For example, if requested date is 2012, implementation could be accomplished until December 2012.

² Oil shale only (hazardous waste).

³ The special arrangements mean that Cyprus has been given a special emissions level, 1700 mg/Nm³, for emissions of sulphur dioxide from its boilers at the Dhekelia and Vasilikos combustion plants. The derogation is given from Article 4(3) and Part A of Annex IV of the Large Combustion Plant Directive.

Transitional requests will be annexed to the Accession Treaty and closely monitored upon accession. For all other Directives where transition periods were not agreed, the applicant countries have in effect promised to be in compliance at the moment of accession.

Among the environmental issues at stake in enlargement, the EU requirements related to **water quality** are expected to be among the most difficult and expensive to implement. The Urban Wastewater Treatment (UWWT) Directive is expected to be the most expensive, with an average per capita cost of 235 EUR. The Directive raises a number of cross-sectoral issues, e.g. the need to arrange for safe disposal of the increased amounts of sludge that will result from comprehensive wastewater treatment. Other demanding water-related acts are the newly adopted Water Framework Directive, the Drinking Water Directive, the Nitrate Directive and the directives on discharges of different dangerous substances.

For the ambient **air quality** legislation adopted in the past few years, the accession countries have the same time to comply as EU Member States. However, proper air quality monitoring -- the key first step in identifying cost-effective strategies to improve air quality -- remains problematic. Also, the use of solid fuel (coal, lignite) for power production and domestic heating in several countries often drives air pollution above acceptable levels. The most recent Large Combustion Plants Directive requires existing plants to meet more stringent emission standards by 2008, when most of the older CEE power plants will need to be replaced in any case. This will require significant investment but will also add to the economic performance of countries.

The CEE accession countries suffer from a lack of adequate **waste management** facilities to properly treat and dispose existing waste streams. Some countries also lack proper collection systems, illegal handling of waste of all sorts is widespread, and hazardous waste is often disposed with ordinary waste in inadequately protected landfills. The framework waste and hazardous waste directives -- requiring systematic and environmentally safe waste collection and disposal -- are to be applied immediately upon accession. Most CEE countries are planning major investments in controlled landfills, while plans for investment in incinerators or facilities to treat hazardous waste are not as well developed.

In the **industrial pollution** sector, the biggest challenge will be meeting the IPPC Directive requirements by the deadline of 2007 for existing plants, particularly where surviving plants still struggle with outdated equipment and a weak financial basis. However, the technological restructuring already under way in several industrial sectors in order to remain competitive in a liberalised market should in most cases integrate measures aimed at upgrading environmental performance and be financed as such. In some instances of existing plants, closure might be more cost-effective, taking into account social considerations such as impacts on local employment.

In the **nuclear sector** the absence of EU legislation on safety of nuclear energy installations has meant that the problem of unsafe nuclear reactors has fallen outside the traditional approximation process. Agenda 2000 set forth a number of nuclear safety programmes aimed at dealing with unsafe reactors, including early closure of eight non-upgradeable nuclear reactors (i.e., Bohunice 1 and 2 in Slovakia, Ignalina 1 and 2 in Lithuania and Kozloduy 1 to 4 in Bulgaria); and modernisation programmes for upgrading other Soviet-designed nuclear power stations to international safety standards. A key to the solution of how to replace unsafe nuclear reactors will be to establish alternative power supply at a recoverable cost. The EU has committed 70 MEUR to Lithuania to help replace the power generated by the Ignalina NPP each year from 2004 to 2006, and also confirmed its readiness to assist the decommissioning effort beyond 2006. Similar EU assistance will be allocated to Slovakia for decommissioning the Bohunice NPPC.

The accession countries, with the exception of Malta's transition period until the end of 2008 under the Birds Directive have not received transition periods for the **nature conservation** legislation. The two key requirements, the Birds and Habitats Directives, are not regarded as investment heavy, yet the measures needed to implement properly their requirements will place a heavy administrative and financial burden on authorities at a time of heavy demand for public funds for investments in other areas.

Among the **horizontal** requirements, implementation of the EIA Directive remains a challenge and is particularly important for the CEE accession countries, since EIA with public participation is a prerequisite for infrastructure projects where EU financing is sought. The EU access to environmental information requirements and pending access to justice requirements will entail various institutional reforms, including changes in the approach taken by the public authorities in diffusing information about the environment.

With respect to **regional and international environmental co-operation**, the expansion of the EU borders due to enlargement will make a number of regional conventions quasi-EU agreements. For example, after the 2004 enlargement, Russia will be the only Party to the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention) not an EU Member State. A particularly important international agreement is the UN Framework Convention on Climate Change, (UNFCCC) and the 1997 Kyoto Protocol, under which Annex I Parties must reduce GHG emissions by a certain percentage over a certain period. The EU accession countries have agreed reduction targets for the first commitment period (2008-2012). The challenge will be putting in place administrative and practical instruments for carrying out accurate assessment of their GHG emissions, for reporting GHG emissions according to the requirements, and for drafting and implementing their climate change policies.

Concerning financing, all of the accession countries face major costs in upgrading their environmental infrastructure to achieve full compliance with the 'investment-heavy' directives. The generally accepted figure for the total investment needed by all accession countries is between 80 and 100 billion EUR. Financing this within the timetables agreed during accession negotiations will take an estimated 2-3% GDP of the accession countries for years to come.

Cost estimates for the necessary investments still vary widely, but appear to be realistic. A comparison of Member States' per capita investment costs for implementing the Urban Waste Water Treatment Directive with recent information put forward by the accession countries indicates that:

National cost estimates based on directive specific plans are higher than previous international analyses;

National cost estimates are broadly consistent (on a per capita basis) with those for the four Cohesion Countries within the EU, but remain significantly lower than those for many other Member States;

National cost estimates for Estonia, Slovakia, the Czech Republic and Poland are broadly consistent with the costs incurred by the most comparable Member States (again on a per capita basis).

The cost of compliance needs to be seen in the context of the long-term benefits that will accrue to the candidate countries from environmental compliance, e.g. reduced pressures on the environment through diminished pollution emissions and depositions. Aggregated benefits from compliance with the EU air, water, waste management and nature protection sectors were estimated at a value ranging between 12 and 69 billion EUR per year by 2010. This corresponded to between 80 and 410 EUR per capita annually, with the most striking benefits coming from implementing all sector requirements.

While the accession countries also receive considerable assistance from other sources, including bilateral donors and the various international financial institutions, the EU is today the largest donor, providing an overall amount of 2.5 billion EUR a year in EU assistance to the ten CEE accession countries. Special packages of support have also been developed for Cyprus and Malta.

The EU pre-accession assistance to the CEE countries has consisted of three instruments, Phare, SAPARD and ISPA. The **Phare** programme is the largest of the pre-accession assistance programmes to the CEE accession countries, with an annual budget of 1.56 billion EUR for the period 2000-2006, divided between technical assistance (30%) and support for economic development in the more impoverished regions of the accession countries (70%). This latter support is considered the precursor for post-accession Structural Funds.

The Special Programme for Agriculture and Rural Development (**SAPARD**) has an annual budget of 0.52 billion EUR for the period 2000 to 2006. SAPARD aims to assist with problems of structural adjustment in the agriculture sectors and rural areas. The programme can in theory be used to finance environmental measures for rural communities but in practice is seldom used for such purposes.

The Instrument for Structural Policies for Pre-Accession (**ISPA**) splits its annual budget of 1.04 billion EUR between major environmental (50%) and transport (50%) infrastructure projects. ISPA is considered the pre-cursor for a post-accession Cohesion Fund. ISPA funds are distributed among countries on the basis of size of population, per capita GDP, and land surface area. Many accession countries have had difficulties in absorbing the ISPA grants for environment, due to lack of overall planning and the demanding technical requirements necessary to qualify for ISPA funding. Moreover, though of the accession countries have succeeded in getting EU commitments to take up their full allotment of funds under ISPA, additional delays have occurred in actual disbursement of those funds.

To help the Accession countries prepare for taking on full responsibility for management of Community assistance after accession, the European Commission has been assisting the countries to move towards decentralised implementation. Under the Extended Decentralised Implementation System (**EDIS**), all responsibility for procedural management of EU funds will be passed over to the accession country's implementing agencies once a country has set in place the necessary financial accountability systems and has been "accredited" by the Commission. EDIS must be in place by accession, but the process is going very slowly. The October 2002 Regular Report noted the continuance of various problems with absorption of EU funds, including inadequate inter-ministry co-ordination, delays in definition and allocation of duties among the bodies responsible for the future management of programmes and weak, administrative and budgetary procedures.

Throughout the accession process, the EU has emphasized that at least 90% of the cost of environmental investments needed for EU accession had to be borne from countries' own sources, and that this financing burden could come to 2–3% of annual GDP. However, a review of GDP expended for environmental protection finds that more of the countries come close to this recommended proportion. So it is not immediately evident how the accession countries will find sufficient own sources to complete the environmental investments necessary by the end of the negotiated transition periods.

After accession, the new Member States will still have financing gaps. However, the package of EU assistance will increase three-fold following the decisions taken at the Copenhagen Council in December 2002. The Structural Funds and the Cohesion Funds were allocated 21.7 billion EUR for the period 2004 – 2006, with a third of this amount to the Cohesion Funds. As with ISPA, 50% of the post-accession Cohesion Funds may go towards environmental investment. The accession countries will receive a larger proportion than under ISPA, due to redistribution of the percentages allocated under ISPA for Bulgaria and Romania. However, the question remains whether the accession countries will be able to absorb and utilise this expanded assistance.

Section 4 of the report contains our synopses of the environmental situations in the ten 2004 accession countries followed by a review of Romania and Bulgaria, scheduled to join in 2007.

Cyprus Located in the south-eastern Mediterranean, the small island of Cyprus has environmental problems that are quite distinctive from those of the Central and Eastern European Accession countries. The island's environmental situation has of course been affected by the twenty-nine year conflict which has seen the division of the island between the Greek Cypriots in the south and the Turkish Cypriots in the north. From the 1970s to date, Cyprus has gone through a period of rapid economic expansion which has put severe pressures on the country's natural environment, particularly its coastlines. The all important tourist industry only adds to the pressures put on the island environment. Cyprus has been granted 3 transition periods, one in water quality sector, one for waste management and one for air quality. It also has negotiated special provisions with regard to the Large Combustion Plant Directive. Some of the most pressing environmental problems for Cyprus are seen

in the water and waste management sectors. Water is a scarce resource in Cyprus as the country is often affected by droughts. The government has increased dam and reservoir capacity and has introduced seawater desalination to make the most of their water reserves. The situation with regard to provision of waste water treatment plants is however far behind, with only 11% of the rural population being served by wastewater treatment facilities, and only 45% of the urban population being connected. Cyprus has until 2012 to complete implementation of the UWWT Directive. Many of the problems in the waste management sector stem from delays in the adoption of a comprehensive Bill on Waste Management. Cyprus disposes of most of its waste by landfill, and is required to upgrade its 3 existing municipal landfills and create 4 new landfills.

The Czech Republic is known as the “roof of Europe”, since all the rivers which have their source in the country drain into neighbouring countries. Large-scale structural adjustments needed in the 1990s during economic transition initially increased poverty, but the Czech economy is today healthy. The handling of the remnants of the Soviet-built nuclear power plants has been a significant pre-accession issue for the Czech Republic, since the proposed modernisation of the Temlin and Dukovany plants has provoked heated opposition by neighbouring countries. The European Commission has granted three transition periods to the Czech Republic – one in the water sector, one in waste management and for the Large Combustion Plants Directive. In the water sector, the Czech Republic requires until 2010 to implement the UWWT Directive by constructing new collecting systems and treatment plants. Also, attention needs to be paid to improving the currently fragmented water quality monitoring system. With regard to waste management, the Czech Republic must urgently adopt its National Waste Management Plan. Czech Republic has however cleverly managed to provide incentives to the private sector to finance investment in landfill treatment and disposal facilities. The Act on IPPC came into force on 1 January 2003, and progress has been made with the establishing of an IPPC Agency, which leaves only the challenge of the timely issuing of permits. The country may still require to take action to improve its environmental administration system which currently does not manage to clearly allocate responsibilities between the bodies involved.

Estonia is the smallest of the Baltic States. Its GDP has risen steadily since 1999, but regional divergences are noticeable. Notably, Estonia’s northern coast holds the some of the world’s largest usable deposits of oil shale, from which Estonia produces about 93% of its electrical power. The use of oil shale for energy production not only releases noxious emissions to the air, but also results in production of 94-98% of all hazardous wastes in Estonia. Many of the environmental problems found in Estonia can be traced back to the production of energy from oil shale. For example, one of the toughest challenges in the waste sector is final disposal of ash and semi-coke from the oil shale industry, currently heaped on industrial landfills and causing contamination of groundwater. A transition period until 2009 has been granted to meet the Landfill Directive, in particular those requirements concerning hazardous wastes. A transition period until 2015 has been granted to the Large Combustion Plant to allow existing oil shale firing combustion plants to fully comply with the desulphurisation rates and emission limit values for dust. Estonia has also some difficulties in the water sector, particularly with regard to drinking water and UWWT. The country has been given until 2013 to upgrade its drinking water supply system which is old and made of iron. In order to cope with the administrative challenges, extra human resources are needed in the legal department of the Ministry of Environment and in municipal authorities.

Hungary has a healthy economy with a 2.9% growth rate, relatively low unemployment, and inflation at the lowest recorded rate in the last ten years. Four transition periods have been granted, two of which are in the waste management sector. Hungary has until 2005 to implement both the Packaging Waste and Incineration of Waste Directive. Progress in this sector has been slow because of the time taken to adopt the National Waste Management Plan. Now, regional and local waste plans should be speedily elaborated. Considerable funding will need to be spent to implement the Landfill Directive since currently only 10% of landfills meet EU standards. Implementation of IPPC Directive will also challenge the country’s environmental administration, since the existing and complicated permitting system will need to be consolidated. Generally, the environmental administrative capacity requires

both strengthening and a clearer division of competencies between the five ministries that are involved.

The Baltic state of **Latvia** survived the Russian economic crisis in 1999, and today has a functioning market economy with a strong GDP growth, moderate inflation and low public deficit. Latvia was granted an above-average 8 transition periods, two each for the water quality and waste management sectors, and one for the VOCs Stage 1, IPPC, Asbestos and Medical Exposures Directives. In the water quality sector, Latvia needs to secure financing for implementation of the UWWT Directive and substantial upgrades and extensions to its existing drinking water supply system. As Latvia's territory drains into the eutrophy-prone Baltic Sea, more stringent treatment (nitrogen and phosphorus removal) is required for all collected wastewater from agglomerations over 10,000 p.e. In the waste management sector, finance must be secured for the closure and construction of new landfills, since none of the existing 252 landfills meet EU standards. The VOCs Stage I Directive remains a major implementation challenge, particularly for smaller oil terminals and petrol stations, which now have until the end of 2008 to meet EU technological requirements. A transition period until 2010 has been granted for the IPPC Directive in order that 15 out of the 58 facilities subject to the Directive can reach compliance. Latvia's environmental administrative capacity at a regional level needs strengthening and distribution of tasks requires improvement.

Today **Lithuania** enjoys a healthy economy with a high economic growth rate, but its unemployment rate remains high. The fate of Ignalina's two Soviet-style nuclear reactors has been a major pre-accession issue for Lithuania, and the EU has agreed to provide country specific aid for decommissioning of the plant. The European Commission has granted four transitional periods. Lithuania needs to focus its attention on finalising transposition in the waste, chemicals, IPPC and nature sectors. Lithuania must secure funding for construction of sufficient waste water collecting systems and treatment plants to comply with UWWT by 2009. The waste management sector remains problematic with progress towards establishment of regional waste management systems is slow. The municipalities which are responsible for implementation of waste management at the local level are currently under-sourced. Closure of Ignalina will mean increased dependence on large combustion plants for energy, and it will be necessary to manage the resulting sulphur emissions. To help with this, Lithuania has been granted a transition period regarding SO₂ and NO_x emissions for three of its power plants under the Large Combustion Plants Directive, since they will need upgrading.

The small island of **Malta** has negotiated seven transition periods with the European Commission, three of which are in the problematic water quality sector. Low annual rates of rainfall and the island's lack of rivers severely constrain water use and make alternative and expensive methods for water supply necessary such as desalination. Malta has transition periods for both the UWWT Directive and the Drinking Water Directive and these will require significant investment to develop the needed UWWT plants and collection systems, and to ensure that drinking water meets the required parameters. In the waste management sector, there is a need to build ecological landfills & ensure current incinerators meet EU standards. Malta has the highest number of cars per person in the world, and currently benzene pollution and emissions of toxic volatile organic compounds resulting from distribution of petrol are uncontrolled. Malta still needs to identify zones and agglomerations under the Air Framework Directive, and to set in place a network of measuring stations. In the nature protection, sector Malta needs to urgently develop a biodiversity strategy. Given its size, Malta's small bureaucracy is severely burdened with implementation of the EU environmental *acquis* and its administrative capacity, especially for inspection and permitting, needs improvement.

Poland is the largest of the current accession countries, which has a correspondingly large agricultural sector. Since the 1990s, Poland has undertaken significant reforms in its system of environmental management. A decline in industrial activity and heavy investment undertaken by post-communist governments via a well-developed system of regional environmental funds have led to significant improvements in the country's rich environment. Poland has negotiated 9 transition periods, and it

continues to struggle in its water and waste sectors. It needs to modernise, expand and construct sewage collection and treatment plants in order to comply with UWWT Directive by 2015. Development of at national and regional level waste management plans is proving difficult on account of insufficient co-ordination between levels of government. An estimated 100 landfills will need to be built before compliance with the Landfill Directive can be achieved by the transition date of 2012. In order that IPPC can be properly implemented regional and local staff need training on issuing integrated permits. Generally, Poland's regional and environmental authorities need strengthening, and it will be important for comprehensive investment strategies to be developed.

Following the hard work of the 1998 elected government, the **Slovak Republic** caught up to the accession countries joining in 2004. Slovakia's two non-upgradeable, Soviet-designed, nuclear power reactors have been a major pre-accession issue, with the result that reactors 1 and 2 of the Bohunice nuclear power plant will be closed by 2006 and 2008 respectively. The Slovak Republic has been granted 7 transition periods. Much effort is still required to transform the country's infrastructure to comply with the EU Drinking Water and UWWT Directives. With regard to waste management, management plans should be adopted urgently, and existing landfills need to be upgraded and new landfills constructed. As far as IPPC is concerned, the Slovak Republic still has to complete transposition of the Directive, and then introduce integrated permits and strengthen IPPC permitting capacity. The country's environmental administration system needs to be improved as it is currently too complex and fragmented between various ministries and bodies.

Slovenia is the wealthiest CEEC and also it has a relatively well preserved natural environment compared to other countries in transition on account of some environmental measures taken during the 1970s and 1980s. Slovenia was the first CEEC to establish an Ecological Fund financed by a special tax on environmental protection. Slovenia negotiated only three transition periods. One is until 2015 for implementation of the Urban Waste Water Treatment Directive to provide adequate collection and treatment of waste waters in the 135 agglomerations with p.e.> 2,000. In the waste sector, a five year transition period has been granted for the Packaging Waste Directive so that voluntary schemes for packaging waste can be developed, and economic incentives increased. Air quality has improved over the last 30 years, but air pollution caused by nitrogen oxides has been increasing due to traffic growth and transboundary emissions from Italy. A four year transition period has been granted so that 15 facilities can meet the requirements of the IPPC Directive.

Romania's fragile economy and restricted economy has not helped the process of approximation with the EU environmental legislation. Since the 1970s, heavy industrialisation has seriously threatened Romania's rich environment and has led to high levels of industrial air and water pollution in such cities as Baia Mare, Copsa Mica, Zlatna, and Onesti. Romania is still negotiating with the European Commission but as of 2002 had requested 11 transition periods, four in the water quality sector and 3 in the waste management sector. The Ministry of Waters and Environmental Protection (MWEP) has set the ambitious goal of completing transposition of all environmental *acquis* by the end of 2003, but there is concern that such effort will undermine Romania's already limited administrative capacity. In order that Romania's transposition efforts are fruitful, it will be equally important for Romania to develop long-term implementation plans and financing strategies for: Drinking Water, UWWT, Landfill, Waste Incineration and Packaging requirements. With regard to IPPC, integrated permitting came into force in January 2003, and then Romania has until 2015 to achieve compliance for all facilities. In the nature sector, a responsible institution to monitor nature and biodiversity still needs to be designated.

Following the 1996 economic and political crisis, the **Bulgarian** government has managed to maintain macro-economic stability, contain inflation, decrease government debt and sustain a 4% growth rate. Nuclear power has historically been important for Bulgaria and it has agreed to close units 1 and 2 of its soviet-built, non-upgradeable, nuclear power plant, Kozloduy at the end of 2002. Whilst Bulgaria has made significant progress to date with the alignment of its environmental laws with those of the EU, much work will need to be done before 2007. Bulgaria has some of the poorest regions among applicant countries and many industries still depend on old technologies. Currently,

Bulgaria has requested 11 transition periods. Bulgaria would be advised to complete detailed, directive-specific implementation plans and financing strategies to back up its requests for these transition periods.

Before 2007, attention will need to be paid to completion of transposition and implementation in the fields of waste management, environmental impact assessment, nature protection, IPPC, nuclear safety and radiation and chemicals. Bulgaria will also need to strengthen its environmental administrative capacity by appointing and training more staff in environmental administration.

A number of common problems emerge from the preceding review of each applicant country's pre-accession preparations in the environment sector, as well as corresponding options which the EU institutions could consider supporting. The challenges discussed in the final section of the report include:

1. Ensuring sufficient administrative capacity

The accession countries are expected to have in place, on the day of accession, all necessary administrative systems and technical knowledge to implement the EU mechanisms required for environmental protection. But almost all accession countries are experiencing problems and delays in such areas as integrated permitting, risk assessment of chemicals and GMOs, and designation of Special Protection Areas (SPAs) under the Habitats Directive. Some accession countries may need technical assistance for building further administrative capacity even after enlargement takes place. Steps to be considered include:

- Continue current programmes to provide technical assistance through twinning using Member State officials
- Maintain pressure on accession countries to budget sufficient resources to support qualified staff and technical equipment for implementing the environmental *acquis*

2. Financing of environmental infrastructure

The high cost of achieving compliance with the EU standards, especially for such municipal services as sewerage and wastewater treatment, and waste management, remains a challenge. EU financing is already playing a crucial role, and that role will increase in importance after accession. But the bulk of financing will still need to come from national sources. Nonetheless, the potential for proper public/private co-operation is high, and should be given priority in the planning of future investments in these sectors. Involving the private sector in the planning, financing and eventual operation of the infrastructure may offer significant economic gains, particularly in situations where local administrations lack resources and expertise. This option also carries risks, including higher prices for water services and possible loss of local expertise. But introduction of full payment for water or waste management services helps to create incentives for efficiency savings. Steps to be considered include:

- Encourage cooperation among the accession countries on specialised waste treatment facilities to keep treatment costs to levels manageable for local industries.
- Support setting in place the regulatory structures to attract private investment in water and waste management infrastructure, including full cost pricing.

3. Management of pre-accession assistance

Most of the CEE accession countries continue to experience problems with respect to the EU assistance programmes, including difficulties in meeting the demanding technical requirements. Poor administrative structures and inadequate staffing contribute to limited capacity for absorption of EU funds and low quality of project preparation. Among the many challenges posed by the major EU environmental investment programmes is how to use the EU assistance wisely with respect to the environment, and with due fiscal accountability. All of the accession countries need to establish effective monitoring and auditing systems for quality control for cohesion and structural funds.

The EU can take a number of steps:

- Ensure professional quality and neutral standing of experts on environmental impact assessment.
- Monitor to ensure that public procurement rules provide equal access to the market.
- Revise ISPA financing rules to enable design of smaller-scale waste management and wastewater treatment projects, where possible, to keep the financial burden affordable for local citizens.

4. Challenge of balancing nature conservation and infrastructure development

It is a serious problem that many EU-funded projects have detrimental effects on biodiversity – from the encouragement for intensive agriculture being given under SAPARD to much of the ISPA-financed transportation infrastructure, even though one half of ISPA money is dedicated to improving the environment.

- The process of identifying areas to be protected needs to be accelerated, to identify relevant areas before expectations of increased land value will make it more difficult (or expensive) to ensure the protective status. Accelerated implementation is also needed because regulations covering the ISPA and PHARE financial instruments require examination of infrastructure projects in relation to sites of nature conservation importance, e.g. potential future Natura 2000 sites.

5. Sectoral integration

The accession countries still have good opportunities to pursue a higher degree of sustainability in their economic development. Support for public transport (urban and railways) -- well developed in socialist times – should be sustained in order to counter the use of personal cars. New strategies in the energy sector are needed to promote renewable energy sources, while reexamining the future of the coal industry and coal-based power generation. The tool of strategic environmental assessment (SEA) should be applied to assess National Development Plans, agricultural projects, etc., for any potential negative environmental impacts. For example, organic farming could be an option of an integrated strategy along with a scheme of assisting and recognizing the environmental stewardship role of some farmers.

6. Looking to future EU requirements

In their focus on compliance with existing EU requirements, it has been difficult to get the accession countries to look ahead to future legislation. For example, until adoption of the new LCP Directive, a number of accession countries thought they would have no compliance problems because all of their large combustion plants were pre-1986. They have now had to negotiate transition periods for meeting these new, more stringent requirements. The failure to look to the future has at times raised concern that the pending Member States may not have an equivalent commitment to ensure a high level of environmental protection, and could form a blocking minority that might resist measures to firm up future EU requirements.

The accession countries would be prudent to take into account even now the possibility of even more stringent targets in the future, while the EU institutions need to be on guard against allowing the accession countries to think that standards no longer count. It will be important in the months and years to come to monitor post-accession implementation and to hold the accession countries to their promises of full implementation within the transition periods agreed. It will also be important to make sure that whenever costs of implementation are discussed, the benefits of enlargement to the pending Member States as well as the existing Member States are taken into account.

Zusammenfassung

Am 1. Mai 2004 werden zehn neue Mitgliedstaaten (Estland, Lettland, Litauen, Malta, Polen, Slowakei, Slowenien, Tschechische Republik, Ungarn, Zypern) der Europäischen Union beitreten. Des Weiteren sind der Beitritt von Bulgarien und Rumänien, sowie die Aufnahme von Beitrittsverhandlungen mit der Türkei für 2007 geplant. In der vorliegenden Studie werden die Auswirkungen der Erweiterung 2004 auf die Umwelt Europas betrachtet.

Die Beitrittsländer liegen bei der Angleichung ihrer Verwaltungsvorschriften an die Umweltvorschriften der EU gut im Zeitplan. Jedoch erweist sich die praktische Umsetzung als eine Herausforderung ganz anderer Art. Die Bewerberländer müssen bis zu ihrem Beitritt alle Umweltvorschriften in Bezug auf den Binnenmarkt, einschließlich aller Rahmenrichtlinien, (z. B. Luftqualität, Abfall- und Sonderabfall, Strahlenschutz, Naturschutz, Zugang zu Informationen sowie die Anforderungen der Umweltverträglichkeitsprüfung) erfüllen.

Anträgen auf Übergangszeiten nach dem Beitritt wurde in den Bereichen stattgegeben, in denen die Länder nicht in der Lage sein werden, die EU-Anforderungen bis zum Tag ihres Beitritts zu erfüllen. Dies betrifft z. B. Umweltverpflichtungen, wie die kommunale Abwasserbehandlung und Großfeuerungsanlagen, die hohe Investitionen erfordern.

Sektor/Richtlinie	Bei der vorläufigen Schließung des Umweltkapitels vereinbarte Übergangszeiten ¹									
	CY	CZ	EE	HU	LT	LV	MT	PL	SK	SLO
Wasser										
- kommunale Abwasserbehandlung	2012	2010	2010	2015	2009	2015	2007	2015	2015	2015
- Trinkwasser			2013			2015	2005			
- gefährliche Stoffe							2007	2007	2006	
Abfall										
- Deponie			2009 ²			2004		2012		
- Verpackungen	2005	2005		2005	2006	2007	2009	2007	2007	2007
- Verbrennung von Sonderabfall/ Siedlungsabfällen (alt)				2005					2006	
- Verbringung von Abfällen								2012		
Luftqualität										
- VOC, Stufe I			2006		2007	2008	2004	2005	2007	
- Schwefelgehalt in Brennstoff	2004							2006		
Industrieabgase										
- Großfeuerungsanlagen	SP ³	2007	2015	2004	2015		2005		2010	
- IVU						2010		2010	2011	2011
Natur										
- Wildvögel							2008			
Chemikalien										
-Asbest						2004				
Strahlenschutz										
- Strahlenbelastung durch die Medizin						2005		2006		

¹ Die Übergangszeiten dauern im Allgemeinen bis zum Ende des beantragten Jahres. Wenn der vereinbarte Termin 2012 ist, kann die Umsetzung bis Dezember 2012 vollendet werden.

² Nur ölhaltiger Schiefer (Sonderabfall).

³ Zypern wurde eine spezielle Emissionshöhe (1700 mg/Nm³) für Schwefeldioxidemissionen aus Heizkesseln der Großfeuerungsanlagen in Dhekelia und Vasilikos gewährt. Diese Ausnahmeregelung ist durch den Artikel 4 Absatz 3 und Teil A des Anhangs IV der Großfeuerungsanlagenrichtlinie bestimmt.

Die Anträge auf Übergangszeiten werden dem Beitrittsvertrag beigelegt und bis zum Beitritt genau überwacht. Die Bewerberländer haben zugesichert, die Richtlinien ohne bewilligte Übergangszeiten bis zum Beitrittstermin vollständig zu übernehmen.

Unter den im Rahmen der Erweiterung zu lösenden Probleme gilt die Umsetzung der EU-Anforderungen bezüglich der **Wasserqualität** als besonders schwierig und kostenintensiv. Mit Durchschnittskosten von 235 EUR pro Kopf wird die Richtlinie über die Behandlung von kommunalem Abwasser am teuersten zu realisieren sein. Die Richtlinie bringt eine Vielzahl weiterer Notwendigkeiten in anderen Sektoren mit sich, wie z. B. die sichere Entsorgung der erhöhten Schlammengen, die aus der umfangreichen Abwasserbehandlung resultieren. Weitere Rechtsakte, die mit Wasser in Verbindung stehen, sind die neu angenommene Wasserrahmenrichtlinie, die Trinkwasser-Richtlinie, die Nitrat-Richtlinie und die Richtlinien über die Entsorgung verschiedener gefährlicher Stoffe.

Die Bewerberländer haben für die Umsetzung der in den letzten Jahren angenommenen Vorschriften bezüglich der **Luftqualität** ebenso viel Zeit wie die Mitgliedstaaten. Dennoch bleibt die ordnungsgemäße Überwachung der Luftqualität, die für die Suche nach kostengünstigen Strategien zur Verbesserung der Luftqualität unerlässlich ist, problematisch. Zudem erhöht die Nutzung von Festbrennstoffen (Kohle, Braunkohle) zur Energieerzeugung und für den Hausbrand die Luftverschmutzung in einigen Ländern erheblich. Die jüngste Richtlinie für Großfeuerungsanlagen verlangt die Einhaltung strengerer Emissionsnormen durch bestehende Anlagen bis 2008, während die meisten älteren Kraftwerke in den mittel- und osteuropäischen Ländern auf jeden Fall ersetzt werden müssen. Dies erfordert erhebliche Investitionen, die jedoch zur Wirtschaftsleistung der Länder beitragen werden.

In den mittel- und osteuropäischen Beitrittsländern gibt es nicht genügend Anlagen zur **Abfallentsorgung**, mit denen die vorhandenen Abfallströme fachgemäß behandelt und entsorgt werden können. In einigen Ländern besteht Mangel an Sammelsystemen, der illegale Handel mit Müll jeglicher Art ist weit verbreitet, und Sondermüll wird häufig mit gewöhnlichem Müll auf unzureichend geschützten Deponien entsorgt. Die Rahmenrichtlinien für Abfall und Sonderabfall erfordern die systematische und umweltgerechte Sammlung und Entsorgung und müssen daher sofort nach dem Beitritt vollständig angewandt werden. Die meisten mittel- und osteuropäischen Länder planen größere Investitionen für die Anlage geordneter Deponien, während die Investitionspläne für Müllverbrennungsanlagen oder Anlagen zur Entsorgung von Sondermüll weniger weit vorangeschritten sind.

Die größte Herausforderung im Bereich der **industriellen Umweltverschmutzung** wird die Einhaltung des Termins für die Umsetzung der Anforderungen der IVU-Richtlinie im Jahr 2007 sein. Dies trifft vor allem auf Betriebe zu, deren technische Ausstattung veraltet ist und die mit einer schwachen Finanzgrundlage zu kämpfen haben. In vielen Branchen laufen bereits technische Umstrukturierungen, um die Wettbewerbsfähigkeit auf einem liberalisierten Markt sichern zu können. Diese sollten mit Maßnahmen zur Verbesserung der Umweltverträglichkeit verbunden und dementsprechend finanziert werden. In manchen Fällen jedoch scheint eine Schließung trotz sozialer Überlegungen, wie die Auswirkungen auf den lokalen Arbeitsmarkt, kostengünstiger.

Im **Nuklearbereich** führte das Fehlen von EU-Vorschriften zur Sicherheit von Kernkraftanlagen dazu, dass das Problem unsicherer Atomreaktoren außerhalb des traditionellen Annäherungsprozesses geblieben ist. In der Agenda 2000 ist eine Reihe von Maßnahmen zur Gewährleistung der Sicherheit unsicherer Reaktoren festgelegt, einschließlich der baldigen Stilllegung von acht nicht modernisierbaren Atomreaktoren (d. h. Bohunice 1 und 2 in der Slowakei, Ignalina 1 und 2 in Litauen und Kozloduy 1 bis 4 in Bulgarien). Ferner enthält sie Modernisierungsprogramme für das Aufrüsten anderer Kernkraftwerke sowjetischer Bauart auf internationale Sicherheitsstandards. Ein Schlüssel zur Lösung des Problems, wie die unsicheren Atomreaktoren ersetzt werden können, ist die Einführung alternativer Energieversorgungslösungen auf Kostendeckungsbasis. Als Unterstützung für das Ersatz der vom Kernkraftwerk Ignalina erzeugten Strom hat die EU für Litauen für den Zeitraum 2004-2006 Mittel in Höhe von 70 Mio. EUR jährlich gebunden, zudem sagte sie ihre Hilfe auch bei der Stilllegung des Werkes nach 2006 zu. Ähnliche Unterstützung erhält die Slowakei für die Stilllegung des Kernkraftwerks in Bohunice.

Mit Ausnahme der Malta gewährten Übergangszeit bis 2008 bei der Umsetzung der Vogelschutzrichtlinie wurden für die Umsetzung der Vorschriften im **Naturschutz**-Bereich keine weiteren Übergangszeiten eingeräumt. Die zwei wichtigsten Vorschriften in diesem Bereich, die Vogelschutz- und die Habitat-Richtlinie, werden keine Investitionen größeren Umfangs erfordern. Jedoch werden die Maßnahmen zur Umsetzung der Anforderungen die Behörden administrativ und finanziell gerade zu einer Zeit belasten, da die Nachfrage nach öffentlichen Geldern für Investitionen in anderen Bereichen besonders groß ist.

Unter den **horizontalen** Anforderungen bleibt die Umsetzung der UVP-Richtlinie auch weiterhin eine Herausforderung. Sie ist besonders für die mittel- und osteuropäischen Beitrittsländer wichtig, da ohne die Umweltverträglichkeitsprüfung mit öffentlicher Beteiligung keine Anträge auf finanzielle Beteiligung der EU an geplanten Infrastrukturprojekten gestellt werden können. Die Erfüllung der EU-Anforderungen an den Zugang zu Umweltinformationen und die bevorstehende Annahme der Anforderungen an den Zugang zu den Gerichten werden verschiedene Reformen mit sich bringen, einschließlich einer veränderten Haltung der Behörden gegenüber der Verbreitung von Informationen über die Umwelt.

Was die **regionale und internationale Umweltzusammenarbeit** angeht, so werden aufgrund der Verlagerung der EU-Grenzen durch die Erweiterung mehrere regionale Abkommen quasi zu EU-Vereinbarungen. So wird Russland nach der Erweiterung in 2004 die einzige Partei des Übereinkommens über den Schutz der Meeresumwelt des Ostseegebiets (Helsinki-Übereinkommen) sein, die kein EU-Mitgliedstaat ist. Ein besonders wichtiges internationales Übereinkommen ist das Rahmenübereinkommen der Vereinten Nationen über Klimaänderungen und das Kyoto-Protokoll von 1997. Laut dessen Anhang I müssen die Vertragsparteien in einem bestimmten Zeitraum die Emissionen bestimmter Treibhausgase um einen bestimmten Prozentsatz verringern. Die Beitrittsländer haben den Reduzierungszielen für die erste Verpflichtungsperiode (2008-2012) zugestimmt. Dadurch benötigen sie verwaltungstechnische und praktische Instrumente zur genauen Messung der Treibhausgasemissionen sowie für die Meldung der Treibhausgasemissionen in Abhängigkeit von den Erfordernissen und für die Entwicklung ihrer Politik im Zusammenhang mit der Klimaänderung und deren Umsetzung.

Hinsichtlich der Finanzierung ist festzustellen, dass auf die Beitrittsländer bei der Modernisierung ihrer Infrastrukturanlagen im Bereich des Umweltschutzes hohe Kosten zukommen, da sie ansonsten die investitionsintensiven Richtlinien nicht erfüllen können. Allgemein werden für die gesamten Investitionen in den Beitrittsländern 80-100Mrd. EUR veranschlagt. Um die notwendigen Investitionen innerhalb der vorgegebenen Zeitpläne, die während der Beitrittsverhandlungen vereinbart wurden, zu finanzieren, werden die Beitrittsländer in den nächsten Jahren schätzungsweise 2-3% des BIP aufwenden müssen.

Die Abschätzungen der Kosten der erforderlichen Investitionen schwanken zwar noch weitgehend, als realistisch können sie jedoch angesehen werden. Aus einem Vergleich der Pro-Kopf-Investitionskosten der Mitgliedstaaten für die Umsetzung der Richtlinie über die Behandlung von kommunalem Abwasser mit kürzlich von den Beitrittsländern vorgelegten Informationen geht Folgendes hervor:

Die von den Ländern vorgelegten Kostenschätzungen, die auf richtlinienspezifischen Plänen basieren, fallen höher als vorherige internationale Analysen aus.

Die Abschätzungen der nationalen Kosten stimmen (auf Pro-Kopf-Basis) mit denen für die vier Kohäsionsländer in der EU weitestgehend überein, sind jedoch bedeutend geringer sind als die Schätzungen für viele der anderen Mitgliedstaaten.

Die Abschätzungen der nationalen Kosten für Estland, Slowakei, die Tschechische Republik und Polen stimmen mit den mit den Kosten vergleichbarer Mitgliedstaaten überein (auf Pro-Kopf-Basis).

Der für die Einhaltung der Vorschriften geleistete Aufwand muss im Zusammenhang mit dem langfristigen Nutzen gesehen werden, der den Beitrittsländern aus der Einhaltung der Umweltvorschriften erwächst, z. B. die Verringerung der Umweltbelastungen durch verminderte Schadstoffemissionen und -ablagerungen. Für den Zeitraum ab 2010 wird der Gesamtnutzen aus der Einhaltung der EU-Richtlinien in den Bereichen Luft, Wasser, Abfallwirtschaft und Naturschutz auf 12 bis 69 Mrd. EUR pro Jahr geschätzt. Das entspricht jährlich 80 bis 410 EUR pro Kopf, wobei der größte Nutzen im Falle der Umsetzung der Anforderungen an sämtliche Sektoren erzielt wird.

Obwohl die Beitrittsländer beachtliche Hilfe auch von anderen Quellen beziehen, darunter bilateralen Gebern und verschiedenen internationalen Finanzinstitutionen, leistet die EU mit insgesamt 2,5 Mrd. EUR pro Jahr derzeit die größte Unterstützung für die mittel- und osteuropäischen Beitrittsländer. Zudem wurden spezielle Unterstützungspakete für Zypern und Malta entwickelt.

Die EU-Hilfe zur Heranführung der mittel- und osteuropäischen Beitrittsländer besteht aus drei Finanzinstrumenten: Phare, SAPARD und SIVB. Das **Phare**-Programm ist mit einem jährlichen Budget von 1,56 Mrd. EUR für den Zeitraum 2000-2006 das größte der Heranführungsprogramme für die mittel- und osteuropäischen Beitrittsländer. Unterstützung wird in Form technischer Hilfe (30%) und in Form von Hilfe die wirtschaftliche Entwicklung in den verarmten Regionen der Beitrittsländer (70%) geleistet. Die letztgenannte Form der Unterstützung wird nach dem Beitritt in die Strukturfonds übergehen.

Das spezielle Heranführungsinstrument für die Landwirtschaft und Entwicklung des ländlichen Raums (**SAPARD**) verfügt für den Zeitraum 2000-2006 über Mittel von 0,52 Mrd. EUR jährlich. Die Hilfe im Rahmen von SAPARD ist auf die Lösung von Problemen der Strukturanpassung in den landwirtschaftlichen Sektoren und im ländlichen Raum ausgerichtet. Das Programm kann theoretisch für die Finanzierung von Umweltmaßnahmen für ländliche Gemeinden genutzt werden, wird aber in der Praxis nur selten dafür genutzt.

Beim Strukturpolitischen Instrument zur Vorbereitung auf den Beitritt (**SIVB**) erfolgt eine Aufteilung der jährlich zur Verfügung stehenden Mittel von 1,04 Mrd. EUR auf wichtige Projekte für die Umwelt- (50%) und die Transportinfrastruktur (50%). Das SIVB wird als Vorgänger des Kohäsionsfonds angesehen, der nach dem Beitritt zum Einsatz kommt. Die Mittel des SIVB werden je nach Bevölkerungsgröße, Pro-Kopf-BIP und Größe des Landes unter den Ländern aufgeteilt. Viele Bewerberländer hatten anfangs Schwierigkeiten, die SIVB-Zuschüsse für Umweltschutzvorhaben zu erhalten, da ihnen ein Gesamtplan sowie technische Voraussetzungen fehlten, um die SIVB-Finanzierung beanspruchen zu können. Des Weiteren ist es vielen der beitriftswilligen Länder zwar gelungen, bei der EU die Mittelbindung des ihnen im Rahmen des SIVB zugewiesenen Betrags durchzusetzen, doch kam es dann bei der eigentlichen Auszahlung der Mittel zu zusätzlichen Verzögerungen.

Damit die Bewerberländer sich auf die Übernahme der vollen Verantwortung für die Verwaltung der Gemeinschaftsunterstützung nach dem Beitritt vorbereiten konnten, unterstützte die Europäische Kommission sie beim Übergang zur dezentralisierten Abwicklung. Im Rahmen des Erweiterten Dezentralen Abwicklungssystems (EDIS) wird die gesamte Verantwortung für die Verwaltung der EU-Mittel auf die Ausführende Stelle eines beitriftswilligen Landes übertragen, sobald dort die notwendigen Abrechnungssysteme eingesetzt sind und sie von der Kommission „zugelassen“ wurden. Das EDIS muss bis zum Zeitpunkt des Beitritts eingeführt sein, doch geht der Prozess nur langsam voran. Im regelmäßigen Bericht vom Oktober 2002 wurde auf das Weiterbestehen verschiedener Probleme bei der Entgegennahme von Mitteln der EU hingewiesen, einschließlich mangelhafter interministerieller Zusammenarbeit, Verzögerungen bei der Festlegung von Aufgaben und ihrer Aufteilung auf die Gremien, die künftig für das Verwalten von Programmen zuständig sein werden, sowie mangelhaft entwickelter Verwaltungs- und Haushaltsverfahren.

Die EU hat während des gesamten Beitrittsprozesses betont, dass mindestens 90% der Kosten für die notwendigen Investitionen im Umweltschutzbereich von den Staaten selbst getragen werden müssen und diese finanzielle Last jährlich 2-3% des BIP betragen kann. Eine Überprüfung des BIP, das für den Umweltschutz aufgewendet wird, zeigt jedoch, dass viele der Länder nah an diesen empfohlenen Prozentsatz herankommen. Es ist aber noch nicht klar, wie die Bewerberländer genügend eigene Quellen finden werden, um die notwendigen Umweltinvestitionen bis zum Ende der vereinbarten Übergangszeiten zu beenden.

Auch nach dem Beitritt werden die neuen Mitgliedstaaten finanzielle Lücken füllen müssen. Gemäß der Entscheidung des Rates von Kopenhagen im Dezember 2002 wird jedoch das Hilfspaket der EU um ein Dreifaches steigen. So wurde dem Struktur- und dem Kohäsionsfonds der Betrag von 21,7 Mrd. EUR für den Zeitraum 2004-2006 zugeteilt, wobei ein Drittel der Unterstützung an den Kohäsionsfonds geht. Wie im Falle des SIVB können nach dem Beitritt 50% der Mittel aus dem Kohäsionsfonds für Umweltinvestitionen eingesetzt werden. Aufgrund der Neufestsetzung der Bulgarien und Rumänien zugewiesenen Anteile der SIVB-Unterstützung werden die Bewerberländer dann einen höheren Anteil als mit dem SIVB erhalten. Dennoch bleibt die Frage, ob die Bewerberländer diese erweiterte Unterstützung aufnehmen und nutzen können.

In Abschnitt 4 des Berichts findet der Leser unsere Zusammenfassungen zum Zustand der Umwelt in den zehn Beitrittsländern sowie einen Überblick über Rumänien und Bulgarien, deren Beitritt für 2007 geplant ist.

Die kleine Insel **Zypern** im südöstlichen Mittelmeer sieht sich Umweltproblemen gegenüber, die sich von denen der mittel- und osteuropäischen Bewerberländer sehr unterscheiden. Die Umweltsituation der Insel ist infolge des 29 Jahre andauernden Konfliktes und der Teilung der Insel zwischen den griechischen Zypern im Süden und den türkischen Zypern im Norden in Mitleidenschaft gezogen worden. Zypern hat seit den 70er Jahren eine rasante Wirtschaftsentwicklung durchlebt, durch die die natürliche Umwelt des Landes, insbesondere an der Küste, stark belastet wird. Eine weitere Belastung der Umwelt ist der für das Land wichtige Tourismus. Zypern hat drei Übergangszeiten bewilligt bekommen, eine für die Wasserqualität, eine für die Abfallwirtschaft und eine für die Luftqualität. Zudem hat Zypern spezielle Maßnahmen in Bezug auf die Richtlinie für Großfeuerungsanlagen ausgehandelt. Einige der drängendsten Umweltprobleme in Zypern liegen in den Bereichen Wasser und Abfallwirtschaft. Wasser ist in Zypern eine knappe Ressource, da das Land häufig von Dürre betroffen ist. Um die vorhandenen Wasserreserven möglichst optimal zu nutzen, hat der Staat dafür gesorgt, dass das Fassungsvermögen von Stauseen und Sammelbecken erhöht und Anlagen zur Mehrwasserentsalzung gebaut wurden. Dennoch fehlt es Zypern noch erheblich an Anlagen zur Abwasserbehandlung. Gerade einmal 11% der Bevölkerung auf dem Land und nur 45% der Städter sind an das Abwassersystem angeschlossen. Zypern muss bis 2012 die Richtlinie über die Behandlung von kommunalem Abwasser umgesetzt haben. Grund für die Probleme im Bereich der Abfallwirtschaft sind die Verzögerungen bei der Annahme eines umfassenden Gesetzentwurfs zur Abfallwirtschaft. Zypern entsorgt den Großteil seines Mülls auf Deponien und muss seine drei bestehenden städtischen Deponien sanieren sowie vier neue Deponien bauen.

Die **Tschechische Republik** wird auch das „Dach Europas“ genannt, da alle Flüsse, die in diesem Land entspringen, in Nachbarländer abfließen. Die groß angelegten Strukturanpassungsmaßnahmen, die in den 90er Jahren während des wirtschaftlichen Übergangsprozesses notwendig waren, ließen die Armut im Land zunächst ansteigen, doch wird der tschechischen Wirtschaft heute ein gesunder Zustand attestiert. Die verbliebenen Atomkraftwerke sowjetischer Bauart wurden für die Tschechische Republik zum wichtigsten Thema vor dem EU-Beitritt, da die vorgeschlagenen Modernisierungen der Kraftwerke Temlin und Dukovany auf heftigen Widerstand in den Nachbarländern stießen. Die Europäische Kommission hat der Tschechischen Republik drei Übergangszeiten bewilligt: für den Wassersektor, die Abfallwirtschaft und für Großfeuerungsanlagen. Die Tschechische Republik muss bis 2010 die Richtlinie über die Behandlung von kommunalem Abwasser umgesetzt haben. Hierfür sind neue Sammelsysteme und Behandlungsanlagen erforderlich.

Des Weiteren ist die Verbesserung des derzeitig fragmentierten Überwachungssystems zur Wasserqualität von großer Bedeutung. Was die Abfallentsorgung angeht, so muss die Tschechische Republik dringend ihren Nationalen Abfallbewirtschaftungsplan annehmen. Die Tschechische Republik hat es jedoch geschickt verstanden, Anreize für den privaten Sektor zu schaffen, um Investitionen im Bereich der Behandlung und Entsorgung von Abfällen zu tätigen. Am 1. Januar 2003 trat das Gesetz zur integrierten Vermeidung und Verminderung von Umweltverschmutzung (IVU) in Kraft. Zudem wurde mit der Einrichtung einer IVU-Behörde ein großer Schritt nach vorn getan, so dass nur noch die Aufgabe des fristgemäßen Ausstellens von Genehmigungen verbleibt. Außerdem ist eine dringende Verbesserung des Umweltverwaltungssystems erforderlich, das zurzeit nicht in der Lage ist, die Pflichten zwischen den Behörden aufzuteilen.

Estland ist der kleinste der baltischen Staaten. Das BIP des Landes ist seit 1999 beständig angestiegen, doch bestehen regionale Abweichungen. Besonders an der Küste im Norden Estlands finden sich einige der weltgrößten nutzbaren Ölschieferlagerstätten, aus denen Estland rund 93% seines Stroms produziert. Die Nutzung von Ölschiefer zur Energieerzeugung setzt nicht nur schädliche Emissionen frei, sondern trägt auch 94-98% der gefährlichen Abfälle in Estland bei. Viele der Umweltprobleme in Estland sind auf die Energiegewinnung aus Ölschiefer zurückzuführen. Somit besteht zum Beispiel eine der wichtigsten Aufgaben im Abfallsektor in der endgültigen Entsorgung von Asche und Steinkohlenschwelkoks, die derzeit auf Industriedeponien entsorgt werden und so in das Grundwasser gelangen. Um die Deponie-Richtlinie insbesondere hinsichtlich der Anforderungen für gefährliche Abfälle umzusetzen, wurde Estland eine Übergangszeit bis 2009 zugestanden. Des Weiteren wurde für Großfeuerungsanlagen eine Übergangszeit bis 2015 eingeräumt, während derer die Ölschiefer-Feuerungsanlagen so umgebaut werden können, dass sie die Anforderungen hinsichtlich Schwefelabscheidegrad und Emissionsgrenzwerte für Staub vollständig erfüllen. In Estland bestehen auch Schwierigkeiten im Wassersektor, insbesondere in Hinblick auf das Trinkwasser und die Behandlung von kommunalem Abwasser. Dem Land wurde bis 2013 Zeit gegeben, das Trinkwasserversorgungssystem, das alt ist und bei dem die Rohre aus Eisen bestehen, zu verbessern. Um mit den Verwaltungsaufgaben zu Recht zu kommen, werden in der Rechtsabteilung des Umweltministeriums und in den städtischen Behörden weitere Mitarbeiter benötigt.

Ungarn hat eine stabile Wirtschaft mit einer Wachstumsrate von 2,9%, einer relativ geringen Arbeitslosenzahl und der seit zehn Jahren niedrigsten Inflationsrate. Die Europäische Kommission hat Ungarn vier Übergangszeiten bewilligt, wovon zwei im Bereich der Abfallwirtschaft liegen. So muss Ungarn bis 2005 die Richtlinien über Verpackungsabfall und Abfallverbrennung umsetzen. Aufgrund der Zeit, die bis zur Annahme des Nationalen Abfallbewirtschaftungsplans verging, kam die Entwicklung in diesem Bereich nur langsam voran. Daher ist die schnelle Erarbeitung von regionalen und lokalen Abfallbewirtschaftungsplänen nun besonders wichtig. Zur Umsetzung der Deponie-Richtlinie werden finanzielle Mittel in beträchtlicher Höhe erforderlich sein, da zurzeit gerade einmal 10% der Deponien den EU-Standards entsprechen. Die Umsetzung der IVU-Richtlinie wird auch höhere Anforderungen an die Umweltverwaltung des Landes stellen, da das bestehende und schwierige Zulassungssystem konsolidiert werden muss. Die Umweltverwaltung muss generell ausgebaut werden, wobei eine klarere Abgrenzung der Zuständigkeiten zwischen den fünf beteiligten Ministerien erforderlich ist.

Der baltische Staat **Lettland** hat die russische Wirtschaftskrise von 1999 gut überstanden und besitzt heute eine funktionsfähige Marktwirtschaft mit einem kräftigen BIP-Wachstum, einer mäßigen Inflation und einem geringen Haushaltsdefizit. Lettland wurden acht Übergangszeiten zugestanden, womit es über dem Durchschnitt liegt; jeweils zwei für die Wasserqualität und die Abfallwirtschaft, und jeweils eine für die Richtlinien über Emissionen flüchtiger organischer Verbindungen bei der Lagerung und Verteilung von Benzin, Stufe 1, über die IVU, die Gefährdung durch Asbest und die Gefahren ionisierender Strahlung bei medizinischer Exposition. Im Bereich der Sicherung der Wasserqualität muss Lettland für die Finanzierung der Umsetzung der Richtlinie über die Behandlung von kommunalem Abwasser und des beträchtlichen Aufwands zur Erneuerung und Erweiterung des bestehenden Trinkwasserversorgungssystems sorgen. Aufgrund der Abwassereinleitungen in die eutrophiegefährdete Ostsee ist eine noch strengere Behandlung (Entfernung von Stickstoff und

Phosphat) des gesamten gesammelten Abwassers in den Ballungsgebieten mit einem Einwohnergleichwert von über 10 000 erforderlich. In der Abfallwirtschaft müssen die Finanzierung der Schließung alter und die Einrichtung neuer Deponien gesichert werden, da keine der bestehenden 252 Deponien den EU-Standards entsprechen. Die Umsetzung der Richtlinie zur Begrenzung von Emissionen flüchtiger organischer Verbindungen bei der Lagerung und Verteilung von Benzin, Stufe 1, bleibt weiterhin eine wichtige Aufgabe, insbesondere für kleinere Ölterminals und Tankstellen, die nun bis Ende 2008 die technischen Anforderungen der EU erfüllen müssen. Für die IVU-Richtlinie wurde eine Übergangszeit bis 2010 bewilligt, damit 15 der 58 Anlagen, die der Richtlinie unterliegen, angepasst werden können. Die Umweltverwaltung in Lettland muss auf regionaler Ebene gestärkt werden, und die Aufgabenverteilung ist zu verbessern.

Litauen verfügt heute über eine gesunde Wirtschaft mit einer hohen Wachstumsrate der Wirtschaft, jedoch ist die Arbeitslosigkeit weiterhin hoch. Das Schicksal der zwei Atomreaktoren sowjetischer Bauart in Ignalina wurde für Litauen im Zeitraum vor dem Beitritt zu einem wichtigen Thema. Die EU hat zugestimmt, dem Land eine spezifische Hilfe für die Stilllegung des Kraftwerks bereitzustellen. Die Europäische Kommission hat Litauen vier Übergangszeiten eingeräumt. Litauen muss seine Aufmerksamkeit auf die endgültige Umsetzung in den Bereichen Abfallwirtschaft, Chemikalien, IVU und Natur konzentrieren. Um die Richtlinie über die Behandlung von kommunalem Abwasser bis 2009 umzusetzen, muss Litauen die Finanzierung des Baus einer ausreichenden Zahl von Abwassersammelsystemen und Behandlungsanlagen sichern. Die Situation in der Abfallwirtschaft ist weiterhin problematisch, da auch bei der Schaffung von regionalen Abfallbewirtschaftungs-Systemen kaum Fortschritte gemacht werden. Den Stadtverwaltungen, die auf regionaler Ebene für die Abfallwirtschaft zuständig sind, fehlen derzeit die erforderlichen Ressourcen. Die Stilllegung des Kraftwerks in Ignalina wird zu einer erhöhten Abhängigkeit von Großfeuerungsanlagen führen, was die Notwendigkeit der Begrenzung der Schwefelemissionen nach sich zieht. In Bezug auf SO₂- und NO_x-Emissionen wurde Litauen daher gemäß der Großfeuerungsanlagenrichtlinie eine Übergangszeit für drei seiner Kraftwerke bewilligt, damit diese modernisiert werden können.

Malta, kleiner Inselstaat, hat mit der Europäischen Kommission sieben Übergangszeiten ausgehandelt, wobei drei davon im Problembereich der Wasserqualität liegen. Die niedrige Regenrate und der Mangel an Flüssen auf der Insel schränken den Wasserverbrauch erheblich ein. Alternative und teure Methoden der Wasserversorgung, wie zum Beispiel Meerwasserentsalzung sind daher unerlässlich. Malta besitzt Übergangszeiten für die Richtlinie über die Behandlung von kommunalem Abwasser und die Trinkwasser-Richtlinie. Erhebliche Investitionen werden notwendig sein, um die erforderlichen Anlagen für die Behandlung von kommunalem Abwasser und die entsprechenden Sammelsysteme schaffen sowie dafür sorgen zu können, dass das Trinkwasser den geforderten Parametern entspricht. Im Bereich der Abfallwirtschaft müssen ökologische Deponien gebaut werden, die bestehenden Müllverbrennungsanlagen müssen die EU-Standards erfüllen. Malta besitzt weltweit die höchste Anzahl an PKW pro Person, doch besteht derzeit keinerlei System zur Einschränkung der Benzolver Verschmutzung und der Emissionen der mit toxischen Wirkungen verbundenen flüchtigen organischen Verbindungen aus dem Vertrieb von Benzin. Das Erfordernis, Flächen und Ballungsgebiete gemäß der Rahmenrichtlinie zur Luftqualität zu bestimmen und ein Netz von Messstationen einzurichten, muss Malta noch erfüllen. In Bezug auf den Naturschutz muss Malta dringend eine Strategie für den Artenschutz entwickeln. Der kleine Verwaltungsapparat Maltas ist durch die Umsetzung der Besitzstandes der EU im Umweltbereich stark belastet. Die administrative Leistungsfähigkeit, insbesondere für Inspektionen und Genehmigungen, erfordert eine Verbesserung.

Polen ist das flächenmäßig größte der derzeitigen Bewerberländer, mit einem entsprechend großen Landwirtschaftssektor. Polen hat seit den 90er Jahren erhebliche Reformen im Umweltbereich durchgeführt. Der Rückgang der Industrieproduktion und die großen Investitionen, die die Regierungen in der Zeit nach dem Kommunismus mit Hilfe eines gut entwickelten Systems regionaler Umweltfonds getätigt haben, führten zu einer erheblichen Verbesserung des Zustands der reichen Umwelt dieses Landes geführt. Polen hat neun Übergangszeiten ausgehandelt und steht im Bereich Wasser und Abfall weiterhin vor großen Aufgaben.

Um bis 2015 die Richtlinie über Behandlung von kommunalem Abwasser übernehmen zu können, müssen Abwassersammel- und -behandlungsanlagen modernisiert, erweitert bzw. neu gebaut werden. Die Ausarbeitung von Plänen zur Abfallwirtschaft auf nationaler und regionaler Ebene erweist sich aufgrund unzureichender Zusammenarbeit zwischen den Regierungsebenen als äußerst schwierig. Bis zur völligen Einhaltung der Deponie-Richtlinie am Ende des Übergangszeitraums 2012 müssen voraussichtlich 100 Deponien gebaut werden. Damit die IVU ordnungsgemäß umgesetzt wird, müssen die regionalen und lokalen Mitarbeiter auf dem Gebiet der Ausstellung von integrierten Genehmigungen ausgebildet werden. Die regionalen Behörden und die Umweltbehörden in Polen sind generell zu stärken. Zudem wird es wichtig sein, umfassende Investitionsstrategien zu entwickeln.

Dank der intensiven Bemühungen der 1998 gewählten Regierung fand die **Slowakische Republik** den Anschluss an die Länder, die den Beitritt 2004 vollzogen. Die zwei nicht nachrüstbaren Kernreaktoren sowjetischer Bauart waren für die Slowakei ein wichtiges Thema vor dem EU-Beitritt. Die Reaktoren 1 und 2 des Kernkraftwerkes in Bohunice werden 2006 bzw. 2008 stillgelegt. Der Slowakischen Republik wurden sieben Übergangszeiten zugestanden. Es muss noch viel getan werden, ehe die Infrastrukturanlagen des Landes den Anforderungen der Trinkwasser-Richtlinie und der Richtlinien über die Behandlung von kommunalem Abwasser gerecht werden. Im Bereich der Abfallwirtschaft sollten entsprechende Pläne möglichst umgehend in Angriff genommen werden. Der Zustand bestehender Deponien ist zu verbessern, mit dem Bau neuer Deponien zu beginnen. Die Slowakische Republik muss noch die IVU-Richtlinie umsetzen, integrierte Genehmigungen einführen und die Genehmigungskapazität im Bereich IVU stärken. Die Umweltverwaltung des Landes muss verbessert werden, da sie im Moment zu kompliziert und zwischen den verschiedenen Ministerien und Behörden zu sehr aufgeteilt ist.

Slowenien ist das reichste der mittel- und osteuropäischen Länder (MOEL) und besitzt im Vergleich zu anderen Übergangsländern zudem eine gut erhaltene natürliche Umwelt, die auf das Konto von Umweltmaßnahmen in den 70er und 80er Jahren gehen. Slowenien hat als erstes MOEL einen Umweltfonds eingerichtet, der durch eine spezielle Umweltschutzsteuer finanziert wurde. Slowenien hat nur drei Übergangszeiten ausgehandelt. Eine bezieht sich auf die Umsetzung der Richtlinie über die Behandlung von kommunalem Abwasser bis 2015 mit dem Ziel der ausreichenden Sammlung und Behandlung von Abwasser in Ballungsgebieten mit einem Einwohnergleichwert von über 2000. Im Bereich Abfall wurde eine fünfjährige Übergangszeit für die Richtlinie über Verpackungsabfall bewilligt, in dem freiwillige Systeme für den Verpackungsabfall entwickelt und die wirtschaftlichen Anreize verstärkt werden können. Die Luftqualität hat sich in den letzten 30 Jahren verbessert. Doch aufgrund der Zunahme des Verkehrs und der grenzüberschreitenden Emissionen aus Italien hat die Luftverschmutzung durch Stickoxide zugenommen. Des Weiteren wurde eine Übergangszeit von vier Jahren bewilligt, in der 15 Anlagen so umgebaut werden müssen, dass sie die IVU-Richtlinie erfüllen.

Aufgrund ihrer Schwäche und ihres geringen Entwicklungsstandes war von der Wirtschaft **Rumäniens** kein wesentlicher Beitrag im Prozess der Angleichung an das EU-Umweltrecht zu erwarten. Seit den 70er Jahren, als die Industrialisierung des Landes vorangetrieben wurde, ist Rumäniens reiche Umwelt stark belastet. In Städten wie Baia Mare, Copsa Mica, Zlatna und Onesti führte diese Entwicklung zu einer starken Verschmutzung von Luft und Wasser durch die Industrie. Rumänien verhandelt weiterhin mit der Europäischen Kommission, hat jedoch elf Übergangszeiten ab dem Jahr 2002 beantragt, darunter vier im Bereich der Wasserqualität und drei im Bereich der Abfallwirtschaft. Das Ministerium für Wasser und Umweltschutz hat sich das ehrgeizige Ziel gesetzt, die Übernahme des gesamten Besitzstandes im Bereich Umwelt bis Ende 2003 zu vollenden, doch gibt es dabei Bedenken, dass die ohnehin eingeschränkte administrative Leistungsfähigkeit Rumäniens dadurch weiter geschwächt wird. Damit die Bemühungen Rumäniens von Erfolg gekrönt sind, muss das Land langfristige Umsetzungspläne und Finanzstrategien auch für folgende Bereiche entwickeln und so die Anforderungen erfüllen: Trinkwasser, kommunale Abwasserbehandlung, Deponien, Müllverbrennung und Verpackungen. Hinsichtlich der IVU-Richtlinie trat im Januar 2003 das integrierte Genehmigungsverfahren in Kraft. Rumänien hat bis 2015 Zeit, alle Anlagen richtliniengemäß anzupassen. Im Bereich Natur muss noch eine Institution geschaffen werden, die sich um die Beobachtung der Natur und den Artenschutz kümmert.

Die **bulgarische** Regierung hat es nach der wirtschaftlichen und politischen Krise im Jahr 1996 geschafft, eine gesamtwirtschaftliche Stabilität zu erhalten, die Inflation einzudämmen, die öffentliche Schuldenquote zu reduzieren und eine Wachstumsrate von 4% zu erreichen. Die Kernkraft ist für Bulgarien seit jeher sehr wichtig. Einigung wurde darüber erzielt, die Blöcke 1 und 2 des nicht modernisierbaren Kernkraftwerks Kozloduy sowjetischer Bauart Ende 2002 stillzulegen. Während Bulgarien große Fortschritte bei der Angleichung seiner Umweltvorschriften an die der EU erzielt hat, bleibt bis 2007 noch viel zu tun. Unter den Bewerberländern ist Bulgarien das Land mit den meisten ärmsten Regionen, in vielen Industriezweigen kommen weiterhin veraltete Maschinen und Anlagen zum Einsatz. Bulgarien hat zur Zeit elf Übergangszeiten beantragt. Bulgarien wäre gut beraten, zur Untermauerung seiner Anträge auf Übergangszeiten detaillierte, spezifisch auf die Richtlinien ausgelegte Umsetzungspläne und Finanzierungsstrategien zu erarbeiten. In folgenden Bereichen muss bis 2007 besonders an der Umsetzung gearbeitet werden: Abfallwirtschaft, Umweltverträglichkeitsprüfung, Naturschutz, IVU, nukleare Sicherheit und Strahlung sowie Chemikalien. Bulgarien muss zudem seine administrative Leistungsfähigkeit im Bereich Umwelt stärken, in dem weiteres Personal für die Umweltverwaltung eingestellt und ausgebildet wird.

Wie diese Übersicht über die Beitrittsvorbereitungen der einzelnen Bewerberländer zeigt, bestehen viele gemeinsame Probleme im Bereich der Umwelt und eine entsprechende Anzahl von Lösungsmöglichkeiten, bei denen die EU Unterstützung in Betracht ziehen kann. Die Aufgaben, die im letzten Abschnitt des Berichts erörtert werden, beinhalten:

1. Sicherung einer ausreichenden administrativen Leistungsfähigkeit

Von den Bewerberländern wird erwartet, dass sie am Tag des Beitritts über alle notwendigen Verwaltungssysteme und das technische Know-how für die Umsetzung der EU-Vorschriften hinsichtlich des Umweltschutzes verfügen. Doch befinden sich beinahe alle Bewerberländer im Rückstand und haben Probleme in Bereichen wie integrierte Genehmigungen, Risikobewertung von Chemikalien und GVO, sowie bei der Ausweisung besonderer Schutzgebiete gemäß der Habitat-Richtlinie. Einige Bewerberländer benötigen möglicherweise auch nach der Erweiterung technische Unterstützung beim Ausbau ihrer administrativen Leistungsfähigkeit. Folgende Schritte sind zu berücksichtigen:

- Weiterführung der laufenden Programme zur Bereitstellung technischer Hilfe durch Verwaltungspartnerschaften mit Beamten aus den Mitgliedstaaten.
- Beibehaltung des Drucks auf die Bewerberländer, damit sie genügend Mittel für qualifiziertes Personal und technische Ausstattung einplanen, die für die Umsetzung des Besitzstandes im Bereich Umwelt benötigt werden.

2. Finanzierung von Umweltinfrastrukturanlagen

Die hohen Kosten für die Umstellung auf die EU-Standards, insbesondere bei kommunalen Dienstleistungen wie Abwasserableitung und -behandlung und Abfallentsorgung, bleiben eine große Herausforderung. Bereits jetzt spielt die Finanzierung durch die EU eine entscheidende Rolle, was nach dem Beitritt um so mehr der Fall sein wird. Ungeachtet dessen muss der größte Teil der Finanzierung von den Ländern selbst aufgebracht werden. Trotzdem ist das Potenzial für die öffentlich-private Kooperation hoch und sollte daher bei der Planung künftiger Investitionen in diesen Bereichen vorrangig in Betracht gezogen werden. Mit dem Einbeziehen des privaten Sektors in die Planung, Finanzierung und schließlich Durchführung könnten große wirtschaftliche Gewinne erzielt werden, vor allem dann, wenn es den lokalen Verwaltungen an Ressourcen und Know-how fehlt. Diese Variante birgt aber auch Risiken, darunter höhere Preise für die Wasserdienstleistungen und der mögliche Verlust lokalen Know-hows.

Die Einführung der Bezahlung von Wasser- oder Abfallwirtschaftsdienstleistungen in voller Höhe hilft bei der Schaffung von Anreizen für effiziente Einsparungen. Folgende Schritte sind zu beachten:

- Ankurbelung der Zusammenarbeit der Bewerberländer bei speziellen Anlagen zur Abfallbehandlung, um die Kosten für die Unternehmen vor Ort auf einem handhabbaren Niveau zu erhalten.
- Unterstützung bei der Einführung von rechtlichen Strukturen, um private Investitionen im Bereich Wasser- und Abfallwirtschaft anzuregen, einschließlich Preise zur vollen Deckung der Kosten.

3. Verwaltung der Heranführungshilfe

Viele der mittel- und osteuropäischen Bewerberländer sehen sich weiterhin Problemen im Zusammenhang mit den EU-Unterstützungsprogrammen gegenüber, einschließlich Schwierigkeiten beim Erfüllen der anspruchsvollen technischen Anforderungen. Schwache Verwaltungsstrukturen und unzulängliche Stellenbesetzung tragen zur eingeschränkten Leistungsfähigkeit bei der Aufnahme von EU-Mitteln und der mangelhaften Projektvorbereitung bei. Unter den zahlreichen Herausforderungen, die die EU-Investitionsprogrammen im Umweltbereich mit sich bringen, stehen die Länder vor der Frage der klugen Verwendung der Mittel der EU bei gleichzeitiger finanzieller Verantwortlichkeit. Alle Beitrittsländer müssen wirksame Beobachtungs- und Prüfsysteme zur qualitativen Kontrolle der Verwendung der Mittel aus dem Kohäsions- und dem Strukturfonds einführen. Die EU kann bei einigen Schritten behilflich sein:

- Bereitstellen von fachkundigen und neutralen Sachverständigen für die Umweltfolgeneinschätzung.
- Kontrollmaßnahmen im Interesse der Sicherung eines gleichen Marktzugangs durch öffentliche Vergabevorschriften.
- Überarbeitung der Finanzvorschriften des SIVB im Interesse des Baus kleinerer Abfallentsorgungs- und Abwasserbehandlungsanlagen in Fällen, wo dies möglich ist; damit einhergehend Verringerung der finanziellen Belastung der Bürger vor Ort.

4. Güterabwägung zwischen Naturschutz und Ausbau der Infrastruktur

Es ist ein ernsthaftes Problem, dass viele von der EU unterstützte Projekte sich nachteilig auf die Artenvielfalt auswirken – von der SAPARD-Förderung der intensiven Landwirtschaft bis hin zu vielen SIVB-Projekten im Bereich der Verkehrsinfrastruktur, obwohl die Hälfte der SIVB-Förderung zur Verbesserung der Umwelt bestimmt ist.

- Der Prozess der Ausweisung von Schutzgebieten muss beschleunigt werden. Die Ausweisung muss erfolgen, bevor Hoffnungen auf einen Anstieg der Bodenpreise die Gewährung des Schutzstatus erschwert (bzw. kostspieliger macht). Die beschleunigte Umsetzung ist auch erforderlich, weil die Vorschriften für die Finanzinstrumente im Rahmen von SIVB und PHARE eine Prüfung der Infrastrukturprojekte in Bezug auf Gebiete erfordern, die vom Standpunkt des Naturschutzes wichtig sind, wie zum Beispiel Gebiete, die künftig dem Schutzgebietssystem Natura 2000 zugeordnet werden können.

5. Sektorale Integration

In den Beitrittsländern besteht weiterhin die Aussicht auf eine stabilere wirtschaftliche Entwicklung in der Zukunft. Die Unterstützung für den zu Zeiten des Sozialismus gut entwickelten öffentlichen Verkehr (Nahverkehr und Eisenbahn) sollte aufrechterhalten werden, um der Nutzung privater PKW entgegenzutreten. Im Energiesektor werden neue Strategien benötigt, um erneuerbare Energiequellen zu fördern, während die Zukunft der Kohleindustrie und Stromerzeugung aus Kohle einer Überprüfung unterzogen wird. Das Mittel der strategischen Umweltprüfung sollte eingesetzt werden, um nationale Entwicklungspläne, Vorhaben in der Landwirtschaft usw. auf mögliche negative Umweltauswirkungen zu prüfen.

Zum Beispiel könnte der biologische Landbau ebenso ein Element einer integrierten Strategie sein wie ein System zur Unterstützung und Anerkennung der Rolle der Landwirte beim Schutz der Umwelt.

6. Blick auf zukünftige EU-Anforderungen

Aufgrund ihrer Fixierung auf die Einhaltung der bestehenden Anforderungen der EU war es schwierig, die Bewerberländer davon zu überzeugen, ihren Blick auch auf künftige Rechtsvorschriften zu richten. So waren zum Beispiel vor der Einführung der neuen Richtlinie über Großfeuerungsanlagen einige Bewerberländer der Meinung, dass sie keine Probleme bei der Umsetzung haben, da ihre Großfeuerungsanlagen aus der Zeit von vor 1986 stammten. Nun allerdings sind sie gezwungen, Übergangszeiten auszuhandeln, um diese neuen, strengeren Anforderungen zu erfüllen. Dieser mangelnde Blick in die Zukunft hat mitunter zu Bedenken geführt, ob die zukünftigen Mitgliedstaaten sich dem Umweltschutz ausreichend verpflichtet fühlen und ob sie eine Minderheit bilden könnten, die sich einer künftigen Verschärfung der Anforderungen in der EU entgegenstellt.

Die Bewerberländer sind klug beraten, wenn sie bereits jetzt die Möglichkeit einer Verschärfung der Zielsetzung in der Zukunft in Betracht ziehen, während die Gemeinschaftsorgane es nicht zulassen dürfen, dass die Beitrittsländer von der Annahme ausgehen, die Standards seien nicht mehr von Belang. In den kommenden Monaten und Jahren wird es besonders wichtig sein, die Umsetzung der Vorschriften nach dem Beitritt zu beobachten und von den Beitrittsländern die Einhaltung ihrer Verpflichtung zu fordern, die Anforderungen innerhalb der vereinbarten Übergangszeiten vollständig zu erfüllen. Zudem sollte in Diskussionen über die Umsetzungskosten stets auf den Nutzen hingewiesen werden, den sowohl die künftigen Mitgliedstaaten als auch die jetzigen Mitgliedstaaten aus der Erweiterung ziehen.

Résumé

En 2004, l'Union européenne accueillera dix nouveaux membres (République tchèque, Chypre, Estonie, Hongrie, Lettonie, Lituanie, Malte, Pologne, Slovaquie, Slovénie). En outre, l'adhésion de la Bulgarie et de la Roumanie est prévue pour 2007, tandis que s'ouvriront les négociations avec la Turquie. Cette étude examine les implications de l'élargissement de 2004 sur l'environnement en Europe.

Les pays candidats sont, d'une manière générale, sur la bonne voie en ce qui concerne l'adaptation de leurs cadres de réglementation aux normes environnementales UE; reste à savoir s'ils parviendront à s'y conformer effectivement. Les pays candidats devront, au moment de leur adhésion, respecter l'ensemble de la législation communautaire environnementale, comme les directives-cadre (ex. qualité de l'air, déchets et déchets dangereux, radioprotection), les exigences liées à la protection de la nature, à l'accès à l'information et aux études d'incidence sur l'environnement.

Les demandes de périodes de transition pour l'après adhésion ont, d'une manière générale, été acceptées pour les pays candidats qui ne satisferaient pas entièrement les conditions le jour de leur adhésion à l'UE, notamment pour les obligations en matière d'environnement qui demandent des investissements importants, comme le traitement des eaux urbaines résiduaires et les grandes centrales à combustible.

Secteur/Directive	Périodes de transition convenues au moment de la clôture provisoire du chapitre sur l'environnement ¹									
	CY	CZ	EE	HU	LT	LV	MT	PL	SK	SLO
Eau										
- Traitement des eaux urbaines résiduaires	2012	2010	2010	2015	2009	2015	2007	2015	2015	2015
- Eau potable			2013			2015	2005			
- Substances dangereuses							2007	2007	2006	
Déchets										
- Décharges			2009 ²			2004		2012		
- Emballages	2005	2005		2005	2006	2007	2009	2007	2007	2007
- Incinération des déchets dangereux/déchets urbains (anciens)				2005					2006	
- Transferts de déchets								2012		
Qualité de l'air										
- COV Étape I			2006		2007	2008	2004	2005	2007	
- Teneur en soufre des carburants	2004							2006		
Pollution industrielle										
- Grandes installations de combustion	SP ³	2007	2015	2004	2015		2005		2010	
- IPPC						2010		2010	2011	2011
Nature										
- Oiseaux sauvages							2008			
Substances chimiques										
-Amiante						2004				
Radioprotection										
- Expositions à des fins médicales						2005		2006		

¹ Notons que les périodes de transition s'étendent généralement jusqu'à la fin de l'année demandée. Par exemple, si la date demandée est 2012, la mise en œuvre pourra être réalisée jusqu'en décembre 2012.

² Schiste bitumeux uniquement (déchet dangereux).

³ Les accords spéciaux signifient que Chypre s'est vu accorder un niveau d'émissions particulier, 1700 mg/Nm³, pour les émissions de dioxyde de soufre provenant des chaudières dans ses installations de combustion de Dhekelia et Vasilikos. Une dérogation est accordée à l'article 4, paragraphe 3 et à la partie A de l'annexe IV de la directive relative aux grandes installations de combustion.

Ces demandes transitoires seront annexées au traité d'adhésion et feront l'objet d'une étroite surveillance après l'adhésion. Pour toutes les autres directives ne faisant pas l'objet de périodes de transition, les pays candidats ont en fait promis de s'y conformer au moment de leur adhésion.

Parmi les aspects environnementaux dont il est question dans le cadre de l'élargissement, les normes UE relatives à la **qualité de l'eau** seront sans doute parmi les plus difficiles et les plus coûteuses à mettre en œuvre. L'on prévoit que la directive sur le traitement des eaux urbaines résiduaires sera la plus onéreuse, avec un coût moyen par habitant de 235 EUR. La directive soulève un certain nombre de questions intersectorielles, comme le besoin de pourvoir à l'évacuation sûre des quantités de boues de plus en plus importantes qui résulteront du traitement étendu des eaux usées. Les autres lois contraignantes en matière d'eau sont la directive-cadre sur l'eau, adoptée récemment, la directive sur l'eau potable, sur les nitrates et sur l'évacuation des différentes substances dangereuses.

En ce qui concerne la législation relative à la **qualité de l'air** ambiant adoptée au cours de ces dernières années, les pays candidats disposent du même délai que les États membres de l'UE pour s'y conformer. Un contrôle efficace de la qualité de l'air – première étape indispensable dans la mise au point de stratégies rentables d'amélioration de la qualité de l'air – demeure toutefois problématique. Par ailleurs, le degré de pollution de l'air dépasse souvent les niveaux acceptables étant donné l'usage de combustibles solides (charbon, lignite) pour la production énergétique et le chauffage domestique dans plusieurs pays. La directive plus récente sur les grandes installations de combustion impose aux installations existantes des normes d'émission plus contraignantes d'ici 2008, tandis qu'il faudra en tout état de cause remplacer la plupart des anciennes centrales des PECO. Cela demandera, certes, des investissements considérables, mais améliorera également la performance économique de ces pays.

Les PECO candidats manquent d'installations de **gestion des déchets** appropriées leur permettant de traiter et d'éliminer efficacement les déchets existants. Certains pays sont également dépourvus de systèmes de collecte adéquats; le traitement illégal des déchets de toutes sortes est répandu, et les déchets dangereux sont souvent déposés avec des déchets ordinaires dans des décharges mal protégées. Les directives-cadres relatives aux déchets et aux déchets dangereux – qui imposent une collecte et une élimination systématiques et sans danger pour l'environnement des déchets – doivent entrer immédiatement en application au moment de l'adhésion. La plupart des PECO prévoient d'importants investissements dans les décharges contrôlées, mais les projets d'investissement dans les incinérateurs ou les installations destinées au traitement des déchets dangereux sont moins importants.

Dans le domaine de la **pollution industrielle**, le problème majeur consistera à faire en sorte que les installations existantes respectent les normes imposées par la directive IPPC avant la date limite de 2007, en particulier pour les installations restantes aux équipements caducs et à l'assise financière étroite. Cependant, la restructuration technologique qui a déjà commencé dans plusieurs secteurs industriels en vue de rester compétitifs dans un marché libéralisé devrait, dans la plupart des cas, inclure des mesures destinées à améliorer la performance environnementale et être financée en tant que telle. Pour certaines installations existantes, la fermeture pourrait s'avérer plus rentable, en tenant compte des considérations d'ordre social, comme les répercussions sur l'emploi local.

Dans le **secteur nucléaire**, l'absence de législation UE en matière de sécurité des installations d'énergie nucléaire signifie que le problème des réacteurs nucléaires insalubres n'a pas été repris dans le traditionnel processus de rapprochement. L'Agenda 2000 prévoyait un certain nombre de programmes de sécurité nucléaire visant les réacteurs peu sûrs, notamment la fermeture prochaine de huit réacteurs nucléaires non modernisables (Bohunice 1 et 2 en Slovaquie, Ignalina 1 et 2 en Lituanie et Kozloduy 1 à 4 en Bulgarie) et des programmes de modernisation d'autres centrales nucléaires de conception soviétique afin qu'elles respectent les normes de sécurité internationales. La solution pour remplacer les réacteurs nucléaires présentant un risque consistera à installer un système de production d'énergie alternatif à un coût récupérable. L'UE a accordé 70 millions d'euros à la Lituanie afin de l'aider à remplacer l'énergie produite par la centrale nucléaire d'Ignalina chaque année de 2004 à 2006, et a également confirmé sa volonté de contribuer à l'effort de déclassement au-delà de 2006.

Une aide UE similaire sera accordée à la Slovaquie pour le déclassement de sa centrale nucléaire de Bohunice.

Les pays candidats, à l'exception de Malte qui s'est vu accorder une période de transition jusqu'à la fin 2008 pour la directive sur les oiseaux, ne bénéficient pas de périodes de transition en ce qui concerne la législation sur la **conservation de la nature**. Les deux principales dispositions, les directives sur les oiseaux et sur l'habitat, ne sont pas considérées comme lourdes en investissements, même si les mesures nécessaires pour appliquer correctement les normes qu'elles prévoient feront peser sur les autorités un lourd fardeau administratif et financier à un moment où les fonds publics seront fortement sollicités pour des investissements dans d'autres domaines.

Parmi les normes **horizontales**, la mise en œuvre de la directive EIE reste problématique. Elle est en outre particulièrement importante pour les PECO candidats, l'EIE avec participation publique étant une condition préalable pour les projets d'infrastructure faisant appel à un financement UE. Les normes relatives à l'accès de l'UE aux données environnementales et les normes à venir en matière d'accès à la justice entraîneront diverses réformes institutionnelles, y compris un changement dans la façon dont les autorités publiques envisagent la diffusion des données environnementales.

En ce qui concerne la **coopération environnementale régionale et internationale**, l'expansion des frontières de l'UE résultant de l'élargissement fera d'un certain nombre de conventions régionales des accords quasi-communautaires. Par exemple, après l'élargissement de 2004, la Russie sera le seul signataire de la Convention sur la protection de l'environnement marin de la zone de la mer Baltique (Convention d'Helsinki) qui ne soit pas un État membre de l'UE. Des accords internationaux particulièrement importants sont la Convention-cadre des Nations unies sur les changements climatiques (CCNUCC) et le Protocole de Kyoto de 1997, en vertu duquel les parties de l'annexe I doivent réduire leurs émissions de GES d'un certain pourcentage sur une période définie. Les pays candidats à l'UE ont accepté certaines réductions pour la première période d'engagement (2008-2012). La difficulté consistera à mettre en place les instruments administratifs et pratiques leur permettant d'évaluer de façon exacte leurs émissions de GES, de rendre compte de ces émissions conformément aux exigences et de mettre au point et d'appliquer leurs politiques en matière de changement climatique.

Pour ce qui est du financement, les pays candidats sont tous confrontés à d'importants investissements pour améliorer leur infrastructure environnementale s'ils veulent se conformer en tous points aux directives « lourdes en investissements ». Le montant généralement admis de l'investissement total nécessaire pour l'ensemble des pays candidats varie entre 80 et 100 milliards d'euros. Le financement de ces investissements dans le cadre des calendriers convenus lors des négociations d'adhésion est estimé à 2–3% du PIB des pays candidats pour les prochaines années.

Les évaluations des coûts requis pour les investissements nécessaires, bien que variant encore fortement, semblent réalistes. Une comparaison des coûts d'investissement par habitant pour la mise en œuvre de la directive sur le traitement des eaux urbaines résiduaires dans les États membres avec de récentes informations présentées par les pays candidats indique que:

Les évaluations nationales des coûts sur la base de plans propres aux directives sont plus élevées que les analyses internationales précédentes;

Les évaluations nationales des coûts correspondent généralement (sur la base d'un calcul par habitant) à celles des quatre pays relevant du fonds de cohésion au sein de l'UE, mais restent relativement inférieures à celles de beaucoup d'autres États membres;

Les évaluations nationales des coûts pour l'Estonie, la Slovaquie, la République tchèque et la Pologne correspondent d'une manière générale aux coûts encourus par les États membres les plus comparables (ici encore sur la base d'un calcul par habitant).

Il faut envisager ces investissements dans le contexte des avantages à long terme qui découleront du respect des normes environnementales pour les pays candidats, comme par ex. les pressions réduites

sur l'environnement grâce à la réduction des émissions polluantes et des retombées atmosphériques. Les bénéfices cumulés découlant du respect des normes UE liées à l'air, à l'eau, à la gestion des déchets et à la protection de la nature ont été estimés entre 12 et 69 milliards d'euros par an d'ici 2010. Cela correspond à un montant annuel situé entre 80 et 410 EUR par habitant, les bénéfices les plus importants étant observés lors de la mise en œuvre des normes dans tous les secteurs.

Bien que les pays candidats bénéficient également d'une aide considérable provenant d'autres sources, comme les donateurs bilatéraux et les différentes institutions financières internationales, l'UE est aujourd'hui le plus grand donateur, puisqu'elle consacre chaque année un montant global de 2,5 milliards d'euros à l'assistance aux dix PECO candidats. Des mesures spéciales de soutien ont également été instaurées pour Chypre et Malte.

L'aide UE à la préadhésion des PECO consiste en trois instruments: Phare, SAPARD et ISPA. Le programme **Phare** est le plus important des programmes de préadhésion consacrés aux PECO candidats, avec un budget annuel de 1,56 milliards d'euros pour la période 2000-2006, répartis en assistance technique (30%) et en soutien au développement économique dans les régions les plus pauvres des pays candidats (70%). Cette dernière aide est considérée comme le précurseur des Fonds structurels après adhésion.

Le Programme spécial pour l'agriculture et le développement rural (**SAPARD**) dispose d'un budget annuel de 0,52 milliards d'euros pour la période 2000-2006. SAPARD est destiné à pallier les problèmes d'ajustement structurel dans les secteurs agricoles et les zones rurales. En théorie, le programme peut servir au financement de mesures environnementales pour les collectivités rurales, mais dans la pratique, il n'est que peu utilisé à cette fin.

Le budget annuel de l'Instrument structurel de préadhésion (**ISPA**), 1,04 milliards d'euros, est réparti entre les grands projets d'infrastructure dans le domaine de l'environnement (50%) et du transport (50%). ISPA est considéré comme le précurseur d'un Fonds de cohésion après adhésion. Les fonds ISPA sont répartis entre les pays en fonction de la taille de la population, du PIB par habitant et de la superficie. Beaucoup de pays candidats ont éprouvé des difficultés à absorber les subventions à l'environnement d'ISPA, à cause du manque de planification globale et des exigences techniques contraignantes nécessaires pour avoir droit au financement ISPA. En outre, bien que les pays candidats soient parvenus à obtenir la promesse de l'UE d'accepter l'affectation totale des fonds aux termes d'ISPA, la remise de ces fonds a fait l'objet de retards supplémentaires.

Afin d'aider les pays candidats à se préparer à assumer l'entière responsabilité de la gestion de l'aide communautaire après leur adhésion, la Commission européenne les a aidés à passer à une mise en œuvre décentralisée. Dans le cadre du système de décentralisation étendue (**EDIS**), toute la responsabilité liée à la gestion des procédures pour les fonds UE sera transférée aux organismes de mise en œuvre du pays candidat dès que celui-ci aura mis en place les systèmes nécessaires en matière de responsabilité financière et qu'il aura été « accrédité » par la Commission. EDIS doit être instauré avant l'adhésion, mais le processus progresse très lentement. Le rapport régulier d'octobre 2002 signalait la subsistance de différents problèmes concernant l'absorption des fonds UE, notamment la mauvaise coordination interministérielle, les retards dans la définition et la répartition des attributions entre les organes responsables de la gestion future des programmes et les procédures administratives et budgétaires fragiles.

Tout au long du processus d'adhésion, l'UE a insisté sur le fait qu'au moins 90 % du coût lié aux investissements environnementaux nécessaires à l'adhésion devait être supporté à partir des ressources propres du pays, et que cette charge de financement pourrait s'élever à 2-3 % du PIB annuel. Cependant, une analyse du PIB consacré à la protection de l'environnement révèle que la plupart des pays sont proches de la proportion recommandée. Il n'est donc pas certain que les pays candidats trouveront les sources propres suffisantes pour mener à bien les investissements nécessaires dans le domaine de l'environnement avant la fin des périodes de transition négociées.

Après leur adhésion, les nouveaux États membres connaîtront toujours des déficits de financement. Cependant, les mesures d'aide UE tripleront suite aux décisions prises lors du Conseil de Copenhague en décembre 2002. L'UE a consacré 21,7 milliards d'euros aux Fonds structurels et de cohésion pour la période 2004–2006, dont un tiers de cette somme pour les Fonds de cohésion. Comme pour ISPA, 50% des Fonds de cohésion après adhésion peuvent être affectés aux investissements environnementaux. Les pays candidats en recevront une plus grande part que dans le cadre d'ISPA, étant donné la nouvelle répartition des pourcentages alloués à la Bulgarie et la Roumanie dans ce domaine. Reste toutefois la question de savoir si les pays candidats seront en mesure d'absorber et d'utiliser à bon escient cette aide accrue.

Dans la quatrième partie du rapport, nous résumons la situation dans le domaine de l'environnement des dix pays qui adhéreront à l'UE en 2004 et examinons ensuite le cas de la Roumanie et de la Bulgarie, dont l'adhésion est prévue pour 2007.

Située au Sud-Est de la Méditerranée, la petite île de **Chypre** connaît des problèmes environnementaux assez différents de ceux des pays candidats d'Europe centrale et orientale. La situation environnementale de l'île a bien sûr été affectée par le conflit qu'elle a connu il y a vingt-neuf ans, qui a donné lieu à la division de l'île entre Chypriotes grecs au Sud et Chypriotes turcs au Nord. Depuis les années 70, Chypre connaît une période d'expansion économique rapide qui fait peser de lourdes pressions sur l'environnement naturel du pays, en particulier sur son littoral. L'industrie du tourisme, très développée, s'ajoute encore aux pressions qui pèsent sur l'environnement de l'île. Chypre a obtenu 3 périodes de transition: l'une dans le domaine de la qualité de l'eau, une autre pour la gestion des déchets et la dernière pour la qualité de l'air. Elle a également négocié des dispositions particulières en ce qui concerne la directive sur les grandes installations de combustion. Les problèmes environnementaux les plus urgents pour Chypre se situent notamment dans les domaines de l'eau et de la gestion des déchets. L'eau est une ressource rare à Chypre, le pays étant souvent touché par des sécheresses. Le gouvernement a augmenté la capacité des barrages et des réservoirs et mis en place le dessalement de l'eau de mer afin de profiter au maximum des réserves d'eau. La situation dans le domaine des installations de traitement des eaux usées est toutefois nettement moins bonne, puisque seulement 11% de la population rurale est desservie par ce type d'installation, et 45% seulement de la population urbaine y est raccordée. Chypre a jusqu'en 2012 pour achever la mise en œuvre de la directive sur le traitement des eaux urbaines résiduaires. Les problèmes dans le domaine de la gestion des déchets proviennent en grande partie des retards au niveau de l'adoption d'un projet de loi exhaustif dans ce secteur. La plupart des déchets sont éliminés par le biais de la mise en décharge, et le pays est tenu de moderniser ses trois décharges municipales actuelles et d'en créer 4 nouvelles.

La **République tchèque** est surnommée le « toit de l'Europe », puisque tous les fleuves qui trouvent leur source dans le pays coulent dans les pays voisins. Les ajustements structurels à grande échelle nécessaires dans les années 90 pendant la période de transition économique avaient dans un premier temps augmenté la pauvreté, mais l'économie tchèque est aujourd'hui saine. Le sort des vestiges des centrales nucléaires construites par les Soviétiques figurait au centre du dossier de préadhésion de la République tchèque, dès lors que la modernisation proposée pour les centrales de Temlin et de Dukovany avait suscité une opposition farouche de la part des pays voisins. La Commission européenne a accordé 3 périodes de transition à la République tchèque – l'une dans le domaine de l'eau, une autre dans la gestion des déchets et la dernière pour la directive sur les grandes installations de combustion. Dans le domaine de l'eau, la République tchèque a jusqu'à 2010 pour mettre en œuvre la directive sur le traitement des eaux urbaines résiduaires en construisant de nouveaux systèmes de collecte et de nouvelles installations de traitement. Par ailleurs, le pays devra également veiller à améliorer son système de contrôle de la qualité de l'eau, actuellement fragmenté. En ce qui concerne la gestion des déchets, la République tchèque doit adopter d'urgence son plan national de gestion des déchets. Elle est toutefois parvenue à mettre en place des mesures incitatives destinées au secteur privé pour le financement des investissements dans les installations de traitement et d'élimination des décharges. La loi sur l'IPPC est entrée en vigueur le 1^{er} janvier 2003 et une agence pour l'IPPC a été instaurée; ne reste plus que la question de l'octroi des autorisations dans les délais prescrits.

Le pays devrait encore prendre des mesures en vue d'améliorer son système d'administration dans le domaine de l'environnement, les responsabilités entre les organismes concernés n'étant pas encore clairement réparties.

L'Estonie est le plus petit des pays Baltes. Son PIB n'a cessé de croître depuis 1999, mais des divergences régionales subsistent. La côte Nord du pays, notamment, renferme les gisements exploitables de schiste bitumeux parmi les plus importants au monde, à partir desquels l'Estonie produit 93% de son électricité. L'utilisation du schiste bitumeux pour la production énergétique dégage non seulement des émissions nocives dans l'atmosphère, mais est également responsable de la production de 94-98% des déchets dangereux en Estonie. Parmi les problèmes environnementaux rencontrés en Estonie, nombreux sont ceux qui proviennent de la production d'énergie à partir du schiste bitumeux. Par exemple, l'un des problèmes majeurs dans le domaine des déchets concerne l'élimination finale des cendres et du semi-coke produits par l'industrie du schiste bitumeux, actuellement entassés dans des décharges industrielles et engendrant la contamination des nappes d'eau souterraines. Une période de transition a été accordée jusqu'en 2009 pour la directive sur les décharges, plus particulièrement en ce qui concerne les normes relatives aux déchets dangereux. Une période de transition a été accordée jusqu'en 2015 pour les grandes installations de combustion afin de faire en sorte que les actuelles installations de combustion du schiste bitumeux observent les taux de désulfuration et les valeurs limites d'émission pour les poussières. L'Estonie connaît également certaines difficultés dans le domaine de l'eau, surtout en ce qui concerne l'eau potable et le traitement des eaux urbaines résiduaires. Le pays a jusqu'en 2013 pour améliorer son système d'alimentation en eau potable, vieux et fait de fer. Afin de faire face aux problèmes administratifs, des ressources humaines supplémentaires sont nécessaires au service juridique du ministère de l'Environnement et au sein des autorités municipales.

L'économie **hongroise** est saine, avec un taux de croissance de 2,9 %, un taux de chômage relativement faible et une inflation qui se situe à son niveau le plus bas depuis dix ans. La Hongrie s'est vu accorder 4 périodes de transition, dont deux dans le domaine de la gestion des déchets. La Hongrie a jusqu'en 2005 pour mettre en œuvre la directive sur les déchets d'emballages et celle sur l'incinération des déchets. Les progrès dans ce secteur sont lents à cause du temps consacré à l'adoption du plan national de gestion des déchets. Des plans régionaux et locaux doivent maintenant être rapidement mis au point dans le domaine des déchets. Des sommes considérables devront être dégagées pour mettre en œuvre la directive sur les décharges, puisque que seuls 10% des décharges satisfont les normes UE. La mise en œuvre de la directive IPPC posera également des problèmes pour l'administration en charge de l'environnement, le système actuel et complexe d'octroi d'autorisations devant être unifié. D'une manière générale, la capacité administrative dans le domaine de l'environnement doit d'une part être renforcée et de l'autre faire l'objet d'une répartition des compétences plus claire entre les cinq ministères impliqués.

L'État balte qu'est la **Lettonie** a survécu à la crise économique russe de 1999, et possède désormais une économie de marché qui fonctionne, avec une forte croissance de son PIB, une inflation modérée et un déficit public faible. La Lettonie s'est vu accorder un nombre de périodes de transition supérieur à la moyenne, 8 au total, dont deux pour le domaine de la qualité de l'eau, deux pour la gestion des déchets, et une pour les directives sur les COV (phase 1), IPPC, sur l'amiante et sur les expositions à des fins médicales. Dans le domaine de la qualité de l'eau, la Lettonie doit assurer le financement pour la mise en œuvre de la directive sur le traitement des eaux urbaines résiduaires et améliorer et étendre substantiellement son système actuel d'alimentation en eau potable. Le territoire de la Lettonie se jetant dans la mer Baltique, victime de l'eutrophisation, un traitement plus strict (élimination de l'azote et du phosphore) est nécessaire pour toutes les eaux résiduaires collectées dans les agglomérations de plus de 10 000 EH. Dans le domaine de la gestion des déchets, il faut assurer le financement de la fermeture et de la construction de nouvelles décharges, puisque aucune des 252 décharges existantes ne satisfait les normes UE. La directive sur les COV, étape 1, demeure problématique dans sa mise en œuvre, en particulier pour les terminaux et dépôts pétroliers de petite taille, qui ont désormais jusqu'à la fin 2008 pour satisfaire les exigences technologiques UE.

Une période de transition a été accordée jusqu'en 2010 pour la directive IPPC afin de permettre à 15 des 58 installations visées par la directive de satisfaire les dispositions. La capacité administrative lettone en matière d'environnement au niveau régional doit être renforcée et la répartition des tâches améliorée.

Aujourd'hui, la **Lituanie** jouit d'une économie saine, avec un taux de croissance économique élevé, mais son taux de chômage demeure important. Le sort des deux réacteurs nucléaires de style soviétique d'Ignalina constituait un problème majeur de préadhésion pour la Lituanie. L'UE a accepté d'accorder une aide spécifique au pays pour le déclassement de la centrale. La Commission européenne a accordé 4 périodes de transition. La Lituanie doit s'attacher à achever la transposition dans les domaines des déchets, des substances chimiques, de l'IPPC et de la nature. Le pays doit assurer le financement de la construction de systèmes de collecte des eaux usées et d'installations d'épuration en suffisance pour se conformer à la directive sur le traitement des eaux urbaines résiduaires d'ici 2009. Le domaine de la gestion des déchets reste problématique, étant donné la lenteur des progrès réalisés en ce qui concerne la création de systèmes régionaux de gestion des déchets. Les municipalités responsables de la mise en œuvre de la gestion des déchets au niveau local manquent actuellement de ressources. La fermeture d'Ignalina se traduira par une dépendance énergétique accrue à l'égard des grandes installations de combustion, et il faudra gérer les émissions de soufre qui en résulteront. Pour l'aider dans ce domaine, une période de transition pour les émissions de SO₂ et de NO_x a été accordée à la Lituanie pour trois des centrales visées par la directive sur les grandes installations de combustion, dès lors qu'elles devront être modernisées.

La petite île de **Malte** a négocié 7 périodes de transition avec la Commission européenne, dont 3 concernent le domaine problématique de la qualité de l'eau. La faible intensité annuelle de la pluie et le manque de cours d'eau de l'île limitent fortement l'utilisation de l'eau et rendent nécessaires des méthodes alternatives et coûteuses, comme le dessalement. Malte bénéficie de périodes de transition à la fois pour la directive sur le traitement des eaux urbaines résiduaires et pour celle sur l'eau potable. Celles-ci exigeront d'importants investissements afin de mettre en place les installations et les systèmes de collecte nécessaires au traitement des eaux urbaines résiduaires, et pour s'assurer que l'eau potable soit conforme aux paramètres requis. Dans le domaine de la gestion des déchets, il est nécessaire de construire des décharges écologiques et de s'assurer que les incinérateurs actuels satisfont les normes UE. Malte se caractérise par le nombre de voitures par personne le plus élevé au monde, et la pollution par le benzène et les émissions de composés organiques volatiles résultant de la distribution de l'essence ne sont actuellement pas maîtrisées. Malte doit encore désigner des zones et agglomérations dans le cadre de la directive-cadre sur l'air, et mettre en place un réseau de stations de mesure. Dans le domaine de la protection de la nature, Malte doit rapidement mettre au point une stratégie en matière de biodiversité. Étant donné sa taille, la bureaucratie limitée de l'île est accablée par la mise en œuvre de l'acquis environnemental UE et sa capacité administrative, surtout en ce qui concerne les inspections et l'octroi des permis, doit être améliorée.

La **Pologne** est le plus grand des pays candidats actuels, avec un secteur agricole tout aussi important. Depuis les années 90, le pays a entrepris d'importantes réformes de son système de gestion environnementale. Le déclin de son activité industrielle et les importants investissements réalisés par les gouvernements post-communistes à travers un système bien développé de fonds environnementaux régionaux ont considérablement amélioré le riche environnement du pays. La Pologne a négocié 9 périodes de transition, et elle éprouve encore des difficultés dans les domaines de l'eau et des déchets. Le pays doit moderniser, développer et construire des installations de collecte et d'épuration des eaux usées afin de se conformer à la directive sur le traitement des eaux urbaines résiduaires d'ici 2015. La mise en place de plans de gestion des déchets aux niveaux national et régional s'avère difficile en raison du manque de coordination entre les différents niveaux de gouvernement. L'on estime à 100 le nombre de décharges qui devront être construites pour respecter la directive sur les décharges d'ici 2012, date de la transition. Si l'on veut que l'IPPC soit correctement mise en œuvre, il convient de former du personnel régional et local dans le domaine de l'octroi des autorisations intégrées. D'une manière générale, les autorités régionales et

environnementales polonaises doivent être renforcées, et il sera important de mettre au point des stratégies d'investissement exhaustives.

Suite aux efforts intensifs réalisés par le gouvernement élu en 1998, la **République slovaque** a rejoint le groupe des pays candidats qui adhéreront à l'UE en 2004. Les deux centrales nucléaires de conception soviétique non modernisables que compte la Slovaquie figuraient au centre de son dossier de préadhésion. Il fut décidé de fermer les réacteurs 1 et 2 de la centrale nucléaire de Bohunice respectivement d'ici 2006 et 2008. La République slovaque s'est vu accorder 7 périodes de transition. Des efforts importants sont encore nécessaires pour transformer l'infrastructure du pays afin de respecter les directives UE sur l'eau potable et sur le traitement des eaux urbaines résiduaires. En ce qui concerne la gestion des déchets, des plans de gestion doivent être adoptés d'urgence. En outre, les décharges existantes doivent être modernisées et de nouvelles décharges construites. Pour ce qui est de l'IPPC, la République slovaque doit encore finir de transposer la directive et ensuite instaurer les autorisations intégrées et renforcer la capacité d'octroi des autorisations IPPC. Le système d'administration chargée de l'environnement, actuellement trop complexe et fragmenté entre différents ministères et organismes, doit être amélioré.

La **Slovénie** est le PECO le plus riche, et son environnement naturel est relativement bien préservé en comparaison avec d'autres pays en transition, en raison de certaines mesures environnementales prises pendant les années 70 et 80. La Slovénie a été le premier PECO à instaurer un Fonds écologique financé par un impôt spécial sur la protection de l'environnement. Elle n'a négocié que trois périodes de transition. L'une d'elles, valable jusqu'en 2015, concerne la mise en œuvre de la directive sur le traitement des eaux urbaines résiduaires, afin de procéder à une collecte et à un traitement adéquats des eaux usées dans les 135 agglomérations dont l'EH > 2000. Dans le secteur des déchets, une période de transition de cinq ans a été accordée pour la directive sur les déchets d'emballage afin de pouvoir mettre au point des systèmes autonomes dans ce domaine et d'augmenter les stimulants économiques. Même si la qualité de l'air s'est améliorée au cours des 30 dernières années, la pollution atmosphérique engendrée par les oxydes d'azote a augmenté suite à l'augmentation du trafic et aux émissions transfrontalières provenant d'Italie. Une période de transition de quatre ans a été accordée afin que 15 installations répondent aux exigences de la directive IPPC.

L'économie fragile et limitée de la **Roumanie** n'a pas facilité le processus de rapprochement avec la législation environnementale UE. Depuis les années 70, la forte industrialisation du pays pèse lourdement sur le riche environnement roumain, ce qui a engendré des niveaux élevés de pollution industrielle de l'air et de l'eau dans des villes comme Baia Mare, Copsa Mica, Zlatna, et Onesti. La Roumanie est encore en négociation avec la Commission européenne, mais elle avait demandé, en 2002, 11 périodes de transition: quatre dans le domaine de la qualité de l'eau et trois dans celui de la gestion des déchets. Le ministère de l'eau et de la protection de l'environnement (MEPE) s'est fixé pour objectif ambitieux d'achever la transposition de l'acquis environnemental d'ici la fin 2003. Reste à voir si cette mesure n'ébranlera pas la capacité administrative, déjà limitée, de la Roumanie. Pour que ses efforts de transposition soient efficaces, il sera également important que le pays établisse des plans de mise en œuvre à long terme et des stratégies de financement dans les domaines suivants: eau potable, traitement des eaux urbaines résiduaires, décharges, incinération des déchets et emballages. En ce qui concerne l'IPPC, le système d'octroi des autorisations intégrées est entré en vigueur en janvier 2003; la Roumanie aura ensuite jusqu'en 2015 pour rendre l'ensemble de ses installations conformes. Dans le secteur de la nature, une institution responsable du contrôle de la nature et de la biodiversité doit encore être désignée.

Après la crise économique et politique de 1996, le gouvernement **bulgare** est parvenu à maintenir la stabilité macroéconomique, à contenir l'inflation, à réduire la dette de l'État et à soutenir un taux de croissance de 4%. L'énergie nucléaire a toujours été importante pour la Bulgarie, et elle a accepté, fin 2002, de fermer les unités 1 et 2 de sa centrale de Kozloduy, de conception soviétique, non modernisable. Bien que la Bulgarie ait fait des progrès considérables dans l'alignement de sa législation environnementale sur celle de l'UE, il lui reste encore beaucoup à faire d'ici 2007. La

Bulgarie abrite certaines des régions les plus pauvres parmi les pays candidats, et nombreuses sont les industries qui dépendent encore des anciennes technologies.

La Bulgarie a jusqu'à présent demandé 11 périodes de transition. Elle a intérêt à élaborer des plans de mise en œuvre et des stratégies de financement détaillés, spécialement axés sur les directives UE, si elle veut étayer ses demandes de périodes de transition. Avant 2007, elle devra achever la transposition et la mise en œuvre dans les domaines de la gestion des déchets, de l'évaluation des incidences sur l'environnement, de la protection de la nature, de l'IPPC, de la sécurité et du rayonnement nucléaires et des substances chimiques. La Bulgarie devra en outre renforcer sa capacité administrative dans le domaine de l'environnement en engageant et en formant du personnel supplémentaire.

Un certain nombre de problèmes communs se dégagent de l'analyse qui précède des préparatifs de préadhésion dans le domaine de l'environnement pour les différents pays candidats, de même que des options correspondantes que les institutions UE pourraient appuyer. Les problèmes abordés dans la dernière partie du rapport concernent:

1. Assurer une capacité administrative suffisante

Les pays candidats sont censés disposer, le jour de leur adhésion, des systèmes administratifs et des connaissances techniques nécessaires pour mettre en œuvre les mécanismes UE requis dans le domaine de la protection de l'environnement. Presque tous connaissent toutefois des difficultés et accusent des retards dans des domaines comme les autorisations intégrées, l'évaluation des risques des substances chimiques et des OGM et la désignation de zones de protection spéciale (ZPS) dans le cadre de la directive sur les habitats. Certains pays candidats auront besoin d'une assistance technique pour renforcer davantage leur capacité administrative, même après l'élargissement. Les mesures suivantes doivent être envisagées:

- Poursuite des programmes actuels destinés à fournir une assistance technique à travers le jumelage en faisant appel à des représentants des États membres.
- Maintien de la pression sur les pays candidats pour qu'ils prévoient suffisamment de ressources à affecter à du personnel qualifié et à des équipements techniques pour l'application de l'acquis environnemental.

2. Financement de l'infrastructure environnementale

Le problème du coût élevé engendré pour se conformer aux normes UE, en particulier pour les services municipaux tels que les égouts et le traitement des eaux usées, de même que pour la gestion des déchets, se pose toujours. Le financement UE joue déjà un rôle essentiel, et ce rôle sera encore plus important après l'adhésion. La majeure partie du financement devra toutefois provenir de sources nationales. Ceci dit, les possibilités de coopération entre le public et le privé sont nombreuses, et la planification des futurs investissements dans ces secteurs devra les privilégier. La participation du secteur privé dans la planification, le financement et éventuellement l'exploitation des infrastructures peuvent engendrer des gains économiques considérables, en particulier lorsque les administrations locales manquent de ressources et d'expertise. Cette possibilité comporte également des risques, comme l'augmentation du prix de l'eau et la perte éventuelle de l'expertise locale. Reste que l'instauration d'un prix qui tienne compte de tous les coûts pour les services liés à l'eau ou à la gestion des déchets permet aussi d'inciter les gens à faire des économies en utilisant les ressources de façon rationnelle. Les mesures à prendre en considération sont les suivantes:

- Encourager la coopération dans les pays candidats en ce qui concerne les installations spécialisées de traitement des déchets afin que les coûts liés au traitement restent raisonnables pour les industries locales.
- Soutenir la mise en place de structures de réglementation destinées à attirer l'investissement privé dans les infrastructures liées à l'eau et à la gestion des déchets, y compris une tarification qui tienne compte de tous les coûts.

3. Gestion de l'aide à la préadhésion

La plupart des PECO candidats connaissent encore des problèmes en ce qui concerne les programmes d'aide UE, notamment des difficultés à se conformer aux exigences techniques rigoureuses. Le manque d'efficacité des structures administratives et le manque d'effectifs sont en partie responsables de la capacité d'absorption limitée des fonds UE et des projets mal préparés. Parmi les nombreux problèmes rencontrés dans le cadre des principaux programmes UE d'investissement dans le domaine de l'environnement, l'on retrouve les difficultés liées à l'utilisation prudente de l'aide UE dans le domaine de l'environnement et à la responsabilité financière requise. Tous les pays candidats doivent instaurer des systèmes de surveillance et de vérification efficaces afin de contrôler la qualité dans le domaine des fonds structurels et de cohésion. L'UE peut prendre un certain nombre de mesures:

- Assurer une qualité professionnelle et un statut neutre pour les experts chargés de l'évaluation des incidences sur l'environnement.
- Vérifier que les règles liées aux marchés publics garantissent une égalité d'accès au marché.
- Revoir les règles de financement d'ISPA pour permettre, là où c'est possible, d'élaborer des projets à plus petite échelle en matière de gestion des déchets et d'épuration des eaux usées afin que le fardeau financier reste raisonnable pour les citoyens locaux.

4. Comment concilier conservation de la nature et développement de l'infrastructure ?

Beaucoup de projets financés par l'UE ont un effet néfaste sur la biodiversité, ce qui pose un grave problème – lorsque l'on encourage l'agriculture intensive dans le cadre de SAPARD, ou lorsqu'il s'agit de l'infrastructure des transports financée par ISPA, même si la moitié des fonds ISPA sont consacrés à l'amélioration de l'environnement.

- Il convient d'accélérer le processus de désignation des zones à protéger, afin que les zones visées soient identifiées avant que les perspectives d'augmentation de la valeur foncière ne rendent plus difficile (ou plus coûteuse) la garantie de ce statut. La mise en œuvre doit également être accélérée dès lors que les réglementations liées aux instruments financiers ISPA et PHARE imposent l'examen des projets d'infrastructure relatifs aux sites ayant une importance dans le domaine de la conservation de la nature, par ex. les sites Natura 2000 potentiels.

5. Intégration sectorielle

Les pays candidats ont encore des possibilités d'accroître davantage la durabilité de leur développement économique. Il convient de maintenir l'aide aux transports publics (urbains et chemins de fer) -- bien développés à l'époque socialiste – afin de lutter contre l'utilisation de véhicules personnels. De nouvelles stratégies dans le secteur énergétique sont nécessaires afin de promouvoir les sources d'énergie renouvelable, tout en étudiant l'avenir de l'industrie houillère et de la production énergétique à base de charbon. Il faut se servir de l'outil que représente l'évaluation environnementale stratégique (ESIE) pour évaluer les éventuels impacts néfastes pour l'environnement des plans de développement nationaux, des projets agricoles, etc. Par exemple, l'agriculture biologique pourrait constituer une possibilité de stratégie intégrée, parallèlement à un système permettant d'aider et de reconnaître le rôle de certains agriculteurs dans la gérance de l'environnement.

6. Les futures normes UE

Il est difficile d'amener les pays candidats à envisager la législation future, leur priorité étant de se conformer aux normes UE actuelles. Par exemple, avant l'adoption de la nouvelle directive sur les grandes installations de combustion, un certain nombre de pays candidats pensaient qu'ils n'éprouveraient aucune difficulté à s'y conformer, toutes leurs grandes installations de combustion datant d'avant 1986. Ils ont ensuite dû négocier des périodes de transition pour satisfaire ces nouvelles normes, plus contraignantes. Ce manque d'intérêt pour l'avenir fait parfois craindre que les prochains États membres ne feront pas preuve d'une volonté égale pour garantir un niveau élevé de protection de l'environnement, et formeront une minorité de blocage susceptible de résister aux mesures destinées à consolider les futures normes UE.

Les pays candidats ont tout intérêt à envisager dès à présent la possibilité d'objectifs encore plus contraignants à l'avenir, et les institutions UE doivent être attentives à ne pas laisser les pays candidats penser que les normes ne comptent plus. Il sera important, au cours des mois et des années à venir, de surveiller la mise en œuvre après leur adhésion et de veiller à ce que les pays candidats tiennent leurs promesses en ce qui concerne la mise en œuvre intégrale des normes en respectant les périodes de transition convenues. Il faudra également veiller à ce que l'on tienne compte, lorsqu'on envisage les coûts de mise en œuvre, des bénéfices de l'élargissement pour les futurs ainsi que pour les actuels États membres.

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1. Environment in the Enlargement Process

The enlargement now scheduled for 2004 will bring ten more countries (Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia) into the European Union. In addition, Bulgaria and Romania are scheduled to join in 2007, with negotiations with Turkey starting at that point. Other countries in South Eastern Europe such as Croatia may well join the membership queue in the future¹. Because of the fiscal and policy implications of enlargement with respect to environment, it is important for the European Parliament to be fully informed, and to take initiatives as needed. This study is therefore intended to inform parliamentarians concerned about the implications of enlargement for the European environment.

Environmental issues have been at the forefront of the negotiations between the EU and the applicant countries in the current enlargement. For one thing, the EU environmental *acquis* (along with the agricultural *acquis*) are considered among the most difficult to implement of all the EU legal obligations. There has also been concern about the legacies of past pollution damage found in a number of Central and Eastern European countries with heavily industrialised regions, and the lack of adequate infrastructure for waste management and disposal and for municipal water services.

On the positive side, the pressure on the applicant countries to qualify for accession has accelerated reform of their environmental policies and practices to conform to EU standards. This is leading to improvements in air and water quality and raising standards of environmental governance in general across a wide swathe of Europe. In addition, many of the applicant countries are endowed with landscapes of great natural beauty and biodiversity value which will enrich the European Union in general. Box 3.1 provides additional details on the benefits of compliance with the EU environmental requirements.

Moreover, the need for extensive investment in environmental infrastructure such as wastewater treatment has created commercial opportunities for Member State companies. Any possible competitive disadvantages due to delays in some accession countries in meeting EU environmental standards should even out as CEE companies experience the shock of competing against more efficient western European companies in the internal market.

However, enlargement also raises a number of environmental concerns for both current and future Member States. Increased adoption of Western concepts of deregulation, privatisation and commercialisation is changing existing practices of biodiversity protection, agricultural production, and public service provision, including for water supply, disposal, waste management and public transport. The huge investments in transport and energy infrastructure expected to come with enlargement could have long-lasting environmental impacts. Not least of all, the increased economic prosperity that will follow access to the internal market will bring the CEE accession countries closer to the consumption patterns predominant in Western Europe, and increase pressures on the environment.

In addition, since these new countries are entering the EU with weaker economies and, in some cases, less developed commitments to environmental protection and sustainable development, enlargement may also slow down the evolution of the EU regulatory regime needed to maintain a high level of environmental protection for all European citizens.

¹ The speech of Mr. Romano Prodi, President of the European Commission, on 18 December 2002 expressed the commitment to provide “a detailed and substantial response” to the letter sent by the five Presidents of the Western Balkans (Albania, Bosnia and Herzegovina, Croatia, FYR of Macedonia, FR of Yugoslavia), on the eve of the Copenhagen Council. The Thessaloniki Summit (June 2003) should, in this context, provide for some action regarding future membership of the above-mentioned countries.

The accession countries are generally on track in changing their regulatory frameworks to conform to the environmental requirements of the EU², but achieving actual compliance with the requirements is a challenge of a different order. Several accession countries still have much to do to establish the administrative structures and institutional capacity for implementation and enforcement. More difficult still are the many practical measures – including significant investment in environmental infrastructure – that must be taken within fixed time periods agreed in the accession negotiations.

The EU has taken several non-negotiable positions with respect to the environmental *acquis*. One is that the applicant countries must comply with all internal market-related environmental legislation upon accession. This covers important legislation such as motor vehicle emissions, fuel quality, control over chemicals, and general requirements for waste management. Parts of non-market legislation such as all framework Directives, (e.g. air quality, waste and hazardous waste framework, radiation protection), nature protection, access to information, and environment impact assessment requirements are subject to a similar requirement.

At the same time the EU has recognised the need for post-accession periods of transition for legislation where the applicant countries will not be able to comply fully with the requirements of the respective legislation on the day of EU membership. This might arise for those environmental obligations requiring significant investment or where immediate compliance would have unacceptable social implications.

Sector/Directive	Transition periods agreed at provisional closure of Environment Chapter ¹									
	CY	CZ	EE	HU	LT	LV	MT	PL	SK	SLO
Water										
- Urban wastewater treat	2012	2010	2010	2015	2009	2015	2007	2015	2015	2015
- Drinking water			2013			2015	2005			
- Dangerous substances							2007	2007	2006	
Waste										
- Landfill			2009 ²			2004		2012		
- Packaging	2005	2005		2005	2006	2007	2009	2007	2007	2007
- Incineration of Hazardous waste/ municipal waste (old)				2005					2006	
- Shipment of waste								2012		
Air quality										
- VOCs Stage I			2006		2007	2008	2004	2005	2007	
- Sulphur content of fuel	2004							2006		
Industrial pollution										
- Lg Combustion Plants	SP ³	2007	2015	2004	2015		2005		2010	
- IPPC						2010		2010	2011	2011
Nature										
- Wild Birds							2008			
Chemicals										
-Asbestos						2004				
Radiation Protection										
- Medical Exposures						2005		2006		

¹ Note that transition periods generally last until the end of the requested year. For example, if requested date is 2012, implementation could be accomplished until December 2012.

² Oil shale only (hazardous waste).

³ The special arrangements mean that Cyprus has been given a special emissions level, 1700 mg/Nm³, for emissions of sulphur dioxide from its boilers at the Dhekelia and Vasilikos combustion plants. The derogation is given from Article 4(3) and Part A of Annex IV of the Large Combustion Plant Directive.

Applicant countries requesting transition periods had to present supporting Directive-specific implementation and financial plans (DSIFP) to show how they were to achieve compliance by the end of the transition period. The EU negotiators usually agreed to accept requests for transition periods for

² The European Commission has recently estimated that prospective members have already transposed around 80% of the EU's 149 environmental laws.

the urban wastewater treatment and large combustion plant requirements. They were willing to negotiate transition periods for packaging waste and industrial pollution prevention and control requirements, but emphasised that such transition periods were to be seen as exceptional cases and granted only for short time periods. The table on the previous page shows the transition periods agreed to date between the accession countries and the EU.

The European Commission is monitoring the accession countries' progress in approximating to the EU environmental requirements. Each year, country desk officers in DG Environment help prepare the environmental sections of the annual Regular Reports, based on information gathered in the course of the Progress Monitoring of Approximation in the Applicant Countries project carried out by Milieu Ltd, and their own sources. In addition, in 2002, DG Environment and Member State officials carried out Peer Reviews in each of the countries where the Environment Chapters had been provisionally closed.

It is important to remember that for all the transition periods not agreed, the applicant countries have in effect promised to be in compliance at the moment of accession.

The process of enlargement continues beyond the Copenhagen Council, as the European Commission will be monitoring the interim period to make sure that the future Member States are indeed carrying out all the promises made during negotiations. Transitional requests will become Annexes to the Accession Treaty and will be closely monitored upon accession.

This study reviews the environmental issues at stake in enlargement as well as the pre- and post-accession programmes supported by the EU related to environmental approximation. It then looks at each accession country, as well as Romania and Bulgaria, to assess the status of accession preparedness with respect to the EU environmental requirements. The country-specific information was gathered from in-country sources, including environmental officials, as well as publicly available materials.

The study then identifies specific problem areas that may require special attention even before accession, and puts forward a number of policy options for dealing with the environmental challenges that will remain beyond accession.

2. The Environmental Issues at Stake in Enlargement

This section looks at some of the issues that arise when implementing the EU requirements in various environmental sectors. It also reviews some of the economic and political implications for the accession countries' efforts to achieve compliance with the EU requirements in each sector.

2.1 The Environmental Sectors

Water quality and water pollution control. The EU requirements related to water quality cover a wide range of issues and are expected to be among the most difficult and expensive to implement. Most, if not all, of the accession countries have asked for – and received -- transition periods in this sector.

The newly adopted Water Framework Directive will be particularly challenging in that it requires Member States to achieve “good ecological status” and “good chemical status” for all surface and ground waters, by 2010. The Directive lays down procedural requirements for integrated water resources management on the basis of river basins. River basin authorities will be required to develop action plans to ensure that agreed quality objectives will be met. Public participation will be essential, because implementation of water policy legislation will require activation of a huge number of operators (local municipal governments, farmers, small- and medium-sized industries). Many CEE stakeholders may balk at having to pay for water services that used to be free or almost free.

The Urban Wastewater Treatment (UWWT) Directive is expected by all countries to be the most expensive, with a total investment cost of around 15 billion EUR, and an average per capita cost of 235 EUR³. Since most of the wastewater discharged in the accession countries flows into areas sensitive to eutrophication (e.g. the Baltic Sea), investment may be pushed upwards, since in such cases the UWWT Directive requires an additional level of chemical treatment to remove phosphates and other nutrients. Several countries, i.e. Hungary, Poland, and Slovenia, have suggested 2015 for final compliance with the UWWT Directive, ten years later than the final compliance date for Member States laid down in the Directive⁴. The UWWT Directive raises a number of cross-directive and cross-sectoral issues, e.g. the need to arrange for safe disposal of the increased amounts of sludge that will result from comprehensive wastewater treatment.

Other demanding water-related acts are the Drinking Water Directive, the Bathing Water Directive, the Nitrate Directive and a number of directives addressing discharges of different dangerous substances. The Drinking Water Directive is expected to require less investment in upgrading than for wastewater treatment, albeit not dramatically less. As the table in the introductory section shows, most applicant countries expect to be able to meet the drinking water requirements a number of years earlier than for urban wastewater treatment, which is highly desirable also for reasons other than direct health protection (such as food industry export and tourism). Bathing water standards will normally be met via proper wastewater treatment and/or proper location of discharge points and thus will be covered for the major part, once investments in sewerage and wastewater treatment are made.

The Nitrates Directive requires development and application of codes of good agricultural practices, identification of zones vulnerable to nitrate pollution, and implementation of special action programmes in these zones. At present, nitrate pollution is less of a problem in Central and Eastern Europe than in the intensely farmed parts of the EU. Rates of fertiliser use are often low because the agricultural sector has not yet recovered from the shocks of economic transition including break-up of communal farms. But some intensive animal rearing (pigs, cows) does exist throughout the region,

³ Compare this to figures from the current Member States collected for the European Commission's 1998 report on status of implementation of the Urban Waste Water Treatment Directive, which foresee a total investment of 130 billion EUR, with an average cost of EUR 307 per person equivalent (p.e.).

⁴ Council Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment (as amended).

posing by and large the same problems known to many Member States. The necessary remedies will include sufficient manure storage (probably at least 6 months' capacity) to prevent manure spreading during the winter periods and measures to ensure that manure is applied in sufficiently low quantities per hectare to allow proper uptake by crops. Early estimates of investment needed for this manure storage are 4 billion EUR overall. The EU already makes funding available for the agricultural sector before accession through the SAPARD Programme – further discussed at section 3.

Air Quality. Over the past decade, the necessary restructuring of activities in the industrial and energy sectors that followed the transition to market economy has led to reduced polluting emissions in many countries, particularly with respect to the largest sources. Air pollution problems have shifted from being a matter of reducing emissions from large industrial installations and coal-burning combustion plants to more complicated scenarios of handling the impacts from increased motor vehicle traffic, including old, badly maintained vehicles, and other smaller sources.

The accession countries have not received transition periods for the ambient air quality legislation adopted in the past few years, and in most cases have the same time to comply as EU Member States. In addition, a number of measures to improve air quality are internal market measures (car emissions, fuel quality) which new Member States will be expected to follow at the latest from accession if they have not done so before.

However, proper air quality monitoring -- the key first step in identifying cost-effective strategies to improve air quality -- remains problematic. Moreover, energy consumption per GDP unit is still roughly five times higher in the CEE accession countries than in the Member States⁵. This indicates a high potential for improved energy efficiency that in turn will lead to reduced emissions, and will often have the additional benefit of improved competitiveness of the industries involved.

Another problem remains the use of solid fuel (coal, lignite) for power production and domestic heating in several countries, often driving air pollution above acceptable levels. Early cost estimates for implementing the EU requirements for large combustion plants came to around 10 billion EUR for all CEE accession countries, but more cost effective solutions may be possible. The most recent Large Combustion Plants Directive (2001/80/EC) allows existing plants to operate at current emission standards until 2008 with a possibility for additional operation during several years, by which time most of the older CEE power plants will need to be replaced. So while investments in costly flue gas cleaning may be avoidable, significant investment will be required for upgrading the energy sector. This will however add to the economic performance of the countries, rather than being a burden on competitiveness.

Waste management is an area where much needs to be done, especially in Central and Eastern Europe, in order to comply with EU standards. The CEE accession countries suffer from a lack of adequate facilities to properly treat and dispose existing waste streams. Some countries also lack proper collection systems, and illegal handling of waste of all sorts is widespread. In addition, hazardous waste is often not separated from ordinary waste, leading to serious pollution from inadequately protected landfills.

Several applicant countries are seeking transition periods for the investment heavy directives on landfill, incineration and packaging waste. However, the framework waste and hazardous waste directives -- requiring that systematic waste collection and disposal will be organised in an environmentally safe way -- are to be applied immediately upon accession.

A number of countries are still preparing the national waste management plans required under EU law, so estimates of necessary investment in the waste sector are incomplete. Most CEE countries are planning major investments in controlled landfills, while plans for investment in incinerators or

⁵ Data extracted from EUROSTAT, 1998-1999 statistics on final energy consumption in the Candidate Countries and the EU. Information available at:

http://europa.eu.int/comm/energy_transport/etif/energy_general_overview/final_consumption.html
PE 322.784

facilities to treat hazardous waste are not as well developed. A reasonable estimate of the overall investment costs for the waste sector is 13.7 billion EUR⁶.

The landfill requirements are fairly recent, yet many transitional periods have been granted. Moreover, there are wider implications, for example the requirements to deal with biodegradable waste. Providing the facilities is no guarantee that the waste will arrive as it should. To ensure that the system works takes a comprehensive system of legislation, infrastructure facilities and a reliable enforcement structure. Price structures are also important, since too high prices for waste management or disposal creates incentives to find "alternative", often illegal, solutions.

Hazardous waste creates a particular problem in many accession countries. Quantitative assessment of different types of hazardous waste, and particularly of future trends, is difficult because of insufficient data and because of the rapidly changing industrial structure in the CEE countries. Particular problems are posed by hazardous waste still remaining from past industrial operations and by large stocks of obsolete pesticides left over from disbanded collective farms. Since there is no responsible operator to pay for the removal, treatment or disposal cost and since existing EU legislation does not cover the problem of polluted industrial sites, clean-up is a somewhat lower priority for the time being. Such pollution could, however, interfere with meeting EU drinking water standards.

Industrial pollution is partly covered by the IPPC Directive (Integrated Pollution Prevention Control), partly by a number of specialised directives covering a specific "sector" (large combustion plants) or specific emissions (volatile organic compounds, dangerous substances to water). Pollution from some industrial activities may not be directly covered by existing EU legislation but will nevertheless still have to be addressed in order to achieve the required air or water quality standards.

Meeting the IPPC Directive requirements by the deadline of 2007 for existing plants will be demanding for CEE industries, particularly where surviving plants still struggle with outdated equipment and a weak financial basis. Several accession countries have been granted transition periods, on the basis of high estimates of investment necessary for compliance.

Early cost estimation efforts indicated an overall investment need of around 19 billion EUR⁷. However, these figures may overlap with costs related to waste management or large combustion plants. Even current Member States find it difficult to calculate future investments, given the range of options for pollution control presented in the reference documents setting forth the standard of best available techniques for particular industries.

Moreover, the cost of IPPC compliance should be seen in the context of the technological restructuring already under way in several industrial sectors, e.g. oil refining and energy production in general, in order to remain competitive in a liberalised market and to deliver fuels according to EU specifications. Such restructuring often leads to reductions in polluting emissions, especially if cleaner technology is applied. Measures aimed at upgrading environmental performance and carried out at the same time are usually integrated into the technological restructuring and financed as such.

Certainly action should be taken where pollution from industrial sources is excessive. But in some instances of existing plants, compliance with IPPC requirements may require more investment than economically justified, and closure might be more cost-effective. Where closure of a few big industrial enterprises will have unacceptable impacts on local employment, the ultimate decision may have to include social considerations. Accordingly, EU negotiators have granted transition periods for the IPPC Directive only for individual existing plants, where sufficient justification was provided.

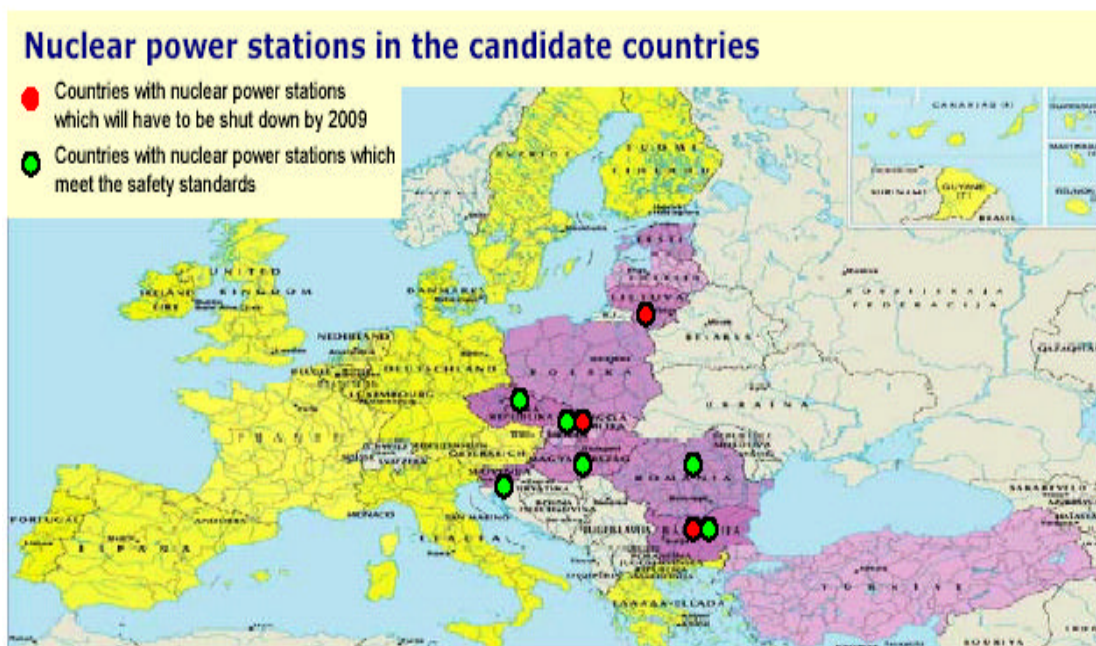
The scale of implementation problems faced by small and medium enterprises (SMEs) in order to comply with the EU requirements on VOC emissions or discharge of dangerous substances into water

⁶ Ibid.

⁷ Ibid.

is not yet known. In principle the technological problems are similar to those facing the large facilities subject to the IPPC Directive, but on a much smaller economic scale. Though individual investments will be modest compared to those under the IPPC Directive, the overall number of enterprises affected will be significant (all professional users of paints and organic solvents, e.g. dry cleaners, auto body shops). The administrative capacity necessary to deal with these directives should not be underestimated.

Nuclear Safety. The nuclear sector has received greater attention in the current enlargement process than in any previous enlargement of the European Union. Of the ten accession countries of Central and Eastern Europe, seven have nuclear power plants for a total of 22 reactors.



Source: "Towards a Community Approach to Nuclear Safety". European Commission, Directorate-General for Energy and Transport

The absence of detailed EU legislation on safety of nuclear energy installations has meant that the problem of unsafe nuclear reactors in a number of CEE accession countries has fallen outside the traditional approximation process. In 1999, the Cologne and Helsinki European Councils stressed the importance of high standards of nuclear safety in the context of the Union's enlargement and requested the Commission to address this sensitive area. Accordingly, Agenda 2000⁸ set forth a number of nuclear safety programmes aimed at dealing with unsafe reactors, including:

- early closure of eight nuclear reactors (i.e., Bohunice 1 and 2 in Slovakia, Ignalina 1 and 2 in Lithuania and Kozloduy 1 to 4 in Bulgaria);
- modernisation programmes fully implemented over a period of 7-10 years, where the safety of Soviet-designed nuclear power stations in operation or under construction could be upgraded to meet international safety standards (i.e., Dukovany and Temelin in the Czech Republic, Paks in Hungary, and certain units at Bohunice and Mochovce in Slovakia, and at Kozloduy in Bulgaria.);
- monitoring of developments where western-designed nuclear plants are in use (i.e., Romania and Slovenia) to ensure that operations comply with the appropriate safety standards, and provision of technical assistance if necessary.

The European Commission's current proposals in the nuclear safety sector note the lack of a Community frame of reference for safety in nuclear installations and for adequate management of

⁸ Agenda 2000 indicates that nuclear safety in some applicant countries is of serious concern to the EU, even independently of enlargement. The solution is not simply to close down obsolete reactors, as they do not all pose the same risk and the cost of obtaining alternative energy supplies would be extremely high. Cf. *Agenda 2000, The Challenge of Enlargement*, July 1997, Vol. II.

nuclear waste, as well as the uncertainty as to the availability of financial means to ensure safe decommissioning⁹. The proposal sets out basic obligations and general principles on the safety of nuclear installations¹⁰, including common standards and monitoring mechanisms to ensure uniform application of the same safety criteria throughout the EU. It notes that without a common reference framework to monitor pre-accession commitments in this sector, the EU could be accused of differential treatment between the new and the present Member States. The current proposal also lays out methodologies for estimating future decommissioning costs and sets forth arrangements for external decommissioning funds.

The Temelin Nuclear Power Plant and the Melk Protocol

Although assessed as a safe nuclear power plant by EU experts, the start-up of the Temelin NPP created severe tensions between Austria and the Czech Republic, with the European Commission acting as a conciliator. Tensions were partially alleviated with the signature of the so-called Melk Protocol in December 2000. In November 2001, the two countries agreed on a method to monitor the Melk Protocol by which Austria would have a watching brief over the safety of the Czech installation. This watching brief of one Member State over the nuclear safety measures of a soon-to-be Member State is a very atypical instrument that could have been prevented if there would have been common safety standards at Community level. In such case, EU standards would have served as a reference for Austria and taken over by the Czech Republic as part of the *acquis*.

The combined costs of safety upgrading for old reactors are assessed to be in the order of EUR 2 billion¹¹. These estimations do not include costs of closure. Support for adequate storage of spent fuel, radioactive waste management, decontamination of uranium mining sites, and the decommissioning of retired or soon to be retired reactors is assessed to be an additional 1 billion EUR, and possibly more¹².

A key to the solution of how to replace unsafe nuclear reactors will be to establish alternative power supply at a recoverable cost. Lithuanian policymakers were resistant to agree to early closure of the Ignalina NPP because of national dependency on the power generated (currently 70% of the country's power supply)¹³. However, Lithuania has now confirmed its commitment to close Unit 1 of the Ignalina power plant before 2005, and to close Unit 2 (which is four years younger than the first unit and with more extensive safety upgrades) by 2009. In exchange, the EU has committed to appropriate 70 MEUR each year from 2004 to 2006, and also confirmed its readiness to provide adequate assistance to the decommissioning effort beyond 2006¹⁴. Similar EU assistance will be allocated to Slovakia for decommissioning the Bohunice nuclear power plant. The PHARE programme will provide 20 MEUR each year from 2004 to 2006.

In addition to the decommissioning challenge, accession countries with nuclear power stations and research reactors will need to tackle final storage of spent fuels, previously sent to Russia but currently disposed of at temporary storage facilities that do not always meet existing Member States' standards.

⁹ Nuclear Safety in the European Union, Commission Communication COM (2002) 605 final.

¹⁰ Draft proposal for a Council (Euratom) Directive setting out basic obligations and general principles on the safety of nuclear installations. http://europa.eu.int/comm/energy/nuclear/pdf/safety/dir_surete_en.pdf

¹¹ These costs refer to VVER 440/213 and VVER 1000/320 reactors. The VVER 440/213 is an old model of pressurised water reactors lacking reactor containment. Safety upgrading is estimated at from ECU 75 and 200 million per reactor, depending on circumstances. The VVER 1000/320 model does have reactor containment and an overall safety design much closer to Western standards. However, some upgrading is necessary, at a cost per reactor estimated at between ECU 100 and 150 million.

¹² "Nuclear Safety in the Applicant Countries of Central and Eastern Europe", Briefing Note 40, European Parliament, March 1999.

¹³ Extracted from *European Voice*, by David Cronin. Issue 30 July 2001, page 6.

¹⁴ Agreements reached at European Council in Brussels, 24-25 October 2002.

Chemicals controls is a cross-cutting area, with links to the regulatory frameworks for water quality (release of dangerous substances into water), air quality, industrial pollution control, and other sectors.

The EU framework law on classification, labelling and packaging of dangerous substances, dating back to 1967, is aimed at harmonisation of national laws so that the estimated 100,000 chemicals in use can circulate within the internal market but with controls over those posing particular hazards. The CEE countries lacked similar marketplace controls during the socialist years. Today, several years into the task of approximation, there is still little information available concerning how many of the chemicals now in use in CEE countries are “new” chemicals, e.g. not yet notified within the EU system and therefore in need of testing and assessment.

Approximation with the EU chemicals requirements will require CEE countries to develop new regulatory skills and tools, including the capacity to test chemicals according to EU methodologies and to assess risks posed by certain chemicals so as to determine whether additional controls are needed. If the proposed EU Strategy for a future Chemicals Policy (REACH) goes into effect¹⁵, thousands of additional chemicals will undergo review and assessment, a burden which the CEE chemicals authorities will be expected to share.

Nature Conservation and Forests. The accession countries, with the exception of Malta¹⁶, have not received transition periods for the nature conservation legislation, in view of the fact that measures in this sector are a process as much as an end result. The two key requirements, the Birds and Habitats Directives, are not generally regarded as investment heavy EU environment legislation, yet the measures needed to implement properly their requirements will place a heavy administrative and financial burden on authorities. For example, financial compensation to private owners of land having environmental significance is often necessary, if protective restrictions need to be imposed.

Most accession countries are still in the process of identifying areas to be protected and establishing necessary restrictions in the use of these areas. And, at a time of heavy demand for public funds for investments in other areas, many nature protection authorities are fighting to preserve already shrinking budgets for nature protection.

In the biotechnology field, the EC legislation governing the deliberate release into the environment of genetically modified organisms (GMOs) puts forward a transparent procedure for authorising placement of GMOs on the market. The risk assessment associated with the release of GMOs is based on a common methodology and a system of accredited laboratories to analyse data. Costs will be mostly indirect, including investment in human resources as well as transfer of know-how to users and the public authorities. Direct costs will include establishment of registers for recording information on genetic modifications in GMOs, and structures for compulsory monitoring after GMOs have been placed on the market.

Horizontal Legislation. The horizontal requirements among the EU environmental *acquis* cover access to environmental information as well as environmental impact assessment (EIA) of projects and strategic environmental assessment of plans and programmes (SEA). Although transposition of the EIA Directive is well advanced in most of the CEE accession countries, implementation remains a challenge and is particularly important for the CEE accession countries, since EIA is a prerequisite for environmental infrastructure projects where EU financing is sought. Implementation of the EIA requirements will require extensive capacity and institutional building along with training of the respective public authorities, and experience in public consultation procedures. In the same direction communication and awareness strategies will be needed, targeting public officials and the public in general.

¹⁵ http://europa.eu.int/comm/environment/chemicals/0188_en.pdf.

¹⁶ Malta was granted a narrow transition period until the end of 2008 under the Birds Directive, but even this has caused some controversy with other Member States. The transition period allows the trapping of seven species of finches so that Malta can build up a captive breeding system.

The EU access to environmental information requirements will necessitate changes in the approach taken by the public authorities in diffusing information about the environment along with setting up of data base systems. Pending access to justice requirements as the EU prepares to accede to the 1998 Aarhus Convention¹⁷ will entail various institutional reforms including the strengthening of regional and local authorities as implementing authorities, effective judicial mechanisms and enforcement procedures

2.2 Sector integration

Since there is little EU legislation in place to date requiring Member States to meet specific goals with respect to integration of environment concerns into other sectors, sector integration has not been a major issue in negotiations of the Environment Chapter. However, the integration of environmental considerations into other policy areas, especially economically important sectors such as energy, industry and agriculture, is a legal obligation under the Treaty of Amsterdam (Article 6).

The Gothenburg European Council recognized the inadequacy of EU environmental policy per se for tackling the underlying causes of environmental degradation. It invited the EU to further develop strategies for integrating environment into all relevant Community policy areas, taking into account the relevant objectives set out in the 6th Environmental Action Programme and the EU Sustainable Development Strategy (SDS).

The accession countries' situation with respect to integrating environmental concerns into other areas is largely the same as in the EU countries. Priorities for transport include, inter alia, elaboration of environmental targets in the transport sector, introduction of more energy-efficient technologies and alternative fuels, and a refocusing of infrastructure support away from motorways to rail and urban transport. The priorities for energy include the promotion of efficient use of energy and renewable sources of energy, and internalization of environmental and other external costs. Agriculture's priorities focus on monitoring and evaluation of environmental integration and sustainable development within the CAP, using a set of agri-environmental indicators and framework indicators relating to the economic and social dimensions of sustainable agriculture and rural development.

Some sectoral integration initiatives have already been taken by the accession countries – for example, the Baltic Agenda 21, which aims at promoting environmentally sustainable development based on market economic principles in Estonia, Latvia, Lithuania, Poland and the Russian regions. However, though progress has been made, weaknesses are still apparent, including failure to identify the full range of potential risks and environmental problems; and lack of clear timetables for future development and implementation.

2.3 Regional and International Co-operation, including Climate Change

Regional and international environmental conventions have played an important role in environmental protection for many accession countries and provided links to the EU. With expansion of the EU borders due to enlargement, a number of regional conventions will become quasi-EU agreements. For example, the Convention on the Protection of the Marine Environment of the Baltic Sea Area¹⁸ (Helsinki Convention) aims to protect the Baltic Sea from all sources of pollution, through intergovernmental co-operation among Denmark, Estonia, the European Community, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. After the 2004 enlargement, Russia will be the only Party not an EU Member State.

¹⁷ 1998 UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.

¹⁸ For further information see < <http://www.helcom.fi/portal.html>>.

A similar situation exists now with the two conventions covering the Danube and the Black Sea. Two instruments for co-operation have been put in place – the Convention on Co-operation and Protection and Sustainable Use of the Danube River, in force since 1998, and the Convention on the Protection of the Black Sea against pollution, in force since 1994. Enlargement will result in the Black Sea becoming a coastal area of the EU, and Yugoslavia and Croatia the only non-EU parties to the Danube Convention.

The UNECE Convention on Long Range Transport of Air Pollution and its associated protocols on individual instances (SO₂, NO_x, etc.) will also have a large EU majority after enlargement, with Russia and Ukraine the only major emitters outside the EU.

The CEE applicant countries are all parties to the **global** conventions on ozone layer protection (Montreal Protocol), transboundary movements of hazardous waste (Basel Convention), climate change and biodiversity. They are generally meeting their commitments under these agreements without major difficulties, and since the EU is also a party to the conventions, remaining bits and pieces will be covered when implementing the relevant pieces of EU legislation. The applicant countries have been less successful in ratifying amendments to the different agreements (reinforcement of Montreal Protocol commitments, Basel Convention Ban Amendment). This delay appears to be due to overstretched administrations than to actual difficulties on the ground.

Table on Multilateral Conventions ratified by the EU

International Conventions
Vienna Convention for Protection of Ozone Layer & Montreal Protocol on Substances that Deplete the Ozone Layer
United Nations Framework Convention on Climate Change
Basel Convention on Transboundary Movements of Hazardous Wastes
Convention on Biological Diversity
Bonn Convention on Migratory Species
United Nations Framework Convention to Combat Desertification
Regional Conventions
Convention on Long-Range Transboundary Air Pollution + Protocols & amendments
Convention on Fishing and Conservation of the Living Resources in the Baltic Sea and the Belts, as amended
Convention on the Protection of the Marine Environment of the Baltic Sea Area, as revised
Convention on Cooperation for the Protection of the Danube
Convention on the International Commission for the Protection of the Oder
Convention on the Conservation of European Wildlife and Natural Habitats
Convention on Transboundary Effects of Industrial Accidents

A particularly important international agreement at this point is the UN Framework Convention on Climate Change, (UNFCCC) and its Kyoto Protocol of December 1997. Under the Kyoto Protocol, Parties which are listed in Annex I of the Convention (industrialised States) must reduce their GHG emissions by a certain percentage over a certain period (the first commitment period is 2008-2012). The EU accession countries have agreed reduction targets for that period. Many of them have put in place National Climate Change Action Plans to set out their national GHG mitigation policies and measures.

Under the Kyoto Protocol's joint implementation (JI) mechanism, economies in transition (EIT) countries may sell any "additional" reductions in emissions to other Annex I countries that need emission reduction units (ERU) to meet their climate change commitments. This mechanism enables EIT with high levels of energy intensity to attract investment. For example, one of the first JI projects in Romania will involve the Netherlands supporting a co-generation and district heating project for the municipality of Targoviste, for a total value of 13.8 MEUR. In exchange, the Netherlands will receive 1,536,140 ERUs between the years 2008 and 2012, at a price of 9 EUR per ERU. The benefits to Romania will include more efficient municipal heating supplies, less fuel consumption and cheaper

energy, better municipal air quality, a decrease in CO₂ emissions, and technologies to enable the plant to comply with EU standards for large combustion plants. The project will provide a positive example of foreign direct investment in municipal infrastructure.

Accession countries are obliged to meet the EU requirements for calculating and reporting GHG emissions¹⁹. The challenge for the accession countries with climate change will be putting in place the legal, administrative and practical instruments for carrying out accurate assessment of their GHG emissions, drafting and implementing their climate change policies.

¹⁹ Council Decision 93/389/EEC as amended by Decision 99/296/EEC.

3. Environmental Financing Before and After Accession

The many economic studies that have been carried out to determine the amount of environmental investment needed by the accession countries to comply with EU requirements have arrived at a wide range of cost estimates. The generally accepted figure for the total investment needed by all accession countries is between 80 and 100 billion EUR, but these figures remain highly uncertain (see section 3.1.1 below on cost compliance estimates). For example, Poland's environment ministry announced in February 2003 that it will need an estimated 40 billion EUR in funds to meet all EU environmental criteria by 2015, and indicated a need for massive financial assistance from the EU to achieve this deadline.

Financing of the overall investments within the timetables agreed during accession negotiations will take an estimated 2-3% GDP of the accession countries for years to come²⁰.

The European Union has already given unprecedented levels of support to the Central and Eastern European (CEE) accession countries over the past decade. EU assistance for economic transition and reform of governance structures started up immediately following the collapse of the eastern bloc at the beginning of the 1990s, through the Phare programme. The adoption of Agenda 2000 in 1999 introduced two additional programmes, ISPA and SAPARD, for a total of three pre-accession instruments.

Box 3.1: Benefits of EU Environmental Compliance

A recent study for DG Environment looked at the long-term benefits that will accrue to the candidate countries from environmental compliance, e.g. reduced pressures on the environment through diminished pollution emissions and depositions²¹. The most striking benefits were estimated to come from implementing air sector requirements – between 8 and 44 billion EUR a year by 2010. Benefits would accrue from reduced mortality, incidence of diseases, and damage to buildings and crops - primarily from lower emissions of particulates, SO₂ and NO_x, volatile organic compounds (VOCs) and ammonia.

In the water sector, benefits of EU compliance were estimated at between 5 to 14 billion EUR a year. For the waste management sector, benefits were estimated at between 0.6 to 8.7 billion EUR a year, with implementation of the Landfill Directive the largest contributor of benefits. Aggregated benefits from compliance with the EU air, water, waste management and nature protection sectors were estimated at a value ranging between 12 and 69 billion EUR per year (note that reduced air pollution accounts for around half of the total benefits). This corresponded to between 80 and 410 EUR per capita annually.

Moreover, reductions in transboundary pollution were estimated to yield a benefit of approximately 6.5 billion EUR a year to Member States, with a further benefit of 9.5 billion EUR a year to other countries, notably Ukraine, Belarus and Russia. The study also found that acceleration of implementation would result in even higher total benefits, because earlier reductions would enable benefits to start accruing earlier.

The EU programmes of assistance for the CEE countries have not included Malta and Cyprus, and this has put their environment ministries at a disadvantage in their pre-accession efforts. However, specific packages of support have been developed recently.

²⁰ Communication from the European Commission on the Challenge of Environmental Financing in the Candidate Countries, COM(2001) 304 final.

²¹ Data extracted from *The Benefits of Compliance with the Environmental Acquis for the Candidate Countries* (ECOTEC, EFTEC, IEEP, Metroeconomica, TME & Candidate Country Experts, 2001)

While the accession countries also receive considerable assistance from other sources, including bilateral donors and the various international financial institutions, the EU is today the largest donor, providing an overall amount of 2.5 billion EUR a year in EU assistance to the ten CEE accession countries. This amount will expand three-fold after accession. An examination of these programmes and their effectiveness therefore merits particular attention. The chapter first looks at whether the accession country cost estimates are realistic, secondly at the major pre-accession instruments, then at own country finance and finally how things will change upon enlargement.

3.1 The Pre-Accession View

3.1.1 Are the Accession Country Estimates of Cost Compliance Realistic?

All of the Accession countries face major costs in upgrading their environmental infrastructure to achieve full compliance with the 'investment-heavy' directives. As discussed, many countries have been granted transition periods on the basis of their directive-specific implementation and financing plans. But are the costs included in those plans realistic? For example, the cost estimates for implementing the Urban Waste Water Treatment Directive, which commits all countries to major investment in new and upgraded waste water (sewage) treatment plants and for which most transition periods have been granted, have varied widely in the past. The table on the next page compiles information from a number of different sources in order to compare the Member States' per capita investment costs with those put forward by the accession countries.

Since population is the key determinant of the need for urban wastewater treatment, it is relevant to compare investment costs on a per capita basis. Initial estimates made in 1997 of the costs faced by the 10 CEE applicant countries indicated a total investment of around 33.05 billion EUR (193 EUR per capita). This seems low compared to the average of 400 EUR per capita across the EU based on an analysis of historic and projected expenditure. However, it is much closer to the average of 257 EUR per capita across the four Cohesion Countries (CC-4, i.e., Greece, Ireland, Portugal and Spain). In fact the range of costs in the five CEE countries for which data are available (225-330 EUR per capita) is considerably narrower than in the CC-4 (142-432 EUR per capita) and narrower still than in the other EC Member States (210-1,208 EUR per capita, with an average of 430).

But population is not the only determinant. The level of investment also depends on the level of connection to the (public) sewer, and on the extent and intensity of treatment - in particular, where there is no treatment (direct discharge) or only mechanical treatment (screening). Estonia has a high level of sewer connection (70%) and only 2% with no or mechanical only treatment, so it is reasonable that per capita costs should be lower here. Slovakia has 54% connected to sewer but only 49% with treatment: it is therefore closely comparable with Spain (48%) in this respect, and indeed the per capita costs of compliance are very similar (277 EUR per capita compared to 276 in Spain).

The Czech Republic has the highest 75% connection rate, comparable to Portugal (82%). However, the Czech population served by treatment (65%) is much higher than in Portugal (only 36%), where the amount of 'mechanical only' treatment is high (18% - data not available for Czech Republic). Ireland is most directly comparable, and has a per capita cost of 432 EUR compared to 298 in the Czech Republic. Poland (52% connected to sewer and treatment) is more comparable to Spain (48%), and both levels of mechanical only treatment are similar. Poland's per capital spend is estimated at 326 EUR, compared to 276 in Spain.

Country	Population M ¹	Cost Bn €	Cost € per capita	Public Sewer ²	No Treatment ³	Mechanical Only ⁴
EU-15	376.457	150.77 ⁵	400	n/a	n/a	n/a
CC-4	63.760	16.39 ⁶	257	n/a	n/a	n/a
AC-15	170.861	33.05 ⁷	193	n/a	n/a	n/a
Greece	10.543	1.50 ⁸	142	67.5%	11.3%	32.4%
Portugal	9.998	2.39 ⁹	239	82.0%	46.0%	17.8%
Spain	39.442	10.87 ¹⁰	276	48.3% with treatment		3.3%
Ireland	3.777	1.63 ¹¹	432	57.6% with treatment		1.8%
Estonia	1.436	0.32 ¹²	225	70.0%	1.0%	1.0%
Slovakia	5.401	1.50 ¹³	277	54.0%	5.2%	n/a
Czech	10.272	3.06 ¹⁴	298	74.6%	9.8%	n/a
Poland	38.469	12.59 ¹⁵	326	58.0%	6.0%	4.3%
Hungary	10.024	3.31 ¹⁶	330	48.0%	22.0%	3.0%

¹ Data for 2000 from "People in Europe", Eurostat Yearbook (2002).

² "Waste Water in European Countries", Eurostat Statistics in Focus, Theme 8 – 14/2001 (2001).

³ Ibid.

⁴ Ibid.

⁵ "Investment and Employment Related to EU Policy on Air, Water and Waste", WRc for European Commission/DG ENV (2000).

⁶ Ibid.

⁷ "Compliance Costing for Approximation of EU Environmental Legislation in the CEEC", EDC/EPE for European Commission (1997).

⁸ "Investment and Employment Related to EU Policy on Air, Water and Waste" (WRc, 2000).

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ibid.

¹² Estonian Ministry of Environment, cited in "Overview of Problems with Financing of EU Environmental Aquis Communautaire in Estonia", Eeesti Roheline (2002).

¹³ "Integrated Environmental Approximation Strategy of the Slovak Republic", Government of the Slovak Republic (2001).

¹⁴ "Implementation Plan for Council Directive 91/271/EEC Concerning Urban Wastewater Treatment", Government of the Czech Republic (2001).

¹⁵ Polish Ministry of Environment, cited in "The Environmental Challenge of EU Enlargement in Central and Eastern Europe", DANCEE (2001).

¹⁶ Information provided by Hungarian Ministry of Environment and Water (2003).

This limited data analysis seems to indicate that:

- National cost estimates based on directive specific plans are higher than previous international analyses;
- National cost estimates are broadly consistent (on a per capita basis) with those for the four Cohesion Countries within the EU, but remain significantly lower than those for many other Member States;
- National cost estimates for Estonia, Slovakia, the Czech Republic and Poland are broadly consistent with the costs incurred by the most comparable Member States (again on a per capita basis).

Note that cost estimates for Hungary seem low given the extremely low levels of both connection and treatment (only 26% of the population connected to sewers and with treatment), and there is no directly comparable Member State. Though costs could be expected to be higher than in any of the

CC-4 countries, this is not the case, although the cost at 330 EUR per capita is still marginally the highest of the five AC's above.

3.1.2 EU Pre-Accession Assistance

Phare. Phare was originally created to support Poland and Hungary reconstruct their economies, but then quickly developed to encompass all of the CEE countries. The Phare programme is today the largest of the pre-accession assistance programmes to the CEE accession countries, with an annual budget of 1.56 billion EUR for the period 2000-2006. Its budget is divided between technical assistance (30%) and support for economic development in the more impoverished regions of the accession countries (70%). Overall administration of Phare is through the European Commission's Directorate General on Enlargement, with administration of country programmes now handled nationally via Central Financing and Contracting Units.

In the past three years, much of the technical assistance provided by Phare has been in the form of twinning programmes involving the placement of Member State officials with specific administrative experience as pre-accession advisers working full-time for one year or longer in the corresponding accession country ministry. The rest of the budget primarily supports national regional development programmes, and has become a significant source of funding for environmental infrastructure investment in rural areas. The support for the national regional development programmes is considered the precursor for post-accession Structural Funds.

SAPARD. The Special Programme for Agriculture and Rural Development (SAPARD) has an annual budget of 0.52 billion EUR for the period 2000 to 2006. The SAPARD budget is allocated each year among the CEE accession countries on the basis of such criteria as farming population, agriculture area, GDP per capita in purchasing power and each country's territorial situation. Administered by the European Commission's Directorate General on Agriculture, it aims to assist with problems of structural adjustment in the agriculture sectors and rural areas. The programme can in theory be used to finance certain types of environmental measures for rural communities, e.g. manure storage facilities to comply with the Nitrate Directive, agricultural water resource management, forestry and land improvement. In practice, however, it is seldom used for environment-related purposes. Unlike Phare and ISPA, SAPARD has from the outset been managed on a decentralised basis. Each CEE candidate country was obliged to establish a national SAPARD management authority before funds were made available. Though this did cause considerable initial delay, all CEE candidate countries have now been conferred management of their national SAPARD aid programme, including management of payments to beneficiaries²².

ISPA. The Instrument for Structural Policies for Pre-accession (ISPA) splits its annual budget of 1.04 billion EUR between major environmental (50%) and transport (50%) infrastructure projects. Administered by the Directorate General on Regional Policy, ISPA is considered the pre-cursor for a post-accession Cohesion Fund. ISPA environment-related support is focused on large-scale infrastructure projects considered priorities under the respective country's Accession Partnership. Each country has been required to prepare ISPA strategies setting forth their specific priorities and approaches towards ISPA implementation.

²² Bulgaria was the first country to receive SAPARD accreditation on 14 May 2001, and Hungary was the last to be accredited on 26 November 2002.

Like SAPARD, ISPA funds are distributed among the CEE accession countries on the basis of certain criteria, i.e., size of population, per capita GDP, and land surface area:

Country	Range by percent	Range by MEUR
Bulgaria	8 – 12%	41.6 – 62.4
Czech Republic	5.5 – 8%	28.6 – 41.6
Estonia	2 – 3.5%	10.4 – 18.2
Hungary	7 – 10%	36.4 – 52
Lithuania	4 – 6%	28.8 – 31.2
Latvia	3.5 – 5.5%	18.2 – 28.6
Poland	30 – 37%	156 – 192
Romania	20 – 26%	104 – 135.2
Slovenia	1 – 2%	5.2 – 10.4
Slovakia	3.5 – 5.5%	18.2 – 28.6

The ISPA programme requires the projects it finances to have a minimum budget of at least 5 MEUR, along with a minimum of 25% co-financing from the recipient country. The smaller accession countries, e.g. the Baltic Republics, have had problems preparing projects that meet the 5 MEUR threshold, having already financed their major wastewater treatment plants in the 1990s to meet HELCOM obligations. In principal, ISPA allows countries to group a number of smaller projects together to achieve the 5 MEUR threshold, but in practice few groups of projects have been approved to date²³. Though the rules governing ISPA have recently been modified to allow smaller municipalities to be eligible for ISPA funding (from 300,000 to 150,000 inhabitants), it remains difficult for smaller municipalities to apply for and successfully receive funding.

Many of the accession countries have had difficulties in absorbing the ISPA grants for infrastructure. Part of the problem is a general lack of overall planning to ensure strong pipelines of projects (mostly municipality-based) under preparation for future financing. There are also problems to meet the demanding technical requirements necessary to qualify for ISPA funding. The ISPA application process requires the completion of full engineering feasibility studies and detailed financial analyses. Preparation of the necessary documentation requires a major effort on the part of the project proponent – usually a municipality – and when the project fails to receive approval, the cost of preparation is lost.

Moreover, though all of the accession countries have succeeded to date in getting EU commitments to take up their full allotment of funds under ISPA, additional delays have occurred in actual disbursement of those funds. Even if a project has been approved, ISPA funds cannot be disbursed until the project has been tendered and contracted in accordance with EU public procurement procedures. As of mid-2002, no disbursement had yet taken place for any of the ISPA projects approved under the 2000 allotment.

A recent report produced by Bankwatch and WWF made the point that it was necessary to closely supervise the administration of the EU pre-accession funds (ISPA, SAPARD, PHARE) to ensure the application of EU environmental law. The report noted that SAPARD projects often encourage intensive agriculture, while much of the ISPA funding for transport projects had gone to motorways instead of sustainable urban transport, which could lead to negative impacts on biodiversity²⁴.

²³ The only group of projects approved as of autumn 2002 was a cluster of 6 landfills in Bulgaria (ISPA grant of 45 MEUR; total budget of 63 MEUR). But the individual projects in the group reportedly each exceeded 5 MEUR, so the grouping was not an effort to avoid this threshold.

²⁴ Progress on Preparation for Natura 2000 in Future EU Member States, WWF report, January 2003.

Cyprus and Malta. Cyprus and Malta have not been eligible for the three pre-accession instruments aimed at the CEE accession countries, which has put their environmental ministries at a disadvantage in their pre-accession preparations. The EU entered into individual Framework Agreements with Cyprus and Malta in 2001²⁵, and provided 57 MEUR for Cyprus and 38 MEUR for Malta for pre-accession implementation measures through 31 December 2004²⁶. In 2001, Malta received pre-accession aid totalling 7.5 MEUR and Cyprus received 11.5 MEUR. Malta and Cyprus are also eligible for loans from the European Investment Bank within the Euro-Med framework.

The **European Investment Bank** also funds projects for the accession countries. In 2001, EIB advanced a total of 2.7 billion EUR for projects in the 10 CEECs, Cyprus and Malta²⁷. The EIB's loans are spread over almost all key sectors of EU policy. Over the period 1990 – 2000, 46% of its loans to accession countries were in the transport sector, 18% was for environment and municipalities, 15% for telecoms, 15% for global loans and industry and the remaining 6% was for energy²⁸. The environmental projects which have been financed include water treatment and municipal waste processing in Hungary, water supply and sewerage networks in Poland, Czech Republic and Slovenia, water supply and sewerage in Cyprus and sewerage and desalination in Malta. Many of the environmental projects financed by EIB are also co-financed with aid from the ISPA programme.

Other sources of EU assistance also deserve mention. DG Enlargement's **TAIEX** Directorate provides technical assistance and advice on transposition, implementation and enforcement of the *acquis* through expert missions, seminars and workshops. The current 2000 - 2004 phase of **LIFE**, the Financial Instrument for the Environment managed by DG Environment, has an annual budget of 640 million EUR which it uses for co-financing environmental initiatives within the EU and accession countries.

Decentralisation of EU assistance management. To help the Accession countries prepare for taking on full responsibility and liability for the management of all Community assistance after accession, the Commission has been working with the various accession countries since 1999 to assist them to move towards decentralised implementation of PHARE and ISPA projects. Under the Extended Decentralised Implementation System (EDIS)²⁹, all responsibility for procedural management of EU funds will be passed over to the accession country's implementing agencies once a country has set in place the necessary financial accountability systems and the Commission is satisfied that Community funds will be handled appropriately. At this point the Commission's role will change from ex-ante approval of projects to that of general monitoring and ex-post evaluation of selected projects. The final aim of such process is to prepare accession countries to effectively manage larger funds, such as the Structural and Cohesion funds, under the final monitoring and auditing of the Commission's services.

The accession countries must have EDIS in place by accession. They were originally given the deadline of the end of 2002 for implementing EDIS. However, the EDIS process is going very slowly, and none of the accession countries had qualified by the end of 2002³⁰. Though Cyprus and Malta had reached the final of four stages, most of the other countries were still in stage I for Phare

²⁵ Council Decision 2002/39/EC concerning the conclusion of a Framework Agreement between the European Community and the Republic of Malta on the general principles for participation in Community programmes; Council Decision 2002/78/EC concerning the conclusion of a Framework Agreement between the European Community and the Republic of Cyprus on the general principles for participation in Community programmes.

²⁶ Council Regulation No 555/2000.

²⁷ EIB Press Release "Financing in Accession Countries", 25/07/2002 on www.eib.org.

²⁸ EIB document "The Bank's operations in the Accession countries of Central and Eastern Europe. Review of current and future lending policy" at page 6.

²⁹ Council Regulation 1266/99 on co-ordinating aid to the applicant countries in the framework of the pre-accession strategy and amending Council Regulation 3906/89/EEC as amended.

³⁰ Communication to the Commission on the phasing-out of PHARE in the acceding countries, the revision of the PHARE Guidelines and the revision of the PHARE Cross-Border Commission Regulation No 2760/98, C(2002) 3303-1.

and ISPA. In an attempt to speed up EDIS implementation, the Commission created a High Level Working Group in each accession country in June 2002 to highlight the political importance of the EDIS process and to monitor progress.

The October 2002 Regular Report noted the continuance of various problems. The accession countries lack experience in using Community funds, as has been demonstrated by the slow take-up of appropriations under Phare and, to a lesser degree, the other pre-accession instruments, SAPARD and ISPA. Inadequate inter-ministry co-ordination, which is indispensable for the preparation of integrated regional development programmes under Objective 1 of the Structural Funds, was one type of problem. Secondly, there were delays in definition and allocation of duties among the bodies responsible for the future management of programmes. Lastly, the Commission noted that administrative and budgetary procedures required to mobilise partial financing and to ensure programme management was weak.

3.1.3 Own Country Finance

Throughout the accession process, the EU has emphasized that at least 90% of the cost of environmental investments needed for EU accession had to be borne from countries' own sources, and that this financing burden could come to 2–3% of annual GDP. However, as the bar chart in Annex 1 on environmental protection expenditure as % of GDP shows, the CEE accession countries already expend on average twice the proportion of their GDP for environmental protection in comparison to the rates expended in EU Member States. Bulgaria leads with 1.1% of GDP going for environmental expenditures, which is only half of what is needed.

The specialised environmental funds set in place by almost all of the CEE applicant countries are today important sources of financing for environmental purposes. The funds are operating at national and/or local level and are typically based on systems of pollution fees and penalties. Poland's system of environmental funds, established in 1989, has been especially effective, particularly for financing of municipal infrastructure such as wastewater treatment and solid waste management facilities. The National Fund for Environmental Protection and Water Management and the related regional, county and municipal-level environmental funds supply an estimated 40% of the financing for environmental protection in Poland. Though the environmental funds in other CEE applicant countries have found it difficult to repeat Poland's success in generating large amounts of domestic capital, they have played other important roles in facilitating environmental investment, including support for project preparation and for management of donor-financed projects.

Other own sources of finance include national and local budgets, commercial financing, and public/private partnership. Several accession countries have prepared environmental financing strategies to plan in more detail how they might secure the financing for the necessary public sector infrastructure³¹. So it is not immediately evident how the accession countries will find sufficient own sources to complete the environmental investments necessary to achieve compliance by the end of the negotiated transition periods.

3.2 After the 2004 Enlargement

3.2.1 Post-accession assistance

After accession, the new Member States are still expected to have financing gaps. However, the package of EU assistance will increase considerably following the decisions taken at the Copenhagen Council in December 2002, which endorsed a financial package with respect to enlargement that comes to a total of 40.8 billion EUR. The Structural Funds and the Cohesion Funds were allocated 21.7 billion EUR for the period 2004 – 2006, with a third of this amount to the Cohesion Funds.

³¹ Cf., Lithuania Environmental Financing Strategy, supported by the Danish Environmental Protection Agency/DANCEE (2001).

Cohesion Fund and Structural Fund Commitment Appropriations for the New Member States¹

Country	Cohesion Fund		Structural Funds					(€Million, 1999 prices)		Total
	Indicative allocation (as % of total)		Objective 1	Objective 2	Objective 3	FIFG	C.I.			
							Interreg	Equal		
CY	0.43%	- 0.84%	0	24.9	19.5	3.0	3.8	1.6	52.8	
CZ	9.76%	- 12.28%	1286,4	63.3	52.2	0	60.9	28.4	1491.2	
EE	2.88%	- 4.39%	328,6	0	0	0	9.4	3.6	341.6	
HU	11.58%	- 14.61%	1765,4	0	0	0	60.9	26.8	1853.1	
LT	6.15%	- 8.17%	792,1	0	0	0	19.9	10.5	822.5	
LV	6.07%	- 7.08%	554,2	0	0	0	13.5	7.1	574.8	
MT	0.16%	- 0.36%	55,9	0	0	0	2.1	1.1	59.1	
PL	45.65%	- 52.72%	7320,7	0	0	0	118.5	118.5	7635.3	
SI	1.72%	- 2.73%	210,1	0	0	0	5.7	5.7	236.8	
SK	5.71%	- 7.72%	920,9	33.0	39.9	0	19.7	19.7	1050.3	
Total	7,590.5		13,234.3	121.2	111.6	3.0	424.4	223.0	14,117.5	

¹ European Commission, Second Progress Report on Economic and Social Cohesion, Brussels, 2003, COM (2003) 34 final. €38,4 million is to be added to the total of €14,117.5 million under technical assistance.

As with ISPA, 50% of the post-accession Cohesion Fund is to go for environmental investment, and will be allocated to recipients on the basis of population, per capita GDP and land surface area. As can be seen from the table, aid from the Structural Funds will be concentrated chiefly on Objective 1: promoting the development and structural adjustment of regions whose development is lagging behind (defined as regions whose per capita GDP is less than 75% of the EU average). The distribution of Cohesion Fund and Structural Fund appropriations for the new member states is given below.

Country	Pre-accession ISPA	Cohesion Fund (post)
	Indicative allocation (as % of total)	Indicative allocation (as % of total)
BU	8 – 12%	na
CY	na	0.43% - 0.84%
CZ	5.5 – 8%	9.76% - 12.28%
EE	2 – 3.5%	2.88% - 4.39%
HU	7 – 10%	11.58% - 14.61%
LT	4 – 6%	6.15% - 8.17%
LV	3.5 – 5.5%	6.07% - 7.08%
MT	na	0.16% - 0.36%
PL	30 - 37%	45.65% - 52.72%
RO	20 – 26%	na
SI	1 – 2%	1.72% - 2.73%
SK	3.5 – 5.5%	5.71% - 7.72%
Total		7,590.5

A comparison between the national allocations under ISPA and the post-accession allocations under the Cohesion Fund indicates that most CEE accession countries will receive a larger proportion than under ISPA, due to redistribution of the percentages allocated under ISPA for Bulgaria and Romania. For example, whereas Poland received between 30 and 37% of the annual 1 billion EUR allotment for ISPA funding, after accession it could receive up to 46-53% of the much larger allotment for Cohesion Funding.

The question remains whether the accession countries will be able to utilise this assistance. The EDIS was introduced to try to prepare the candidates for use of the Structural and Cohesion Funds, but as discussed earlier, it is progressing slowly and none of the candidates have yet been accredited. In light of these problems, the European Commission secured commitments from the accession countries that they would establish and improve administrative structures and monitoring and control procedures which are vital for the sound and effective management of both Funds. The accession countries have committed to making the required adjustments by end of 2003.

Implementation of both the Structural and Cohesion Funds in the new Member States constitutes a major challenge for both the EU and for the beneficiaries. The EU will need to find the resources needed to ensure effective cohesion policies in the regions of the new member states, whilst the accession countries will have to meet the challenge of integrating very quickly into a system which was not designed for them. Slovakia, Poland, Hungary and Czech Republic are expected to present proposals for a more efficient approach towards the disbursement of post-accession funds.

The European Commission has also made some provisions relating to aid for Bulgaria and Romania, the two countries that will not join before 2007. The Commission's Roadmaps for Romania and Bulgaria indicated that their pre-accession aid will increase progressively from 2004 to an additional 40% by 2006³². However, such an increase will be conditional on reaching the progressive milestones set out in the roadmaps and on ensuring sufficient absorptive capacity to effectively use the funds. The Accession Partnerships will continue to be the basis for programming pre-accession assistance to both countries, but will need to be complemented with the priorities established in the roadmaps, the European Commission's Regular Reports and each country's revised National Development Plan.

³² Roadmaps for Bulgaria and Romania, 13 November 2002, COM (2002) 624 final.

4. Review of the Accession Countries

This chapter provides a brief synopsis of each of the ten accession countries scheduled to join the EU in 2004 with respect to its environmental situation and its preparedness for accession. After giving a brief country profile, the synopsis discusses the accession country's negotiations with the European Commission on the environment chapter, requested transition periods, and the status of approximation for the main environmental sectors. The synopsis concludes by analysing each applicant's capacity for environmental administration and its strategy for financing the investment in environmental infrastructure required for achieving compliance with the investment-heavy directives. Bulgaria and Romania, the two countries scheduled for accession in 2007, are profiled at the end of the section.

4.1 Cyprus

Cyprus – Country Environmental Profile¹	
Population	728,000
Area	9,251 sq. km.
Total GDP / per capita GDP	10,200 MEUR / 18,460 EUR
% of country protected for its natural value	19%
Facilities subject to IPPC requirements	100
Nuclear power plants	0
% of population served with waste water treatment	45% in urban areas, 11% in rural areas
% served by drinking water supply systems	100%
Total environmental costs to meet EU standards	1,100 – 1,300 MEUR

¹ The information used to compile this profile box was taken from the Cyprus Press and Information Office (CPIO), <http://www.pio.gov.cy/cyprus/facts.htm>; EUROSTAT Quarterly Accounts, 2002 (giving data for 2001); the MANRE's Environment Service; and other data on GDP spent on environment by industry provided by EUROSTAT but not yet published on their website.

Cyprus is a small island situated in the south-eastern part of the Mediterranean with a strong economy based largely on the tourism and financial services sectors and on manufacturing, and the highest per capita GDP of any of the accession countries.

The primary pre-accession issue remains the country's partition since 1974 into two territories held respectively by the Greek Cypriots and the Turkish Cypriots. It would be preferable to reach a solution to this conflict so as to enable a reunified Cyprus to join the EU. However, according to the Helsinki conclusions, a political settlement to the conflict is not a pre-requisite for accession. At the Copenhagen Council in December 2002, the Greek Cypriots and Turkish Cypriots were encouraged to conclude a settlement by 28 February 2003. However, UN-lead unification talks between the two sides broke down in the Hague in March 2003. The Greek Cypriots today comprise 88% of the island's population yet occupy just 63% of the island's territory³³. The rapid economic development of the last 30 years has caused severe pressures on Cyprus's natural environment, particularly its coastlines. The all-important tourist industry adds to the pressure on the island environment.

Environmental responsibilities in Cyprus fall under the Environment Service of the Ministry of Agriculture Natural Resources and Environment (MANRE). The EU's negotiations with Cyprus on the environment chapter were provisionally closed in July 2001. The European Commission's Regular Report of October 2002 commented that from 2000 to 2002 Cyprus made steady progress in aligning with the EU environmental legislation and in strengthening its administrative capacity³⁴.

³³ According to Greek Cypriot sources, the population of the north part of the island is 88,000 whereas Turkish Cypriot sources say that it is 200,000.

³⁴ Ibid.

Cyprus has been granted four transitional periods:

Sector	Directive	Transition period granted
Water quality	Urban Waste Water	End 2012
Waste management	Packaging Waste	End 2005
Air quality	Sulphur Content of Liquid Fuels	End 2004
Industrial Pollution Control	Large Combustion Plant	Special Provisions

With regard to the **horizontal** requirements, Cyprus's law on EIA is reportedly fully implemented with the necessary public involvement³⁵. An EIA committee made up of officials of various Government agencies and NGOs, meets regularly to assess the impact of projects. If the project is approved, the Department of Town Planning and Housing grants development consent.

Water is precious in Cyprus, a country often affected by droughts. Almost all water resources result from rainfall. Cyprus's water policy aims to provide adequate supplies of drinking water and water for irrigation, agriculture, tourism and industry. While the Cypriot government has increased dam and reservoir capacity and introduced seawater desalination, there is still a need to address national water management in an integrated and cohesive manner. A draft Water Entity Bill will, when enacted, establish a Water Authority to manage water on a national level. The whole island is to be considered as one river basin district.

Because only 11% of the rural population are served by wastewater treatment facilities, compared to 45% in urban areas³⁶, Cyprus has been given until 2012 to complete implementation of Urban Waste Water Treatment Directive. MANRE estimates that 460 million EUR and 210 million EUR will be needed for collection system and waste water treatment construction, respectively. The current plan is for 27% to come from state budget funds, 59% from commercial loans, and 68% to be borne by the local Sewage Boards via loans granted from commercial banks and international institutions, as well as user charges. Cyprus has fully implemented the Drinking Water Directive.

Cyprus's most problematic sector remains **waste management**³⁷. Implementation is delayed until the adoption of the comprehensive Bill on Waste Management and the regulations falling under it which transpose the EU waste framework requirements as well as the obligations on landfills and disposal of waste oils, PCB/PCTs, and batteries / accumulators. Most of Cyprus's waste is deposited in landfills, few of which are properly permitted, or monitored and inspected. Only a 10% recycling rate has been achieved so far. Cyprus's waste management strategy was finalised in October 2002, which should help with implementation planning. In order to comply with the Landfill Directive, upgrading of the three existing municipal landfills will be needed. Under the new strategic plan, four additional landfills for the whole island will be created³⁸.

Preliminary assessments of Cyprus's ambient **air quality** are being carried under a UNOPS-funded project³⁹, and the results will be used to formulate an air quality management policy. Cyprus has been granted until the end of 2004 for implementation of the Reduction in Sulphur Content in Liquid Fuel Directive, including setting up a system for sampling and analysing fuel oils, and for enforcement.

Of the 100 facilities that fall within the ambit of the IPPC Directive, some 72 are agricultural. The country already has a network of inspectors for industrial pollution since 1992. However, the current permitting system splits competence between MANRE, which issues discharge licences for liquid and

³⁵ Law on the Assessment of Effects of Certain Public and Private Projects on the Environment (57(I) 2001)

³⁶ Information provided from MANRE's Environment Service in Cyprus.

³⁷ Commission 2002 Regular Report on Cyprus's Progress towards Accession, COM (2002) 700 final, at page 99.

³⁸ Information provided by the Environment Service of MANRE.

³⁹ "Assessment of Ambient Air Quality in Cyprus", for more information see <<http://www.unopspmu.org/PR2.htm>>

solid industrial waste, and the Ministry of Labour and Social Insurance which issues discharge licences for air emissions. Full transformation into an EU-compliant integrated permitting system will take place after a new Law on Integrated Pollution Prevention and Control is adopted.

Cyprus has negotiated special arrangements with regard to the Large Combustion Plants Directive, providing for a higher emissions level for sulphur dioxide from its Dhekelia and Vasilikos combustion plants⁴⁰. During application of this more lenient emission level, Cyprus must report annually to the Commission.

The island of Cyprus provides a crossroads for millions of birds during their autumn and spring migrations between Europe and Africa. Cyprus has designated 4 nature protection shores, 4 protected sites, 8 archaeological sites and 4 areas of exceptional natural beauty. It also protects two coastal wetlands as nature conservation areas – Larnaca Salt Lake and Akrotiri Salt Lake. A draft Bill on the Protection of Nature and a new Law on Game and Wild Birds will transpose most of the EU nature protection requirements. Despite the lack of law, implementation of the Habitats Directive is considered well underway, and this sector is expected to be less problematic than others.

Cyprus's administrative capacity for implementation still requires attention⁴¹. The division of competencies between the Environment Service of MANRE for horizontal legislation and waste management and the Department of Labour Inspection for air quality and IPPC has left a rather fragmented structure of responsibilities for permitting, monitoring, enforcement and inspection. Permitting and monitoring is currently dealt with on a "media" basis and water is the responsibility of other MANRE departments. A cross-media approach thus needs to be developed. Moreover, Cyprus's environmental administration has only limited staff. Despite some recent increases in staffing, the 2002 Regular Report noted that staffing levels are still too low in the air quality, waste management and IPPC sectors⁴². Enforcement capacity in areas such as IPPC also requires strengthening.

A June 1999 study estimated that between 1,117.7 to 1,263.5 MEUR would be needed to provide the necessary infrastructure and related capital equipment to comply with the environmental *acquis*⁴³. The total annual compliance cost would range from 141.5 to 166.5 MEUR⁴⁴. About 60.1% of these costs relate to the water quality sector, 23.4% relate to IPPC, 12.8% to waste management and 2.9% to air quality.

Summary overview of Cyprus's major environmental challenges

- Speed up transposition of laws in the air quality, waste management, water, industrial pollution, and chemicals sectors, and on the Landfills Directive requirements
- Establish a Water Authority to ensure integrated water management
- Extend waste water treatment infrastructure, especially in rural areas
- Address implementation issues in the problematic waste management sector

⁴⁰ The derogation is given from Article 4(3) and Part A of Annex IV of the Large Combustion Plant Directive.

⁴¹ Commission 2002 Regular Report on Cyprus's Progress towards Accession, COM (2002) 700 final, at page 100

⁴² Commission 2002 Regular Report on Cyprus's Progress towards Accession, COM (2002) 700 final, at pages 99 and 100.

⁴³ The Role of Compliance Costing for Approximation of EU environmental legislation in Cyprus, Final Report for the European Commission, June 1999, by Metroeconomica Ltd.

⁴⁴ I.e., the annualised capital costs plus the associated recurring costs.

4.2 Czech Republic

Landlocked Czech Republic is labelled the “roof of Europe”, since all the rivers which have their source in the country drain into neighbouring countries. Large-scale structural adjustments needed in the 1990s during economic transition initially increased poverty, but the Czech economy is today healthy with unemployment levels similar to the Member States.

Czech Republic – Country Environmental Profile¹	
Population	10.4 million
Area	78,866 sq. km.
Total GDP / per capita GDP	63,300 MEUR / 13,280 EUR
% of country protected for its natural value	14%
Facilities subject to IPPC requirements	1088
Nuclear power plants	2
% of population served with waste water treatment	74.9%
% served by drinking water supply systems	87.3%
Total environmental costs to meet EU standards	10,000 MEUR

¹ The information used to compile this country profile was taken from EUROSTAT Quarterly Accounts 2002 (2001 data) and from the State Environmental Policy of the Czech Republic 2001.

The production of nuclear energy in the Czech Republic has been an accession issue. The Czech Republic and the EU agreement on the modernisation of the Soviet-built Temelin and Dukovany nuclear power stations has been heatedly opposed by Austria and other neighbours⁴⁵. Although the modernisation will result in the incorporation of Western nuclear safety measures, opponents are sceptical of any nuclear power plants primarily based on Soviet technology. The Czech Republic is receiving support from the EU to help it deal with modernisation and storage and disposal of radioactive waste⁴⁶.

The Czech Republic provisionally closed negotiations with the EU on the environment chapter in June 2001. Though transition periods had initially been requested for the Dangerous Substances to Water, Drinking Water, Nitrates and Habitats Directives, the Czech negotiators withdrew these requests following clarification from the Commission concerning the requirements of these directives⁴⁷. The Czech Ministry of Environment can now provide assurance that all measures for these four directives will be in place by accession. Extensions of time were finally granted for only three directives, as noted in the following table.

Sector	Directive	Transition period granted
Water quality	Urban Wastewater Treatment	End 2010
Waste management	Packaging Waste	End 2005
Industrial Pollution Control	Large Combustion Plants	End 2007

⁴⁵ “Czech Republic: Temelin Nuclear Plant Prepares To Go On-Line”, Radio Free Europe, 12.07.2000.

⁴⁶ Commission Decision of 2001 Establishing a Horizontal Programme for Community support in the field of Nuclear Safety for 2001. See page 7 for Czech Republic.

⁴⁷ Information provided by Ministry of Environment in Czech Republic.

Directive-specific implementation plans are updated on a yearly basis for all EU environmental legislation, including the above three directives and can be found in the Czech Republic's Implementation Plan for the Environment⁴⁸.

In the Czech Republic, 87.3% of the population are supplied with water from public **water** supply systems, with 74.9% being connected to public sewerage systems⁴⁹. The Czech Republic's transition period until 2010 covers only construction of new collecting systems and treatment plants, and includes intermediate targets for certain specified agglomerations⁵⁰. The current water monitoring system is fragmented, and needs improvement. For example, drinking water distribution systems still need to be covered by the monitoring system. Concerning the Nitrates Directive, a Government order which designates vulnerable water zones and regulates usage and storage of fertilisers, crop rotation and carrying out of erosion control measures in such zones has been adopted. As regards the Dangerous Substances to Water Directive, a reduction programme for List II substances still needs to be established and permits for dangerous substances still have to be reviewed. The legal system for permitting, inspections and enforcement is clearly established, but responsibilities are confusingly divided among an array of institutions.

Most of the Czech Republic's **waste** is disposed of in landfills. Recycling rates are still fairly low, but implementation of the Landfill Directive is well advanced. Whereas in other accession countries construction of landfills is treated as a public sector investment problem, the Czech Republic has had success in providing incentives for the private sector to finance investment in treatment and disposal facilities. Measures under the Waste Framework Directive have been put in place to ensure that waste is recovered or disposed of without endangering human health, and harming the environment. An EU-compliant waste permitting system for establishments has been created as has a nationwide collection system for packaging waste plastic, glass, paper and some metals. The remaining implementation gaps include the preparation and adoption of the National Waste Management Plan as well as plans for regions and producers scheduled to be finalised between 2004 and 2005.

The Czech Republic has done well in its implementation of the necessary *acquis* in the **air quality** sector, particularly the ambient air quality framework requirements. Zones have been defined, four agglomerations have been identified, and most of the required limit values and alert thresholds have been set up. The air quality monitoring network is in place and is quite adequate. Nonetheless, certain actions could be taken to improve the sector, such as clarification of the mechanisms required to establish emission ceilings and guidance on how to achieve the emissions ceilings, as well as to perform and enforce emission reduction plans and air quality improvement plans⁵¹. A national emission reduction programme also needs to be prepared as well as regional programmes.

Important progress was made in 2002 in the **integrated pollution prevention control** sector with firstly, the adoption of the Act on Integrated Pollution Prevention Control, which came into effect on 1 January 2003, and secondly, the establishment of an IPPC Agency under the Czech Environmental Institute. The IPPC Agency currently has a staff of 23 persons. Permitting authorities (the regional authorities) will issue one integrated permit for each IPPC installation, while the current multi-media approach will continue for installations falling outside IPPC. The Ministry of Environment is the permitting authority for installations that have a transboundary effect. The Czech environmental authorities recruited the necessary additional permitting staff when the Act on IPPC came into force. The main challenge will be the "timely issuing of integrated permits"⁵². Implementation measures in place with regard to the Large Combustion Plant Directive include approved monitoring methodologies, a licensing system and programmes on emission reductions from plants. Due to a

⁴⁸ The 2002 update of the directive-specific implementation plans was approved by the Czech Government on 8th January 2003. See website <www.env.cz>.

⁴⁹ Information on water supply was provided by the Czech Ministry of Environment. See their website <www.env.cz>.

⁵⁰ European Union Common Position on Chapter 22: Environment, Brussels, 30 May 2001, CONF-CZ 28/01, at page 4.

⁵¹ European Commission 2002 Report on the Progress of Czech Republic towards Accession, at page 107.

⁵² *Ibid.*, at page 108.

review of this Directive, the Czech Republic has now requested and been granted a transition period for Large Combustion Plants Directive.

Much effort will be required in the **nature protection** sector in order to achieve full implementation by accession. Progress has been impeded by delays in transposition of the Habitats and Wild Birds Directives⁵³. Under the Wild Birds Directives, 41 Special Protection Areas have been identified. The Habitats Directive is at an early stage of implementation.

The 2002 Regular Report states as the main criticism of the Czech Republic's **administrative system** that the existence of a large number of institutions dealing with environmental issues does not contribute to an efficient allocation of resources or clear administrative responsibilities⁵⁴. It advises of the need to establish decision-making procedures, co-operation and co-ordination among different governmental bodies at all levels and particularly in the water sector. The country has recently conducted a period of administrative reform. As of 1st January 2003, district offices were abolished and their competencies were transferred to Regional Authorities and to Municipal Authorities with extended powers for state administration. The Act on Municipalities was adopted in June 2002, which determined the new needs for human and financial resources after this transfer of certain environmental responsibilities from the districts to the municipalities.

In 2002, various increases in staff responsible for environmental issues were made at regional level and at central level. As of 1st January 2003, the Ministry of the Environment, including its regional departments, employed 581 people. Forty-eight new members of staff have been employed for various technical units. The Czech Environmental Inspectorate, made up of a central office and ten regional offices and having a staff of 678 employees, is the main responsible authority for the enforcement of environmental legislation. It carried out about 19,500 inspections in 2001 and imposed 2,627 fines worth approximately 2.1 million. The European Commission has reported that "a good system for inspection and enforcement has been established"⁵⁵.

Summary overview of Czech Republic's major environmental challenges

- Improve the fragmented water monitoring system
- Ensure quick adoption of the National Waste Management Plan as well as plans for regions and producers
- Adopt a national air emission reduction programme and clarify of the mechanisms required to establish emission ceilings

4.3 Estonia

Estonia – Country Environmental Profile¹	
Population	1.36 million
Area	45,227 sq. km.
Total GDP / per capita GDP	6,809 MEUR / 4,963 EUR
% of country protected for its natural value	10-15%
Facilities subject to IPPC requirements	140
Nuclear power plants	0

⁵³ The Habitats and Wild Birds Directives will be adopted by an Act amending Act No. 114/1992 Coll. On Nature and Landscape Protection. This Act is currently under discussion at the Czech Republic Parliament.

⁵⁴ European Commission 2002 Report on the Progress of Czech Republic towards Accession, at page 107.

⁵⁵ Ibid., at page 108.

% of population served with waste water treatment	70%
% served by drinking water supply systems	77%
Total environmental costs to meet EU standards	4,406 MEUR

¹ Financial estimates on compliance with EU standards extracted from “The Challenge of Environmental Financing in the Accession Countries”, COM (2001) 304 final.

Estonia, the smallest of the Baltic States, holds second place after Hungary among CEE countries for per capita foreign direct investment. Though Estonian GDP has risen steadily since 1999, regional divergences still remain acute in the northeast and south of the country (per capita income remain 40% lower than in the north).

Estonia’s northern coast holds the some of the world’s largest usable deposits of oil shale and produces about 93% of its electrical power from this source⁵⁶. But use of oil shale for energy production releases noxious emissions to the air, and Estonia is therefore a net air polluter to the rest of Europe. Moreover, oil shale-related industry generates some 94-98% of all hazardous wastes produced in Estonia. A development plan intends to restructure the oil-shale sector, but is constrained by socio-economic factors such as high unemployment rates in affected areas and the national security of energy supply. An estimated 1.2 billion EUR will be needed for restructuring the Estonian energy sector.

Negotiations of the environmental chapter ended in November 2002 with a total of five transition periods granted in the water, waste and air quality sectors:

Sector	Directive	Transition period granted
Water quality	Urban Waste Water Treatment	End 2010
	Drinking Water	End 2013
Waste management	Landfill	July 2009
Air quality	VOCs Stage I	End 2006
Industrial Pollution Control	Large Combustion Plants	End 2015

Estonia’s approximation efforts in the **horizontal** sector are well advanced, especially technical expertise for EIA procedures. In 2002, in the framework of an Estonian-Finnish agreement, the first transboundary EIA took place in relation to the Narva oil shale power plants. Estonia has a long tradition of openness with respect to public information and involvement in environmental matters, linked to the key role of the environmental movement in the country’s independence and to rapid implementation of the Aarhus Convention requirements.

The territory of Estonia lies entirely within the Baltic Sea catchment area. Approximately 60% of drinking **water** is extracted from groundwater aquifers. The drinking water supply network is quite old and made of iron, and the corrosiveness of groundwater has caused leakage problems and significant water losses as well as iron content at tap exceeding EU parameters. In light of the effort required to reach EU standards, Estonia was granted a long transition period until 2013 to upgrade its existing drinking water supply system. A drinking water implementation plan for the period 2002-2004 aims to ensure that all microbiological parameters are met and monitoring tasks are accomplished. To this end, the Estonian Government increased the budget of the State-monitoring programme by 140% in 2002.

The EU also received an extended time-span (until 2010) for implementation of the Urban Waste Water Treatment Directive. About 70% of the Estonian population is connected to a public sewerage system, but significant efforts are still needed to develop municipal waste water infrastructure in rural

⁵⁶ Oil shale is a solid fossil fuel with a high sulphur content and high ash residue, which is used as raw material for power production and the chemicals industry.

areas. In addition, considerable investments are needed to provide tertiary treatment (physico-chemical treatment for phosphate and nitrogen removal) because of the Baltic Seas sensitivity to eutrophication. At present, sewage sludge is discharged into wastewater treatment polishing ponds, river flood plains, surface water, or landfills. The Ministry of Environment needs to set in place a long-term strategy to dispose of the greater amounts of wastewater sludge resulting from an extended wastewater treatment system.

Framework legislation is in place in the **waste sector**, but sub-legislative acts for implementation are still needed. The Waste Management Plan (WMP), ready since December 2000, was not approved by the Estonian Parliament until December 2002. The delay resulted in a confusing situation at county and municipal levels, since the national WMP was intended as a framework document to guide subsequent development of sub-national WMPs. In the meantime, most counties and municipalities have adopted their own WMPs, and these will need to be re-adjusted to fit into the national strategy.

Estonia's most challenging task in the waste sector is the final disposal of ash and semi-coke from the oil shale industry, currently heaped on industrial landfills and causing continuous, and in many cases irreparable, contamination of groundwater with oil products, phenols, and aromatic compounds. Estonia has been granted a transitional period until 2009 to meet the Landfill Directive, in particular those requirements concerning hazardous wastes, and efforts are underway to develop a technique that will allow mitigation of the hazardous properties of oil shale ash.

Other challenges include the historical soil pollution from abandoned Soviet army bases, obsolete pesticides from former collective farms, and the radioactive tailing ponds in Silamäe (a secret uranium production factory of the former USSR) that leach nitrogen, heavy metals and nuclear pollution into the Baltic Sea. In 1997, the Ministry of Environment launched a rehabilitation project to stabilise the Silamäe by 2006.

Most existing municipal landfills do not comply with EU monitoring and hygiene standards. All existing non-compliant landfills by 2008 are to be closed and a system established of five to ten large landfills combined with waste collection points and reloading stations in remote locations. In 2002, the first landfills meeting EU requirements went into operation in Väätsa, Uikala and Torma, but their high waste disposal charges will need be competing over the next decade with free-of-charge old landfills. A total of 13 MEUR will be needed during 2002-2006 to build new landfills and ensure safe closure of the existing ones.

Today, 15% of packaging waste is collected and recycled, mainly beverage packaging where an excise duty exists. Additional economic incentives and voluntary schemes may need to be set in place to ensure that Packaging Directive targets are met.

Air pollution has been steadily decreasing since the early 1990s due to the decrease of industrial production and the collapse of the export market for electricity to the Russian Federation. However, sulphur dioxide and particulate matter emissions from oil shale combustion still remain high compared to EU levels, especially in the Narva region.

In the **industrial pollution control** sector, a joint Danish Estonian project to assist on approximation with the IPPC Directive resulted in the adoption of an IPPC Act, which entered into force in May 2002 and identified 140 facilities falling under the scope of the Directive. Information exchange needs to be improved between the County Environmental Departments, which issue permits, and the inspectorate which controls them.

A transition period until 2015 has been granted to allow existing oil shale firing combustion plants to fully comply with the desulphurisation rates and emission limit values for dust set out in the Large Combustion Plants Directive.

More than 10% of the Estonian territory is under **nature** protection. National legislation provides that each protected area should have a management plan drafted in close consultation with the local

population. In July 2000, Estonia adopted a national programme for implementation of the Natura 2000 network requirements, including a detailed work plan and budget for the period 2000-2007. The immediate outcome has been a doubling since 2000 of the available national funding for nature and forestry-related projects. Just before the 2002 Copenhagen Council, the EU agreed to a five-year derogation to the Habitats Directive allowing the hunting of lynx in Estonia⁵⁷.

With regards to the administrative challenge, the 2002 Regular Report underlined the need to allocate additional resources in the legal department of the Ministry of Environment to complete transposition in the air, nature and radiation protection sectors, and to ensure that implementing regulations were issued in all sectors. Environmental capacity of the municipal authorities is weak and enforcement needs to be strengthened. The Regular Report also suggested that judges should be specifically trained to provide for legal action to prevent and punish environmental damage.

The Environmental Investment Centre under the Ministry of Finance is currently in charge of environmental financing. In principle, priority is given to those projects that fall under the scope of the National Environmental Action Programme (NEAP); but in practice, priority is based on EU approximation challenges with the greatest bulk of financing being in the water, waste and nature protection sectors. The NEAP foresees a total investment of 760 MEUR (11,810 MEKK) to effectively implement the country's environmental priorities during the period 2001-2003. However, current financing secured by the national budget only covers 8% of the total needed. The Estonian Government expects in 2003 an increase from 0.79% to 2.1% in the percentage of GDP spent by industry on environment.

EU funds remain one of the greatest sources for financing environmental priorities. However, project preparation is a very costly issue for local authorities and the ratio of rejected projects has been very large in the past three years (80-90%) with most preparation costs being lost.

Summary overview of Estonia's major environmental challenges

- Strengthening environmental capacity of municipal authorities
- Strategy for sustainable use, mitigation of harmful impact, and phase-out of shale oil deposits
- More effective enforcement of environmental legislation
- Upgrade of drinking water network
- Develop municipal waste water infrastructure and introduce tertiary treatment for waste water discharges into sensitive areas
- Remediate historical contamination, by ensuring funding for safe closure of non-compliant landfills
- Conduct public awareness campaigns to promote collection & recycling packaging waste
- Improve information-exchange among IPPC competent authorities

⁵⁷ Environmental Council Conclusions (15524/1/02 REV 1). Brussels, 11 December 2002.

4.4 Hungary

Hungary – Country Environmental Profile	
Population	10 million
Area	93,036 sq. km.
Total GDP / per capita GDP	57,800 MEUR / 11,880 EUR
% of country protected for its natural value	8.64%
Facilities subject to IPPC requirements	970
Nuclear power plants	1
% of population served with waste water treatment	60% connected to public sewerage, 22% connected to sewage treatment
% served by drinking water supply systems	98%
Total environmental costs to meet EU standards	10,000 MEUR

Since the collapse of communism in 1989, landlocked Hungary has been politically stable. The Hungarian economy is now one of the healthiest in the region with a 2.9% growth rate, relatively low unemployment, and inflation at the lowest recorded rate in the last ten years. The mid 1990s saw the enactment of a new set of environmental laws and the adoption in 1997 of Hungary's first National Environmental Programme.

Hungary has one Soviet-designed nuclear power station, Paks, which, following a six-year modernisation programme ending in 2002, now meets international safety standards.

On the 12th April 2003, the Hungarian public voted in favour of EU accession. Hungary has achieved considerable progress in aligning with the EC environmental *acquis*, and Environment Chapter negotiations with Hungary were provisionally closed in June 2001. Hungary was granted transition periods for four investment heavy directives:

Sector	Directive	Transition period granted
Water quality	Urban Wastewater	End 2015
Waste management	Packaging Waste	End 2005
	Incineration of Waste	End 2005
Industrial Pollution Control	Large Combustion Plants	End 2004

Hungary benefits from having plenty of **water** resources, but due to its situation at the bottom of the Carpathian basin, often suffers from floods. Implementation of the Urban Waste Water Directive remains a serious challenge. Hungary has requested till 2015 for final compliance which will cost an estimated 3,306 MEUR, 75% of which for construction of treatment plants. The Drinking Water and Nitrates Directives have both been transposed. An Action Programme for implementation of the Nitrates Directive started up in January 2001 and a Programme for Implementation of the Drinking Water Directive is also in progress.

Hungary is well along the process of transposing the EU **waste sector** requirements, including adoption of a law on waste management fines to ensure better enforcement in this sector. Delays in the development of a comprehensive National Waste Management Plan (NWMP) have held back other developments in this field such as regional and local waste management plans. However, the NWMP was finally adopted in December 2002, and now work has started on regional waste plans.

The municipal waste collection system covers 85% of the population. Most of the collected waste is deposited in landfills but, of the 728 landfills in operation, only 10% meet the EU requirements⁵⁸. Separate collection and sorting of municipal waste still must be implemented, as well as a comprehensive system for selective collection of packaging waste from communal sources, hence the need for a transition period until 2005 for the Packaging Waste Directive.

The June 2002 National ISPA Strategy estimates that implementation of all EU waste sector requirements could cost as much as 1,5 billion EUR. Cost of compliance with the Landfill Directive alone is estimated at 555.5 MEUR. There is also not yet sufficient capacity to treat industrial hazardous waste, including the large amounts that have accumulated over the last decades. A special remediation programme was adopted in 1996 to address the considerable amount of land contaminated by past military and industrial activities, but lack of budget has hindered implementation.

In the **air quality** sector, the decrease in industrial activity during the period of economic transition has reduced concentrations of sulphur dioxide and dust deposition. However, nitrogen oxides and tropospheric ozone are current areas of concern due to the country's rapidly growing car fleet and emissions from power plants and industry. Measures still need to be adopted on the sulphur content of liquid fuels and on ozone and tropospheric ozone. Also, Hungary's air quality monitoring network should be extended.

In the closely related field of **industrial pollution control**, transposition and implementation of the Large Combustion Plant (LCP) Directive still needs to be completed. Hungary has until December 2004 to implement the LCP requirements, estimated to cost 69.4 MEUR⁵⁹. Implementation of the Integrated Pollution Prevention and Control (IPPC) requirements by October 2007 poses one of the greatest environmental administration challenges for Hungary. Hungary's existing permitting system, which currently requires up to 14 different permits in order for a new installation to operate, will need to be consolidated to a system capable of issuing one integrated permit. This should be more straightforward and effective, but issuing integrated permits for the 970 facilities subject to IPPC will take time, and at the end of 2002 only two such permits had been issued so far.

A special IPPC Bureau has been created at the Institute for Environmental Management in the Ministry of Environment and Waters to assist with implementation of the IPPC Directive by preparing national guidance on BAT for different sections, collecting data and reporting. Compliance with the IPPC requirements will cost an estimated 1,7 billion EUR⁶⁰. Pollution reduction programmes for List II substances relating to the Directive on the Discharge of Dangerous Substances to Waters still need to be prepared.

Concerning **nature** protection, implementation of the Habitats Directive still requires significant work. In particular, designation of Special Protection Areas and proposed Sites of Community Importance needs to be completed.

The October 2002 Regular Report noted that Hungary's **administrative capacity** still requires close attention⁶¹, inter alia because of the complexity of the Hungarian environmental administrative system. Since the May 2002 change of government, five ministries are involved in environmental matters, each of them with various implementing bodies at regional and national level. The division of competencies among these agencies is not clear. On a more positive note, the Ministry of Environment and Waters' staff has increased by 102 in 2001, 110 in 2002 and 110 should be appointed in 2003⁶², and the overall number of personnel dealing with environmental issues has also

⁵⁸ Information taken from MoEW, National ISPA Strategy for the Environment, June 2002 at p 22.

⁵⁹ The cost estimates provided in this paragraph were provided by the Department of Integration, Ministry of Environment and Water in December 2002.

⁶⁰ Again cost estimates have been provided by the Department of Integration, Ministry of Environment and Water in December 2002.

⁶¹ Regular Report, at page 106.

⁶² Figures for 2003 given in the National Programme for the Adoption of the Acquis 2003.

increased⁶³. However, additional capacity is still needed for integrated permitting and for integrated inspections. Levels of administrative fines also need review to ensure that they act as effective deterrents.

Summary overview of Hungary's major environmental challenges

- Complete transposition of laws in the sectors of air quality, waste management, nature protection and chemicals
- Elaborate regional and local waste management plans in accordance with the recently adopted NWMP
- Strengthen administrative capacity, especially to obtain clear division of competencies of the ministries involved in environmental protection

4.5 Latvia

Latvia – Country Environmental Profile	
Population	2.37 million
Area	64,589 sq. km.
Total GDP / per capita GDP	8,500 MEUR / 7,710 EUR
% of country protected for its natural value	8.7%
Facilities subject to IPPC requirements	58
Nuclear power plants	1 (Salaspils nuclear research reactor)
% of population served with waste water treatment	70%
% served by drinking water supply systems	83.1%
Total environmental costs to meet EU standards	1.4 MEUR

Latvia, one of the three Baltic Republics, regained its independence from the former Soviet Union in 1991. Despite the Russian economic crisis in 1999, macroeconomic indicators from 2001 show a functioning market economy with a strong GDP growth (7.7%), moderate inflation (2.5%) and low public deficit (1.8% of GDP). The country's location between Estonia and Lithuania on the shore of the Baltic Sea has meant that historically it has been a intersection point between Russia and Western Europe.

With its EU approximation efforts, Latvia firstly prioritised harmonisation of national legislation with EU standards at central level. Secondly, it developed implementation strategies and increased human resources and funding for projects at regional and local levels. Such conscious planning has meant that municipalities have been closely involved in assessing implementation needs and in financial planning.

When Latvia closed negotiations on the Environment Chapter in November 2001, it was granted eight transitional periods, on average more than other accession countries.

⁶³ 114 in 2001, 251 in 2002 and 460 are planned for 2003.
PE 322.784

Sector	Directive	Transition period granted
Water quality	Urban Waste Water Treatment	End 2015
	Drinking Water	End 2015
Waste management	Landfills	End 2004
	Packaging Waste	End 2007
Air quality	VOCs Stage I	End 2008
Industrial pollution control	IPPC	End 2010
Chemicals	Asbestos	End 2004
Radiation protection	Medical Exposures	End 2005

The Ministry of Environment and Regional Development (MEPRD) has been pro-active regarding EU **horizontal** requirements on access to information and public participation in environmental matters. The MEPRD's official website is set up so as to enable consultation of policy documents (including implementation and financing plans), recent legislation and MEPRD databases. The State Environmental Impact Assessment Bureau's staffing levels were significantly increased in 2002, following the growing number of tasks related to implementation of the IPPC and Seveso II Directives.

The challenge in Latvia's **water sector** is financing the 1.4 billion EUR investments and operational costs required to comply with the Drinking Water and Urban Waste Water Treatment (UWWT) Directives. Since Latvia's territory drains into the eutrophy-prone Baltic Sea, more stringent treatment (nitrogen and phosphorus removal) is required for all collected wastewater from agglomerations over 10,000 p.e. Compliance with the UWWT Directive will require an upgrade of 60% of the existing sewage collecting systems and treatment facilities. Only 64% of collected wastewater currently receives appropriate treatment, and additional costs for this particular Directive are estimated at 545 MEUR⁶⁴. Since 1995, the MEPRD has involved small and medium sized municipalities in the development of additional wastewater infrastructure via the "800+ programme".

Full compliance by 2015 with the Drinking Water Directive will cost an estimated 500 MEUR⁶⁵. The high cost reflects both the need to extend and replacement the existing water supply network, and to construction and upgrade of iron and manganese removal plants. Although 83% of Latvia's population are linked to centralised water supplies, the networks are rusting and obsolete, with some 60% needing to be replaced before 2015⁶⁶. Moreover, most of Latvia's drinking water is supplied from groundwater aquifers with naturally occurring concentrations of iron and manganese that are higher than EU parameters, requiring significant investment in construction and rehabilitation of iron and manganese removal facilities.

Latvia's **Waste Management** Plan for 2003-2012 pays much attention to the Landfill and the Packaging Waste Directives. Today, none of the 252 landfills in operation meet EU standards. In 1998, the MEPRD launched the "500- programme" which aims to close down obsolete landfills and construct 10 to 12 new regional municipal landfills. Latvia negotiated a transition period of 2012 for closure or refurbishment of existing landfills, and 2009 for completion of the new EU-compliant regional landfills. Hazardous waste will be stored temporarily at special storage sites until end of 2004, when a State-financed hazardous waste landfill is due for completion. A 2004 transition period has also been agreed for final disposal of asbestos waste, when a special asbestos landfill begins operation. Latvia has adopted various measures to implement the Packaging Waste Directive such as voluntary private schemes, a Council of Packaging Management under the MEPRD and tax benefits, but difficulties in meeting EU targets for recycling and recovery of packaging waste remain. Packaging waste is not yet separated from other wastes, and the recycling rate is only 15 to 18%.

⁶⁴ "Directive Specific Implementation and Financing Plan for the Urban Waste Water Treatment Directive", Ministry of Environment and Regional Development, 2002.

⁶⁵ "Directive Specific Implementation and Financing Plan for the Drinking Water Directive", Ministry of Environment and Regional Development, 2002.

⁶⁶ Latvian's Population Census, Year 2000.

An ambient **air quality** programme is now in place. It foresees substantial new investment in monitoring equipment to extend the current monitoring network. The VOCs Stage I Directive remains a major implementation challenge, particularly for smaller oil terminals and petrol stations, which now have until the end of 2008 to meet EU technological requirements.

As regards **industrial pollution control and risk assessment**, Latvia introduced integrated permitting in January 2002. Only 15 of the 58 facilities subject to the IPPC Directive require extra time (until 2010) to meet EU requirements. So far only one integrated permit has been issued, but the MEPRD has strengthened the State Environmental Inspection by establishing a new division specifically to implement IPPC and major accident hazard requirements. The Regional Environmental Boards may still require additional human resources for permitting, compliance verification, and enforcement tasks.

Concerning **nature protection**, Latvia has a rich in biodiversity with four natural reserves, three national parks, 211 natural nature reserves, 22 nature parks, and one biosphere. Some 8.7% of the country has been designated as natural areas under special protection. The 2002 State budget allocated substantial resources for designation of Natura 2000 sites, which is now underway. A Nature Protection Board started to operate in May 2002 to oversee proper implementation of the recently adopted legislation in this area.

In the **radiation protection** sector, Latvia was granted a transition period until end of 2005 to ensure that a total of 59 radio-diagnostic equipment units are provided with adequate radiological equipment as required by the EU Directive on Medical Exposures. The nuclear reactor at Salaspils, just 20 kilometres from Riga, will be decommissioned before 2009; decommissioning costs have been estimated at approximately 50 MEUR.

Latvia has made great efforts to ensure transposition of EU obligations by 2004. However, the European Commission has expressed concern on the current distribution of tasks and **administrative capacity** for implementation available at regional and local levels.

In 1995, the MEPRD's Investment Department initiated an investment strategy with two aims: (1) long-term planning for the investment-heavy water and waste sectors, and (2) intensive education and involvement of municipalities so as to implement EU requirements as early as possible (the 800+ and the 500- programmes). The investment strategy included a number of principles for sharing financing burdens, to facilitate co-ordination of donors and national budgetary resources. In addition, a largely self-financed Environmental Projects Agency was established in 1997 to supervise project implementation.

Regarding EU funding through the ISPA programme, Latvia has given priority to investment in drinking water infrastructure in its seven largest cities, regional landfills, and other infrastructure in the most important river basins. PHARE funds in 2002 amounted to 1.9 MEUR, which covered one water programme, two nuclear safety projects, and some initiatives to strengthen environmental monitoring.

Summary overview of Latvia's major environmental challenges

- Strengthen administrative capacity at regional level
- Improve distribution of tasks at regional level, especially integrated permitting
- Secure financing for UWWT and drinking water supply upgrades / extension
- Secure financing for closure and construction of landfills
- Upgrade laboratory and monitoring equipment for AQ plus other sectors
- Upgrade existing radiological equipment for medical purposes

4.6 Lithuania

Lithuania – Country Environmental Profile¹	
Population	3.7 million
Area	65,300 sq. km.
Total GDP / per capita GDP	13,400 MEUR / 8,730 EUR
% of country protected for its natural value	11.2%
Facilities subject to IPPC requirements	197
Nuclear power plants	2
% of population served with waste water treatment	80%
% served by drinking water supply systems	75%
Total environmental costs to meet EU standards	1,600 MEUR

¹ The information used to compile this country profile was taken from EUROSTAT Quarterly Accounts 2002 (2001 data) and from the 2000 OECD Environmental Performance Review for Lithuania. Data on financing environmental costs was extracted from “The Challenge of Environmental Financing in the Accession Countries”, COM (2001) 304 final.

The largest and most populous of the three Baltic states, Lithuania regained its independence from the Soviet Union in 1991. Lithuania contains varied ecosystems such as forests, wetlands, marshes, meadows, not to mention the beautiful 98 km long Baltic Sea coast. Forest cover in the country has actually increased over the past fifty years from 21.8% in 1937 to 30% in 1997. Today Lithuania enjoys a healthy economy and a high economic growth rate, but its unemployment rate of around 14.5% remains high⁶⁷. Lithuania co-operates with the other countries around the Baltic Sea on environmental protection under the auspices of HELCOM and Baltic Agenda 21.

At present Lithuania relies heavily on nuclear energy with the Ignalina power plant at providing 70% of Lithuania’s power. The fate of Ignalina’s two Soviet-style nuclear reactors has been a major pre-accession issue for Lithuania. Lithuania has agreed to close the first reactor in 2005 and the last reactor by 2009. In recognition of the profound changes that the decommissioning of Ignalina will cause to Lithuania’s energy supply system, the EU has agreed to provide country specific aid for the decommissioning and for projects directly related to it. It will cost approximately 250 MEUR to decommission the first reactor, and cost estimates for the closure of the rest of the plant still need to be made.

Lithuania opened negotiations on the environment chapter in November 2000, and closed in June 2001. Lithuania has been granted four transition periods for:

Sector	Directive	Transition period granted
Water quality	Urban Waste Water Treatment	End 2009
Waste management	Packaging Waste	End 2006
Air quality	VOCs from Petrol Stations	End 2007
Industrial Pollution Control	Large Combustion Plant	End 2015

Lithuania depends on groundwater sources for drinking **water** purposes. Attention still must be paid to establishing the systems for drinking water monitoring, quality assurance of treatment, equipment

⁶⁷ Unemployment was at 14.5% in 2001.

and materials, and for provision of information to consumers and reports to the Commission. Lithuania has been granted a transition period until the end of 2009 for construction of sufficient waste water collecting systems and treatment plants to comply with the UWWT Directive, which will require an additional 435 MEUR investment. The MoE intends to finance the implementation of this infrastructure 30% from public funding sources, 50% from EU sources, and 20% from other sources.

In 2002, Lithuania adopted many major laws in the **waste management sector** – the Law on Waste Management, three ministerial orders on Packaging Waste and a Law on Pollution-related Charges. The National Waste Management Plan was also approved in 2002. Despite this proliferation of new laws and plans, the waste sector remains problematic. Municipalities are responsible for municipal planning and implementation of waste management at the local level, but staff resources are inadequate. Progress towards establishment of regional waste management systems is slow.

Lithuania has not requested extra time for the Landfill Directive. Presently no co-disposal of hazardous and non-hazardous waste takes place, and the country will ensure that its existing landfills are in compliance by the date of accession. On the other hand, a truly effective approach to the management of hazardous waste has not been found and only temporary storage is available. Lithuania has been given until the end of 2006 to complete implementation of the Packaging Waste Directive. However, Lithuania already reached the 15% target for paper and glass packaging material in 2001, and expects to attain the 15% target for metals and plastics as well as the overall recycling target of 25% in 2004. The transition period is therefore limited to the latter two targets.

Since 1991, polluting emissions from stationary sources have decreased due to the decline in industrial activity, but areas of concern in the **air quality** sector remain⁶⁸. Emissions from the transport sector have increased since 1994, and traffic minimisation policies and promotion of environmentally friendly vehicles is needed. Only the municipality of Vilnius has a transport master plan.

The closure of the Ignalina nuclear plant will require increased dependence on large combustion plants for energy, and it will be necessary to manage the resulting sulphur emissions. Lithuania was granted a transition period regarding SO₂ and NO_x emissions for three of its power plants under the Large Combustion Plants Directive, since they will need upgrading following the Ignalina closure. The estimated cost of implementing the Large Combustion Plants Directive is 74 MEUR. The transition period arrangement requires Lithuania to provide, by January 2007, a plan showing the stages of the alignment of the remaining non-compliant plants and the necessary financing.

With respect to **nature protection**, efforts are still required to implement the Habitats and Wild Birds Directives. Lithuania does not plan to designate Special Conservation Areas under the Habitats Directive until accession. The establishment of management plans and advisory boards for all protected areas is slowly progressing with the help of a PHARE 2002 project⁶⁹. As for the Wild Birds Directive, several areas requiring protection have been identified but no Special Protection Areas have yet been designated.

Lithuania has taken certain steps to improve its **administrative capacity** to implement the EU *acquis* such as the training of Ministry of Environment staff and the establishment of the ISPA implementing agency. Training courses for inspectors and local staff have also been carried out. But this area still needs improvement. One problem is the unclear division of responsibilities with tasks being divided by many agencies and administrative levels. Better co-operation and co-ordination among the bodies responsible for setting environmental objectives, issuing permits, monitoring, inspecting and enforcement is needed. Though good co-operation exists between the MoE and Ministry of Agriculture, this is not the situation with all other ministries⁷⁰.

⁶⁸ UNECE Environmental Performance Review of Lithuania: Follow-up Report”, August 2000, at p 16.

⁶⁹ This project is entitled “Development of the management plans in protected areas of Lithuania” during 2002-2003.

⁷⁰ UNECE Environmental Performance Review of Lithuania: Report on Follow-up”, August 2000, at page 3.

The 2002 Regular Report states that Lithuania continues to make investments in the field of the environment, but notes that continuing efforts are needed to establish comprehensive investment strategies that focus available resources and improve investment efficiency.

Summary overview of Lithuania's major environmental challenges

- Finalise transposition in the waste, chemicals, IPPC and nature sectors
- Strengthen overall administrative capacity
- Speed up implementation efforts of in fields of waste management, water quality, IPPC and nature protection

4.7 Malta

Malta achieved independence from the United Kingdom in 1964. Despite the lack of indigenous raw materials, the country's peripheral location and its small domestic market, the Maltese economy was successfully transformed. EU accession is a central political issue at present. A non-binding referendum on EU membership held on 8 March 2003 endorsed EU membership, but the fairly even division of public opinion could swing before accession.

Malta – Country Environmental Profile¹	
Population	397,499
Area	316 sq. km.
Total GDP / per capita GDP	4,000 MEUR / 11,900 EUR
% of country protected for its natural value	11.37%
Facilities subject to IPPC requirements	20
Nuclear power plants	0
% of population served with waste water treatment	8%
% served by drinking water supply systems	100%
Total environmental costs to meet EU standards	130 MEUR

¹ Financial estimates extracted from paper presented by the Maltese Ministry of Environment at the IBC Conference in Budapest, 13-14 June 2000. Factual data on environment extracted from State of the Environment 2002, Ministry for Home Affairs and the Environment.

In October 2002, Malta was the last of the countries scheduled to join in 2004 to close the Environment chapter. Seven transitional periods were granted:

Sector	Directive	Transition period granted
Water quality	Urban Waste Water Treatment	March 2007
	Drinking Water	End 2005
	Dangerous Substances to Water	March 2007
Waste management	Packaging Waste	End 2009
Air quality	VOCs Stage I	End 2004
Industrial Pollution Control	Large Combustion Plants	End 2005
Nature	Wild Birds	End 2008

In the **horizontal** sector, Maltese legislation on EIA goes beyond EU obligations by setting wider public participation arrangements at different stages of the EIA process. Since the first EIA for construction of the Delimara power station in 1989, 121 EIA applications have been submitted⁷¹.

Low annual rates of rainfall and the island's lack of rivers severely constrain **water** use and make alternative and expensive methods for water supply necessary (e.g. desalination). Although a sophisticated drinking water supply network is in place, it exceeds EU parameters with regards to nitrates, chlorides, sodium, iron, sulphates, and fluorides. Malta has committed to fully comply with EU standards in 2005. At present, no urban waste water treatment plants comply with EU obligations, and sludge is discharged to the marine environment. Collecting systems for smaller agglomerations also do not meet EU standards. However, a sewerage master plan providing for the necessary infrastructure has been developed. Malta intends to provide collecting systems to smaller agglomerations by 2005 and adequate treatment for all domestic and industrial wastewaters by 2007. Malta has also been granted until 2007 to comply with EU parameters (especially mercury and cadmium) under the Dangerous Substances to Waters Directive.

At present, **waste** management schemes remain inadequate and lead to unsustainable patterns. In 2001, about 92.3% of the household waste was landfilled, with only 7% being composted. None of the 5 existing incinerators are EU compliant and considerable quantities of hazardous waste continue to be stockpiled. The 2001 Waste Management Strategy includes a tight schedule for actions related to demolition waste, municipal and hazardous waste, and foresees the closure and remediation of the three existing landfills. Bearing the estimated cost of 168 MEUR in mind for constructing new landfills, replacing non-compliant incinerators and establishing adequate selective collection, the Strategy's schedule may well be unrealistic. In order to meet the Packaging Waste Directive requirements, Malta has requested a transition period running to 2009. Malta has given particular attention to the treatment of toxic waste, which is now likely to be exported since such waste is not produced in sufficiently large quantities to make its treatment in Malta economically worthwhile.

As regards **air quality**, Malta phased out lead in petrol at the end of 2002. Malta has the highest number of cars per person in the world and although air pollution from SO₂ emissions decreased between 1998 and 2001, benzene pollution and emissions of toxic volatile organic compounds resulting from distribution of petrol are currently uncontrolled. An air quality programme has been implemented in 31 localities and upgrading of the existing monitoring network is underway. However, Malta still needs to identify zones and agglomerations under the Air Framework Directive, and to set in place a network of measuring stations.

In relation to the **industrial pollution control**, Malta has been granted a transition period until 2005 to meet EU standards under the Large Combustion Plants Directive. The Delimara power station will have to reduce dust emissions by 2005, while the Marsa power plant will need to either be in line with EU obligations or close down by 2004. It has been estimated that investments to set in place power station filters will reach 6 MEUR.

Major challenges remain in the **nature protection** sector. The 2002 State of Environment Report for Malta indicates the total surface of protected areas is relatively small. A national biodiversity strategy is urgently required. The EU agreed a transition period concerning the trapping of finches to establish a captive breeding system under the Wild Birds Directive until 2008. Under EU law hunting in spring is normally prohibited to protect birds during migration; however, Malta was able to negotiate an agreement with the EU to permit continued hunting in spring for turtledoves and quails, as well as hunting at sea 3 km away from the shore. This means that traditional hunting and trapping patterns will continue unhindered as long as strategies for sustainable hunting are implemented by the end of 2007.

Malta is a small country and its correspondingly small bureaucracy is severely burdened with implementation of the EU environmental *acquis*. Maltese authorities started to strengthen current

⁷¹ Precise information to be found in a special EIA web page (www.eia-malta.org).

administrative capacity in early 2002 by reshaping environmental administrative structures. Although the new system is in its most formative stages, some overlap in permitting activities may occur in the future⁷². Malta has adopted a plan to enhance its administrative capacity and has started to recruit and intensively train environmental staff.

As mentioned in section 3, Malta receives financial assistance through a special EU pre-accession financial instrument, which provides for 38 MEUR (for all areas not only environment) over the period 2000-2004. A large proportion of this financial instrument is being used for environmental projects particularly in the waste and wastewater sectors.

Summary overview of Malta's major environmental challenges

- Enhance administrative capacity, especially for inspection and permitting
- Develop urban waste water treatment plants & collection systems
- Build ecological landfills & ensure current incinerators meet EU standards or close down their operation
- Identify zones and agglomerations under Air Framework Directive
- Develop a biodiversity strategy

4.8 Poland

Poland – Country Environmental Profile	
Population	38.7 million
Area	312,685 square km
Total GDP/per capita GDP	196,700 MEUR / 9,210 EUR
% of country protected for its natural value	26%
Facilities subject to IPPC requirements	2,300
Nuclear power plants	Poland has no nuclear power plants and no plans to build any until at least 2010
% of population served with waste water treatment	84%
% served by drinking water supply systems	96%
Total environmental costs to meet EU standards	22.1 – 42.8 billion EUR

With a population of almost 40 million, Poland is the largest of the soon-to-be Member States. The country's macroeconomic stabilisation programme in the 1990's achieved significant results and today Poland stands out as one of the more open transition economies. However, Poland's large agricultural sector remains handicapped by structural problems, surplus labour, inefficient small farms, and lack of investment. Measures are needed to tackle low levels of GDP growth, serious budget deficits and an unemployment rate of almost 17%.

⁷² A Memorandum of Understanding signed by the Malta Environmental Planning Authority and the Malta Resources Authority aims to define clear tasks for each of the above-mentioned authorities, so that no overlaps occurs in practice.

In light of the challenges ahead and repeated demands from the Polish Government⁷³, the Copenhagen Council decided to increase the budgetary allocation for enlargement during the period 2004-2006. It was agreed that Poland would receive an immediate “budgetary compensation” package of 1 billion EUR, and an additional allocation of 108 MEUR for the period 2004-2006 (one-third of the total allocated to all ten accession countries)⁷⁴.

Over the past ten years, Poland has undertaken significant reforms in its system of environmental management. The decline in industrial activity coupled with heavy investment undertaken by post-communist governments through a well-developed system of regional environmental funds has led to significant improvements in the country’s rich environment. But the legal reforms necessary for EU approximation took a long time in Poland. A major legislative effort was required to draft more than a dozen new framework acts, which were mostly adopted in 2000-2001 (e.g. Act on the Law of Environmental Protection, Act on Waste, Act on Water, etc). Many of these still need to be supplemented via implementing regulations (e.g. guidance for integrated permitting).

Implementation was also slowed by the 1999 administrative reform, which redistributed the burden of implementation of environmental requirements to regional and local levels. Sorting out of competencies and capacity-building at regional and local levels still requires substantial effort. Financing of heavy-investment environmental projects also remains a major challenge.

Negotiations of the environment chapter with the European Commission proved to be quite sensitive and were not provisionally agreed until the end of 2001. Poland received a total of nine transition periods - the largest number among accession countries.

Sector	Directive	Transition period granted
Water quality	Urban Waste Water Treatment	End 2015
	Dangerous Substances	End 2007
Waste management	Landfills	End 2012
	Packaging Waste	End 2007
	Waste Shipment	End 2012
Air quality	VOCs Stage I	End 2005
	Sulphur Content of Fuel	End 2006
Industrial Pollution Control	Integrated Pollution & Prevention Control	End 2010
Radiation protection	Medical Exposures	End 2006

In the **horizontal** sector, some concerns have been recently raised following the adoption of the National Development Plan for the 2004-2006 period, which establishes a list of priorities to be financed via the EU Structural Funds, but pays inadequate attention to integration of environmental concerns into other policies. As an example, the plan foresees a road project in Bialystok, which has not yet undergone any impact assessment procedure even though it would, if developed, cut across four protected sites of national and European significance.

Poland has invested heavily in **water** sector infrastructure over the past ten years, primarily financed by its system of environmental funds supported by pollution charges and fines. Reductions in industrial discharges and construction of over 300 new treatment plants in recent years have led to significant improvements in water quality. However, water quality remains one of the main sticking points for Poland.

⁷³ The Polish Government predicted undue hardship if required to contribute to the EU budget, since its farmers would not receive full direct payments under the Common Agricultural Policy until 2013.

⁷⁴ See article in *Le Monde*, 14 December 2002.

In order to achieve compliance with the Urban Wastewater Treatment (UWWT) Directive by 2015, Poland will need to modernise, expand and construct sewage collection systems in approximately 1,500 agglomerations > 2,000 p.e. (person equivalents); expand and modernise 253 biological treatment plants with enhanced biogenic removal in agglomerations >15,000 p.e., as well as 708 conventional biological treatment plants. Since the entire country is designated as a sensitive area (all rivers discharge into the vulnerable Baltic Sea), additional treatment is needed to remove phosphates. Poland has opted for the most cost-effective alternative, i.e., an overall reduction in pollutants discharged in a catchment area through more stringent treatment at a few large sewage treatment plants and, in exchange, exemption of some smaller communities from the minimum requirements. Nonetheless, remaining investment needs for UWWT are estimated at 8 billion EUR.

In addition to the above-mentioned challenges, great efforts will be needed to achieve compliance for those directives where no transition periods have been granted, e.g. the Drinking Water and the Nitrates Directives. Monitoring of drinking water at the tap needs to be extended and not all laboratories are yet capable of analysing all relevant parameters covered by EU legislation. Additional investment in water treatment facilities to remove high mineral content or pesticide residues over and above the EU standards may be needed. Polish farms with concentrations of livestock will need to construct manure storage facilities as required by the Nitrates Directive. Finally, more wastewater treatment will result in more sewage sludge, requiring investment in additional waste disposal facilities, e.g. incinerators.

With regards to the **waste management sector**, most of Poland's waste is currently deposited without treatment in landfills. Most municipal landfills do not meet EU requirements, and an estimated 100 EU-compliant landfills are needed (50 by 2007, and another 50 between 2007 and 2013, respectively). There is little recycling due to lack of measures for separate collection and the high costs of segregating wastes. Although industrial waste is now decreasing, the country continues to be the major generator of such waste in Europe (industrial waste accounts for more than 90% of Poland's total waste). Poland has provisionally agreed transition periods for the Landfill (until 2012) and the Packaging (2007) Directives.

Poland is the only accession country to be granted a long transition period (2012) for compliance with the Waste Shipment Regulation. Its request stemmed from its experience in the early 1990s, when efforts by bordering Member States to set in place stringent waste disposal requirements led to exports of waste flooding over the Polish border. Poland has asked for enough time to achieve compliance with the Landfill Directive before it opens its borders again to waste shipments from surrounding countries.

A National Waste Management Plan was adopted in October 2002 as scheduled. The Ministry of Environment has developed guidelines for developing waste management plans at regional and local levels and intends to provide intensive training for sub-national authorities in 2003 and 2004. Regional waste management plans (Voivodship level) are to be completed by June 2003, with county (Powiat level) and local waste management plans to be completed by December 2003 and June 2004, respectively.

In the **air quality** sector, Poland has made great progress since the early 1990s when many urban areas suffered from high levels of pollution, due to dependency on locally produced high-sulphur coal for municipal boiler plants, household heating and generation of electrical energy. Today, most of the previously highly polluting industrial facilities in the so-called 'Black Triangle' have solved the worst of their pollution problems. Although a preliminary classification of zones for air protection has been developed, much work remains to be done in order to set in place a monitoring programme that meets EU standards (e.g. measurement of PM₁₀) and to develop air quality programmes before accession takes place.

Significant investment is still needed in the **industrial pollution control** sector, particularly in the heavy industrialised southwestern region. Poland has been given a three-year transitional period to comply with the IPPC requirements (until end of 2010), but the challenge is formidable. Many

existing installations are obsolete, and it will be costly (an estimated 6.3 billion EUR⁷⁵) to upgrade to the IPPC standard of best available techniques (BAT). To assist Polish industries the Ministry of Environment created a BAT Centre in mid-2002 with a staff of four. But introduction of integrated permitting has been delayed and EU compliant permits have only been tested on the basis of a few pilot projects in Lodz, Katowice and Wroclaw. Out of the some 2,300 permits needed for installations falling within the scope of the IPPC Directive, only 15 integrated permits have been granted to date. Since some 70% of the permits will be granted at district level, the Ministry of Environment needs to provide for intensive guidance and training of regional and local authorities.

The transition period until 2006 for the Directive on Reduction of Sulphur Content of Certain Liquid Fuels refers mainly to heavy fuel oils used for district heating. At this time, about 80% of heavy fuel oils consumed within the national territory contain more than the 1% for sulphur content threshold established in the Directive. Poland has been granted until 2005 for the VOCs Directive to reflect the restructuring of its petroleum industry now underway, including privatisation and closure of a large number of small storage facilities.

Concerning **nature protection**, the wealth of Poland's fauna and flora in some areas is unique, not only for Europe, but for the whole world. In order to protect its natural treasures, Poland has created a system of protected areas, national parks, nature reserves, etc., covering more than 26% of the country. Poland has also made good progress in establishing the list of Natura 2000 sites.

In the **chemical** sector, Poland has particular problems with obsolete pesticides left over from collective farming, which for years have been stored in more than 320 so-called burial facilities, many of which have damaged or leaky walls and/or floors. Safe disposal will be required to meet the Persistent Organic Pollutants (POPs) Convention obligations. More laboratories will be needed (at present only one laboratory is certified) to carry out the necessary testing in the national chemical sector. Finally, Poland has obtained a transition period of four years, i.e., until 2006 to comply with the Directive on Medical Exposures in the **radiation protection** sector, because of the need to partly replace or upgrade equipment for diagnosis (mainly x-ray equipment) and treatment, or to purchase quality control machinery.

Poland has a rather developed system to finance investment in environmental-related projects, with most financing coming from domestic sources (about 95%). It collects up to 1,7% of GDP (2-3 billion EUR) in the form of emissions fees and fines through applying the "polluter pays principle". The money is then channeled through its well-developed system of national, regional and local funds for environmental protection. Nonetheless, the 2002 Regular Report noted that Poland still lacks a strategic approach to environmental investments with clear investment planning and listing of priorities. Because of Poland's decentralisation of public service and finance, the major burden of carrying out the required environmental investments with regards to wastewater treatment and waste management will rest with regional and local authorities. The medium- and long-term financial implications will require careful planning on local and county level, to determine the most cost-effective approaches, and how to pay.

Poland benefits considerably from EU funding. In 2002 it received 14 MEUR under the PHARE programme (implementation of the Water Framework Directive, monitoring of drinking water, control of waste shipments, EMAS, and training for environmental protection). An over-commitment in the 2001 funds under ISPA environment (328 MEUR allocated for drinking water, waste water treatment and solid waste projects), resulted in lower financing levels for 2002 (about 150 MEUR).

⁷⁵ "Costing and Financial Analysis of Approximation in Environment", PHARE/DISAE/POL-101, 1998.
PE 322.784

Summary overview of Poland's major environmental challenges

- Develop implementing regulations under framework legislation for IPPC, waste and water sectors, and train regional and local staff in issuing integrated permits
- Strengthen regional and local environmental authorities and ensure that decentralisation measures become fully operational
- Develop comprehensive investment strategies, with clear planning and prioritising
- Modernise, expand and construct sewage collection and treatment
- Extend monitoring of drinking water at tap
- Finalise waste management plans at national and sub-national levels
- Develop air quality management programmes

4.9 Slovak Republic

Slovakia became a nation upon the dissolution of Czechoslovakia at the beginning of 1993. The initial government delayed the economic and political reforms needed to transform Slovakia into a market economy and did not pursue EU accession. Until recently Slovakia was at risk of being held back with the countries scheduled for the next wave of enlargement, but following the 1998 election an impressive series of reforms were carried out allowing the country to catch up with the first round of accession countries. Slovakia's economic indicators are now improving, but the rapid reforms and tough macroeconomic adjustment required by the OECD and EU have resulted in relatively weak growth and a rather tough period for its 5.4 million population.

With the introduction of decentralisation, Slovakia's institutions are currently undergoing a period of great change. Responsibilities for many environmental services such as water and waste are being passed to self-governing authorities. This is occurring in parallel with privatisation and liberalisation of markets.

Slovakia's two non-upgradeable, Soviet-designed, nuclear power reactors have been a major pre-accession issue. It has undertaken to close reactors 1 and 2 of Bohunice nuclear power plant by 2006 and 2008 respectively⁷⁶.

Slovak Republic – Country Environmental Profile¹	
Population	5.4 million
Area	49,035 sq. km.
Total GDP / per capita GDP	22,800 MEUR / 10,780 EUR
% of country protected for its natural value	19.5%
Facilities subject to IPPC requirements	540
Nuclear power plants	2
% of population served with waste water treatment	54.7%
% served by drinking water supply systems	83%
Total environmental costs to meet EU standards	4,005 MEUR

¹ The information used to compile this country profile was taken from EUROSTAT Quarterly Accounts 2002 (2001 data) and from the site <http://www.slovakia.org/tourism/nature.htm>.

⁷⁶ See <http://www.ebrd.com/enviro/nuclear/idsf/main.htm>.

Negotiations on the environment chapter were provisionally closed in July 2002, in part due to Danish assistance for an Integrated Approximation Strategy that identifies the specific activities and financial resources required for implementation of the *acquis* by 2004. The EU has granted Slovakia the following transition periods:

Sector	Directive	Transition period granted
Water quality	Urban Wastewater Treatment	End 2015
	Dangerous Substances to Water	End 2006
Waste management	Packaging Waste	End 2007
	Incineration of Waste	End 2006
Air quality	VOCs from Petrol Stations	End 2007
Industrial Pollution Control	Large Combustion Plant	End 2010
	IPPC	End 2011

With regard to **water quality** requirements, much effort is still required to transform the country's infrastructure to comply with the EU Drinking Water and UWWT Directives. Compliance with urban waste water treatment requirements will require construction of 262 new plants for agglomerations with 2,000 to 5,000 persons, and 28 new plants for municipalities having 5,000 to 100,000 persons. Slovakia has not yet designated vulnerable zones under the Nitrates Directive or issued permits for discharges of dangerous substances to water. On the basis of a cumulative investment over a thirty-five year period, it has been estimated that this sector will require investment of 2.26 billion EUR⁷⁷.

Concerning **waste management**, the quantity of waste generated and disposed of has increased from 1995 to 2000, whereas rates of recycling have remained fairly constant⁷⁸. Most waste in Slovakia is disposed of by landfill. Like the Czech Republic, Slovakia has been able to attract considerable private sector investment in modern landfills. It has also been able to close down many of its often non-protected landfills (436 between 1997 and 2000). But upgrading and construction of new landfills is still urgently needed. To encourage more disposal in modern landfills, Slovakian municipalities now pay a surcharge when depositing waste in sites that do not meet EU standards. But much remains to be done. Industrial waste is frequently co-disposed with municipal solid waste. Municipal waste incinerators only exist for the country's two main cities, and existing incinerators for hospital waste and industrial hazardous waste need to be upgraded. Urgent attention also needs to be paid to the drafting of management plans. This sector is estimated to require investment of 0.8 billion EUR over a 35-year period, to achieve compliance.

In the **air quality** sector pollution emissions have decreased in recent years. A transition period has been granted for the VOCs from Petrol Stations Directive in light of the significant resources required for compliance, 50% from the army, and the rest from the private sector⁷⁹.

Concerning **industrial pollution control**, Slovakia urgently needs to complete transposition of the IPPC Directive. Slovakia's existing permitting system is media-based and is very complex, particularly with regard to waste. In June 2002, Slovakia appointed the Slovak Environmental Inspectorate as permitting body for IPPC. However, integrated permits have not yet been introduced, and action needs to be taken soon to ensure that the IPPC Directive is implemented by accession for "new" installations. This will require further staff training and industry preparation on permit applications, and translation of "Best Available Techniques" reference documents.

⁷⁷ This cost estimate, and the other cost estimates used for Slovakia, are based on a cumulative investment over a 35 year period and were developed as part of a September 2002 DEPA – DANCEE funded project "Economic Support Project" in the Slovak Ministry of Environment.

⁷⁸ Slovakia's Annual Report on the State of the Environment, Ministry of Environment, 2000.

⁷⁹ "Slovakia's Road to Accession: The Need for an Environmental Focus", Danish Ministry of Environment, Danish Cooperation for Environment in Eastern Europe, 15 November 2002 at page 29.

In the **nature sector**, Slovakia must still carry out a comprehensive assessment of habitat types and designate Special Areas of Conservation (SACs) under the Habitats Directive. Implementation of the Wild Birds Directive is more advanced – a bird species assessment has been carried out and an assessment of existing protected areas is being conducted.

The October 2002 Regular Report notes that Slovakia has taken a range of actions designed to strengthen its **administrative capacity**⁸⁰. However, the current system is complex and fragmented, and more co-operation between bodies is needed. Slovakia's environmental administrative structure is a four-tier system of national authorities and the environmental departments of eight regional offices, 79 district offices, and municipalities. A number of tasks devolved to municipalities and regional self-governments as part of the decentralisation process approved in 2001. Staff levels for environmental institutions have increased, but more municipal staff will be needed for new tasks arising from the Water Act. The Slovak Environmental Inspectorate co-ordinates inspections and enforcement of environmental legislation, aided by the districts and regional offices, which also issue permits. A system of environmental fines exists, but enforcement mechanisms need to be enhanced.

A 2002 Danish project estimated that on the basis of a cumulative investment over a 35-year period, total investment needed for environment is 4.05 billion EUR. The vast majority of costs will be incurred after Slovakia has joined the EU, indicating that a long-term financial strategy will be crucial⁸¹. Slovakia also needs to work on strengthening its administrative structures and capacities for preparing and implementing EU assistance so that the absorption capacity for project-based funds can be improved.

Summary overview of Slovakia's major environmental challenges

- Designate vulnerable zones under the Nitrates Directive and prepare pollution reduction programmes
- Urgently draft and adopt management plans; upgrade and construct new landfills
- Complete transposition of the IPPC Directive, introduce integrated permits and strengthen IPPC permitting capacity
- Develop a long term financing strategy

⁸⁰ European Commission 2002 Regular Report on Slovakia's Progress towards Accession, COM(2002) 700 final, at page 102.

⁸¹ "Slovakia's Road to Accession: The Need for an Environmental Focus", Danish Ministry of Environment, Danish Cooperation for Environment in Eastern Europe, 15 November 2002.

4.10 Slovenia

Slovenia – Country Environmental Profile¹	
Population	1.99 million
Area	20,253 sq. km.
Total GDP/per capita GDP	20,900 MEUR / 15,360 EUR
% of country protected for its natural value	8%
Facilities subject to IPPC requirements	108
Nuclear power plants	1
% of population served with waste water treatment	75%
% served by drinking water supply systems	80%
Total environmental costs to meet EU standards	2,723 MEUR

¹ Economic data extracted from EUROSTAT (2001) sources. Total costs on approximation extracted from “Development of a Costing Assessment for the Slovenian Approximation Strategy”, Ministry of the Environment and Physical Planning, 1998.

Slovenia is the wealthiest CEEC having a per capita GDP which equals 71% of EU average. Some environmental measures taken during the 1970s and 1980s resulted in a relatively well preserved natural environment compared to other countries in transition. Slovenia was the first CEEC to establish an Ecological Fund financed by a special tax on environmental protection and today Slovenians have a high environmental awareness.

On 23 March 2003, the Slovenian public voted in favour of EU accession. Slovenia was the first candidate to close negotiations on the Environmental Chapter with only three transitional periods being granted.

Sector	Directive	Transition period granted
Water quality	Urban Waste Water Treatment	End 2015
Waste management	Packaging Waste	End 2007
Industrial Pollution Control	Integrated Pollution & Prevention Control	Sept 2011

In the **water sector**, Slovenia has a transition period of until 2015 for implementation of the Urban Waste Water Treatment Directive to provide adequate collection and treatment of waste waters in the 135 agglomerations with p.e.> 2,000. In October 1999, the Ministry of Environment and Spatial Planning (MESPP) adopted an Operational Programme for Urban Waste Water Collection and Treatment with the Programme of Water Supply Projects⁸², which gives details on priority investments, timetables, cost estimates and funding opportunities. The European Commission has praised this programme. Priority investments will take place until 2008 in sensitive areas (coastal agglomerations), areas where potential transboundary effects may occur, and in large agglomerations. Construction of waste water treatment plants in smaller agglomerations will only be accomplished by 2015, due to the high number of dispersed small settlements. Total costs for the period 2001-2006 have been estimated at 456 MEUR.

⁸² Ordinance of the Ministry of Environment and Spatial Planning. Ur. I.RS, 94/99. PE 322.784

Planned Investment Projects in Urban Waste Water Infrastructure (2001-2006)						
Source of funding (%)	Year					
	2001	2002	2003	2004	2005	2006
International sources	0	32	44	6	14	10
Waste Water Tax	4	30	25	59	36	38
Municipal Budget	10	25	8	10	10	10
State Budget	0	4	7	2	4	4
Private Sector	85	0	0	0	0	0
Other Sources	1	10	16	36	36	38
TOTAL (in MEUR)	13	26	55	168	80	114

The MESP is aware of the problem of increasing quantities of sludge from implementation of the UWWT Directive, and its 1996 Waste Management Strategy already envisioned solutions to this problem. Slovenia faces other challenges in the water sector, e.g. the need to deploy additional resources to ensure that microbiological requirements for drinking water are met, and to provide for effective implementation of action programmes under the Nitrates Directive. Following adoption of the new Water Act in July 2002, a special Water Fund will be managed by the MESP to address water quality challenges, including those that may arise from implementation of the Water Framework Directive.

In the **waste** sector, landfill continues to be the main method of disposal for urban and industrial waste. The 1999 NEAP stated that between 50,000 and 60,000 illegal waste dumps could be found in Slovenia. Much needs to be done to make the legal landfills comply with EU standards. Nonetheless, Slovenia has committed to ensure that all existing landfills meet EU technical requirements as per the 2009 deadline established in the Landfill Directive. Slovenia's five hazardous waste incinerators/co-incinerators do meet EU standards. Despite a long tradition of recycling and a voluntary packaging scheme that has been in place since 1995⁸³, Slovenia has negotiated a transition period of 2007 for the Packaging Waste Directive. This is largely in order for Slovenia to meet the Directive's organisational and financial obligations. Total costs for implementation, which include separation, treatment, transport and administrative costs amount to approximately 80 MEUR. Like other accession countries, granted a transition period for this particular Directive, Slovenia will need to follow closely the new targets that are to be agreed shortly in the soon-to-be adopted new Directive on Packaging Waste, which will raise the existing recycling and recovery targets.

Air quality in Slovenia has improved in the past twenty years following intensive desulphurisation processes in power plants and a more than 50% decrease in SO₂ emissions. However, air pollution caused by nitrogen oxides has been increasing due to traffic growth and transboundary emissions from Italy. A long-term air protection strategy is now urgently needed.

The **industrial pollution control** sector is still problematic. A total of 15 facilities have been granted until 2011, the maximum four-year period, to meet IPPC obligations, and total implementation costs are estimated at 552.8 MEUR. Although the current permitting system in Slovenia is centrally managed and permits are issued on a medium specific basis, Slovenia has provided assurance that the remaining 93 installations that fall under the Directive will be in line with EU standards in this area by 2007.

Substantial efforts are still needed in the **nature** sector, but further practical arrangements are expected following the adoption of relevant legislation and of the Biodiversity Conservation Strategy in 2002. Protected areas currently cover 8% of Slovenia's territory, although it is estimated that approximately 30% of the country should be protected.

⁸³ In 1995, the Chamber of Commerce and Industry from Slovenia launched a working group for packaging waste. Such discussions have led to a voluntary scheme for collection and recovery of packaging waste, i.e., ODEM GIZ.

Environmental management in Slovenia has two layers, i.e., central and local. In practice however, a command and control approach is followed by central authorities, which limits the role of local authorities with respect to implementation and enforcement. The possibility of including an intermediate regional level has been studied since the early 1990s, but no decision has been taken so far.

The NEAP envisaged that about 1.5% of the GDP would be allocated annually to meet environmental challenges between 2000-2008. According to the most recent EUROSTAT data, Slovenia's public sector currently spends less than 0.5% of the national GDP on environment. Slovenian funding plans are based on the assumption that municipalities will contribute 10% of the cost of investments, but in practice, the lack of knowledge amongst municipalities as to how to raise capital for major investment projects and lack of capability to implement the project itself, has led to certain constraints on project implementation. Legal limits on borrowing by municipalities, except for the water and waste water sectors, has also resulted in investment shortcomings.

Summary overview of Slovenia's major environmental challenges

- Ensure greater co-ordination between central and local levels
- Pass greater responsibility to local bodies
- Secure financing for construction of UWWT plants
- Develop voluntary schemes for packaging waste, and introduce economic incentives
- Adopt an ambient air quality programme
- Align national legislation with IPPC requirements
- Improve local co-ordination and involve the private sector as regards integrated permitting

Accession in 2007 - Romania and Bulgaria

Although not included in the fifth enlargement, Romania and Bulgaria expect to be granted EU membership by 2007. The Brussels European Council expressed 'its support for Bulgaria and Romania in their efforts to achieve the objective of membership in 2007'⁸⁴. To help the countries achieve this objective, a roadmap was prepared by the European Commission which includes milestones to monitor progress in negotiation and provides for additional financial assistance from the date of the first round of accessions, reaching the level of an additional 40% in 2006⁸⁵. The European Parliament Report on Enlargement has backed the strong support promised by the Commission⁸⁶.

The Copenhagen Council conclusions (12-13 December 2002) and the "One Europe" joint declaration, to be attached to the Accession Treaty, confirm that negotiations with Bulgaria and Romania will continue on the basis of the same principles that have guided negotiations so far, with the final objective to welcome these countries as members of the EU in 2007. It will be very important from now on to maintain the political will for a further enlargement in order not to lose the momentum in Romania and Bulgaria, where public support towards EU membership currently amounts the highest percentages among all applicant countries (78% in Romania and 68% in Bulgaria)⁸⁷.

⁸⁴ Presidency conclusions. Brussels European Council, 24-25 October 2002.

⁸⁵ "Roadmaps for Bulgaria and Romania", Communication from the Commission to the Council and the European Parliament, 13 November 2002, COM(2002) 624 final.

⁸⁶ "Report on Enlargement: Progress Report", FINAL A5-0371/2002, Par 1, 7 November 2002.

⁸⁷ "Eurobarometer Report on Accession Countries", by EUROSTAT, 15 November 2002.

4.11 Romania

Romania – Country Environmental Profile¹	
Population	22.4 million
Area	238,391 sq. km.
Total GDP / per capita GDP	44,400 MEUR / 5,860 EUR
% of country protected for its natural value	5.18%
Facilities subject to IPPC requirements	2,900
Nuclear power plants	1 (and another under construction)
% of population served with waste water treatment	16% in urban areas; 11.2% in rural areas
% served by drinking water supply systems	65%
Total environmental costs to meet EU standards	17,700 MEUR

¹ The information taken to compile this country box was taken from a draft report produced by Milieu Limited for the Danish Environmental Protection Agency on "Romania's Road to Accession – the need for an Environmental Focus". The only figures available are taken from a 2001 study by the Ministry of Public Administration which contains the best estimates to date on the public sector costs. The Strategy estimated that a total of 17.7 billion EUR would be required between 2002 and 2030 to rehabilitate the water and sewerage, the urban heating and sanitation services.

Romania was the first country of Central and Eastern Europe to open official relations with the European Community in 1974, and today EU accession remains a priority. However, the delicate Romanian economy, with a current account deficit of 4% of GDP and inflation over 30%, poses major problems when negotiating. Since the 1970s, heavy industrialisation has seriously threatened Romania's rich environment and has led to high levels of industrial air and water pollution in such cities as Baia Mare, Copsa Mica, Zlatna, and Onesti.

The Ministry of Waters and Environmental Protection (MWEP) has set the ambitious goal of completing transposition of all environmental *acquis* by the end of 2003, but there is concern that such effort will undermine Romania's already limited administrative capacity, especially at local level, to implement legal requirements effectively. The 2002 Regular Report states that legislation appears to have been adopted without due consideration for the administrative and financial resources necessary for its implementation⁸⁸.

Romania is still negotiating the Environment Chapter with the European Commission and in 2002 requested the following 11 transition periods.

⁸⁸ 2002 Regular Report on Romania's Progress Towards Accession. COM(2002) 700 final, 9 October 2002.

Sector	Directive	Transition period requested
Water quality	Urban Wastewater Treatment	2022
	Drinking Water	2022
	Dangerous Substances	2015
	Nitrates Pollution	2014
Waste management	Packaging Waste	2010
	Landfill	2017
	Waste Incineration	2010
Air quality	VOCs Stage I	2010
Industrial pollution control	Integrated Pollution Prevention & Control	2015
	Solvents	2015
	Large Combustion Plant	2012

The European Commission is not yet satisfied with Romania's requests, and has given the MWEP a deadline of October 2003 to submit additional supporting information, including clear implementation plans and financing strategies.

In the **horizontal** sector, although national legislation fully approximates EU obligations, human resources are very limited. The public participation mechanisms under the EIA and SEA Directives do not yet adequately work in Romania. The roadmap for Romania has set approximation in this particular area as a short-term benchmark.

In the **water sector**, surface and groundwater suffer from pollution from industrial sources such as chemical and petrochemical installations. The level of treatment of municipal waste water in Romania is low with only 77% of the total flow of public sewerage being treated, and only 18% treated to EU standards⁸⁹. Total investment required between 2002 and 2030 to rehabilitate the infrastructure of the water-sewerage services in urban areas is estimated at 4.2 billion EUR and in rural areas at 5.5 billion EUR⁹⁰. In addition, Romania's water distribution is uneven leading to insufficient water supply for important parts of the country, including its capital, Bucharest. Out of approximately 22.4 million inhabitants only 65% (14.7 million persons) have drinkable water supplied by public service. A general estimate is that 10 billion EUR is required to implement the Drinking Water Directive.

Poor **waste management** practices, e.g. co-disposal of hazardous waste and ordinary household waste in landfills, have also caused serious soil contamination. Out of the existing 1,250 landfills for industrial and municipal waste, only eight municipal waste landfills comply with EU obligations. It is expected that it will take approximately 15 years to establish new sanitary landfills and to close existing inadequate landfills. Statistical data show that municipal waste management services are currently serving less than half of the population. As per EU requirements, a national plan for waste management is currently being prepared and ought to be finalised in early 2003, following the adoption of waste management plans at county level. The total estimated cost of investment for compliance with EU waste management Directives requirements is nearly 676 MEUR, out of which nearly 360 MEUR are planned to come from external grants⁹¹.

⁸⁹ "The Government's Strategy concerning the Development of Local Public Services of Communal Husbandry", Government of Romania, Ministry of Public Administration, Bucharest, 2001 at page 9.

⁹⁰ Ibid, at page 24.

⁹¹ Evaluation by Environmental Policy Unit of MWEP.

Air quality has slightly improved in the past five years due to reduced activity or shutting down of industrial facilities but, air quality is still problematic in highly industrialised urban areas. Implementation costs have recently been estimated at 200 MEUR, including investments in monitoring equipment, training and additional administrative capacity⁹².

Two-thousand nine hundred installations fall under the IPPC Directive in Romania. A 1999 study commissioned by the MWEF revealed that most industrial activities coming under the above-mentioned Directive still operate without a permit, and among those that possess a permit, only 20% comply with permit conditions⁹³. Integrated permitting will come into force in January 2003 and the MWEF intends to align existing installations with EU requirements between 2006 to 2015. Although the MWEF intends to provide intensive training sessions on integrated permitting to competent authorities, a great effort will be required at local level to effectively issue the permits since each of the 42 Environmental Protection Inspectorates will need to handle an average of 70 installations.

In the **nature protection** sector, although national legislation approximating EU standards is now in place, much remains to be done via strategic management planning of protected areas. At this time, the MWEF lacks a responsible institution to monitor nature and biodiversity and development of Natura 2000 lists is still at the very early stages.

Most environmental challenges in Romania require immediate action to prevent further degradation; however, the situation is aggravated by the severely restrained national budget. The investment needed to comply with EU environmental standards, especially in the fields of water quality and solid waste management will strain Romania's budget for years to come, and together with national expenditure (both at public and private levels), international financing will have to play a substantial role. Romania expects to rely heavily on the EU grant funding in order to finance its environmental infrastructure needs. Unfortunately, experience from the first two years of the ISPA project reveals that the Romanian institutions face problems in putting forward sufficiently well-prepared projects which manage to obtain the available EU grant funding available.

Summary overview of Romania's major environmental challenges

- Improve capacity at central & local level for managing horizontal requirements
- Develop long-term implementation plans and financing strategies for: Drinking Water, UWWT, Landfill, Waste Incineration and Packaging requirements
- Identify and designate sensitive areas as well as nitrate-vulnerable zones
- Improve of data exchange among Ministries and upgrade laboratories
- Set in place systems for collecting/disposing of used batteries and packaging waste
- Designate a responsible institution to monitor nature and biodiversity
- Develop management plans for protected areas and Natura 2000 lists
- Set priorities among industrial sectors for phasing in integrated permitting
- Ensure that Romanian industrial facilities subject to the IPPC requirements receive adequate information on best available techniques (BAT)

⁹² The cost estimates assume that all investments will be carried out during the first year and include running costs for four years (2003-2007). See PHARE project RO 9907-02-01: Pre-accession Impact Studies, "Assessment of institutional and administrative implementation requirements of selected EU Directives – Air Framework Directive and Daughter Directives".

⁹³ "Baseline Study: Romanian Approximation Strategy for the Industrial Pollution Control Sector", by COWI & CarlBro International for the Romanian Ministry of Water and Environmental Protection, through the DANCEE programme, August 1999. The study estimates that as few as 25% of all Romanian installations coming under the IPPC Directive hold environmental permits.

4.12 Bulgaria

Bulgaria – Country Environmental Profile	
Population	8.2 million
Area	110,993 sq. km.
Total GDP / per capita GDP	15,200 MEUR / 6,510 EUR
% of country protected for its natural value	4.5%
Facilities subject to IPPC requirements	300 - 400
Nuclear power plants	1
% of population served with waste water treatment	65%
% served by drinking water supply systems	98%
Total environmental costs to meet EU standards	11,000 MEUR

Following Bulgaria's 1996 economic and political crisis, the government has managed to maintain macro-economic stability, contain inflation, decrease government debt and sustain a growth rate of 4%. Nuclear power has historically been important for Bulgaria and it has one soviet-built, non-upgradeable, nuclear power plant, Kozloduy. In an agreement with the EU⁹⁴, Bulgaria closed non-upgradeable units 1 and 2 at the end of 2002, and the EU has agreed to provide specific aid for the decommissioning of these units.

Bulgaria opened its negotiations with the European Commission on environment in November 2001, and negotiations are continuing. Whilst Bulgaria has made significant progress to date with the alignment of its environmental laws with those of the EU, much work will need to be done before 2007. Bulgaria has some of the poorest regions among applicant countries and many industries still depend on old technologies. Because some work, such as upgrading of existing environmental infrastructure, will not be completed by 2007, Bulgaria has requested transition periods ranging from 2010 to 2015, as follows:

Sector	Directive	Transition period requested
Water quality	Urban Wastewater Treatment	2015
Waste management	Packaging Waste	2012
	Landfill of Waste	2015
	Disposal of PCBs and PCTs	2010
Air quality	VOCs from Petrol Stations	2010
	VOCs from Solvents	2012
	Sulphur Content of Liquid Fuels	2015
	Limit Values for SO ₂ , NO _x , Lead	2010
Industrial Pollution Control	Integrated Pollution Prevention & Control	2012
	Solvents	2012
	Large Combustion Plants	2012

⁹⁴ Understanding between the Republic of Bulgaria and the European Commission on the decommissioning of some units of Kozloduy Nuclear Power Plant, 29/11/1999.

Bulgaria is in the process of preparing detailed directive-specific implementation plans as well as financing strategies, to document its need for these transition periods.

On account of the decreased industrial activity since 1989, **water quality** has generally improved. Whilst the supply of drinking water is extensive, the waste water treatment system is incomplete with only 65% of the population being connected to sewerage systems, and much of the existing sewerage systems being aged and in need of repair. Only 25 of the 104 settlements with more than 10,000 inhabitants have WWTPs, hence a transition period of 2015 has been requested for implementation of the Urban Waste Water Treatment Directive. Water management and planning is rather fragmented with various bodies having different responsibilities – the Ministry of Environment and Water, the Ministry of Public Works and Regional Development, and the municipalities.

Landfills have been the traditional way of disposing of municipal **waste** in Bulgaria, and out of the 680 landfills currently operating only two are EU-compliant. Industrial waste is either landfilled on site, or co-disposed with municipal waste. The challenge will be how to extend the system of waste collection and to rectify the situation of the uncontrolled landfills which are often polluting the nearby ground and water supplies. It is anticipated that a minimum of 56 regional landfills will have to be constructed. A Waste Management Plan does exist that lists sixty required investments and corresponding actions, but priorities need to be set along with realistic finance-mechanisms. This will not be easy on account of the strained national and municipal budgets and the inability of rural households to contribute significantly to paying for waste services.

Despite Bulgaria's historical emphasis on heavy industry, **air quality** has improved generally over the last ten years, but problem areas remain. Fourteen areas are considered hotspots where levels of pollution remain far too high, due to large emission-producing industries. Sulphur oxide emissions are five times higher than the OECD European average. The energy sector is the largest source of ambient air pollution because of dependency on high sulphur coal and obsolete combustion technologies. Whilst an ambient air quality monitoring programme has been established, it needs to be extended and improved technically. Bulgaria has requested four transitional periods in the air quality sector.

Much remains to be done in the **industrial pollution control** sector. Some 250 plants will be subject to IPPC requirements. Because of the need to update so many old facilities and the lack of investment funds, a transition period of 2012 has been requested for the IPPC directive. The integrated permitting process will involve the MoEW, the Regional Inspectorates for Environment and Waters, the River Basin Directorates and the newly created Executive Environment Agency. It will be a challenge to ensure effective co-operation between these bodies, and an action plan for implementing IPPC may well be needed.

Despite its relatively small size, Bulgaria's **nature** is extraordinarily rich. It is home to a wide variety of flora and fauna species, and forests cover 30% of the territory. In 2000, the National Plan for Biodiversity was issued. In 2002, the Law on Biological Diversity was adopted which transposes the Wild Birds and Habitats Directives. However, implementation is hindered by insufficient administrative capacity, including lack of well-trained staff, at central level and in the three national parks. Designation of Special Areas of Conservation (SACs) is not expected to be completed until 2006. Bulgaria also plans to establish by 2006 a National Ecological Network covering 10 – 12% of the national territory, but again, only some of this network has been officially designated. One of the many challenges will be preparing and then carrying out management plans for the SACs.

Implementation and enforcement of Bulgaria's environmental acquis is suffering due to weak **administrative capacity**, particularly staff shortages. It is positive to note the Government's intention to appoint 519 additional staff in 2003. Regional inspectorates and municipalities also require strengthening.

Significant investment will be needed to ensure all implementation measures which Bulgaria needs to achieve. The total investment is likely to be more than 10 billion EUR; leading to an annualised cost

that represents 6.7% of GDP if the investment takes place over the period to 2015. It is not yet clear how this can be achieved without placing an intolerable economic burden on both institutions and citizens. Additionally, the time-consuming nature of ISPA applications has meant that until now no projects for landfills have reached the construction phase.

Summary overview of Bulgaria's major environmental challenges

- Speed up efforts of transposition and implementation in the fields of waste management, environmental impact assessment, nature protection, IPPC, nuclear safety and radiation and chemicals
- Complete detailed, directive-specific implementation plans and financing strategies
- Strengthen administrative capacity by appointing and training more staff in environmental administration

5. Options for addressing problem areas before and beyond accession

A number of common problems emerge from the preceding review of each applicant country's pre-accession preparations in the environment sector. This section takes a brief look at some of the more pressing issues, as well as some options for EU institutions to consider to ensure that the various environmental challenges posed by this coming enlargement are adequately addressed.

5.1 Ensuring sufficient administrative capacity

The accession countries are expected to have in place, on the day of accession, all necessary administrative systems and technical knowledge to implement the EU mechanisms required for environmental protection, including for environmental impact assessment, public information disclosure, integrated permitting, and the Natura 2000 system.

But almost all of the accession countries are experiencing problems and delays in some areas. One problem area is the the IPPC Directive's requirement of integrated permitting. Though a number of countries have in place systems of permitting which set emission limit values for discharges to various media in a combined permit, few have developed a truly integrated, cross-media approach. Systems need to be in place by the date of accession to ensure that all "new" facilities receive integrated permits, and to complete integrated permitting for all existing facilities by 2007, the deadline that also applies to the current Member States. The challenge that integrated permitting will pose to those countries with a large industrial base, such as Poland, should not be underestimated.

Another area of concern is the capacity of the accession countries to manage chemicals control requirements, if the proposed EU Strategy for a future Chemical Policy goes into effect. The new Member States will be expected to share the burden of review and assessment of hundreds, if not thousands, of chemicals already in use, but few of the accession countries have the capacity in place for carrying out the required risk assessment and other procedures. The administrative requirements for implementing the EU requirements with respect to genetically modified organisms (GMOs) will present a similar risk management challenge.

Also problematic is the lack of progress by the accession countries in designating the required Special Protection Areas (SPAs) under the Habitats Directive, or in setting in place and financing the management structures required to ensure the practical protection of SPAs. While this may in part reflect difficulties in getting political decisions on this, for many countries there is also a lack of human and financial resources in the nature protection sector.

The EU institutions may need to take into account the likelihood that, though all administrative systems are to be in place as of the date of accession, some countries may need technical assistance for building further administrative capacity even after accession. Steps to be considered include:

- Continue current programmes to provide technical assistance through twinning using Member State officials.
- Maintain pressure on accession countries to budget sufficient resources to enable environmental ministries and other agencies with environmental management responsibilities to have qualified staff and technical equipment to meet the administrative challenges of implementing the environmental *acquis*.

5.2 Financing of environmental infrastructure

One of the primary challenges remains the high cost of achieving compliance with the EU standards, especially for such municipal services as sewerage and wastewater treatment, and waste management. EU financing is already playing a crucial role in this respect (almost all ISPA funds allocated to date have been for wastewater and waste management infrastructure), and that role will increase in importance after accession.

But the bulk of financing will still need to come from national and local sources. In the majority of the accession countries, the task of financing the necessary water and waste management sector infrastructure is still considered a public sector investment responsibility, to be addressed through budgetary resources. However the potential for proper public/private co-operation is high, and should be given priority in the planning of future investments in these sectors. For example, the Czech Republic and the Slovak Republic have both had success in providing incentives for the private sector to finance investment in treatment and disposal facilities.

Involving the private sector in the planning, financing and eventual operation of the infrastructure may offer significant economic gains, particularly in situations where local administrations lack resources and expertise. This option also carries risks, including higher prices for water services and possible loss of local expertise. Some accession country governments have been reluctant to raise prices for such basic services, in recognition of the hardship still faced by many of their citizens on fixed income. But introduction of full payment for water or waste management services helps to create incentives for efficiency savings and should be introduced as quickly as possible. In any case, effective use of public/private partnerships requires adequate regulatory structures and oversight by government bodies.

In contrast to water and waste management infrastructure, much of the burden of meeting the EU air quality requirements will fall on the private or privatised facilities that will need to invest in air emissions controls. Proper pricing of the products, i.e., cars, fuels, electricity, will enable facilities to recover costs of investments in emission controls. However, certain types of public sector infrastructure such as district heating or natural gas distribution will require financial assistance to make the necessary improvements.

Another problem that is not strictly a question of financing but nonetheless related remains the lack of consideration of lower cost solutions. For example, hazardous waste treatment facilities are often highly specialised, particularly those providing a high degree of material recovery, and can require bigger amounts of waste for cost-effective treatment than is generated by the smaller accession countries on an individual basis. Steps to be considered include:

- Encourage cooperation among the accession countries on specialised waste treatment facilities in order to facilitate cost-effective solutions and keep treatment costs to levels manageable for local industries.
- Provide support for setting in place the regulatory structures to attract private investment in water and waste management infrastructure, including full cost pricing.

5.3 Management of pre-accession assistance

Most of the CEE accession countries continue to experience problems with respect to the EU assistance programmes, including difficulties in meeting the demanding technical requirements. Poor administrative structures and inadequate staffing contribute to limited capacity for absorption of EU funds and low quality of project preparation. Some countries are experiencing a very high rate of rejected projects, with most preparation costs being lost by the local authorities that worked to develop the projects. Special national financing measures may be needed to support the smaller municipalities that are finding it especially difficult to prepare competitive projects.

There is a need to open up debate concerning the scope of environmental investments measures supported by EU funding. For example, private sector investments in order to comply with the IPPC requirements could be supported. However, it will be important to stay within the EU State Aids rules, and moreover to ensure that support for environmental investments in the accession countries will not be to the competitive disadvantage of industries in the current Member States.

Among the many challenges posed by the major environmental investment programmes now under way in the accession countries is how to use the EU assistance wisely with respect to the environment, and with due fiscal accountability. All of the accession countries lack effective monitoring and auditing systems for quality control for cohesion and structural funds (current quality assurance mechanisms are limited to quantitative evaluation of projects). The EU can take a number of steps in these areas:

- Ensure professional quality and neutral standing of experts on environmental impact assessment.
- Monitor to ensure that public procurement rules provide equal access to the market.
- Revise ISPA financing rules to enable design of smaller-scale waste management and wastewater treatment projects, where possible, to keep the financial burden affordable for local citizens.
- Insist on transparency in centralised-decision making processes under EDIS to encourage more accountability in the management of EU funds for environmental infrastructure.
- Support the accession countries with technical assistance and capacity building for staff at all administrative levels concerning EU standards of accountability for public finances, to ensure proper use of structural and cohesion funds in the future.

5.4 Balancing nature conservation and infrastructure development

It is a serious problem in this sector that many EU-funded projects have detrimental effects on biodiversity – from the encouragement for intensive agriculture being given under SAPARD to much of the ISPA-financed transportation infrastructure. Though one half of ISPA money is dedicated to improving the environment, the other half going to transport includes a number of road projects that also threaten potential Natura 2000 sites⁹⁵. Examples range from the building of the Struma motorway, part of European Transport Corridor No. 4, through the Kresna Gorge in Bulgaria to the construction of inland waterway ports and bridges along the Morava river in Slovakia, and a proposed bridge across the potential Väinameri Natura 2000 site in Estonia.

The process of identifying areas to be protected therefore needs to be accelerated, primarily to prevent irreversible damage to valuable nature areas, but also to identify relevant areas before expectations of increased land value will make it more difficult (or expensive) to ensure the protective status. Accelerated implementation is also needed because regulations covering the ISPA and PHARE financial instruments require examination of infrastructure projects in relation to sites of nature conservation importance, e.g. potential future Natura 2000 sites. A few of the measures that EU policymakers could consider include:

- Place priority on carrying out Strategic Environmental Assessment of national ISPA strategies, particularly with respect to transport infrastructure planning
- Give more attention to the relationship between nature protection and its benefits, and the Structural Fund's Objective 2 concerning regional development, e.g. enhancement of tourism, water quality protection.

5.5 Sectoral integration

It is important to figure out how to ensure that the substantial EU assistance to the CEE accession countries supports sectoral integration. CEE accession countries should in any case focus on better policy integration, including a systematic and transparent review of the costs and effects of different options, so that different policies reinforce each other and environmental and social objectives are met at least economic cost.

The accession countries still have good opportunities to pursue a higher degree of sustainability in their economic development. Support for public transport (urban and railways) -- well developed in

⁹⁵ "Progress on Preparation for Natura 2000 in Future EU Member States", WWF report, January 2003.

socialist times – should be sustained in order to counter the use of personal cars. New strategies in the energy sector are needed to foster the entry into the market of newcomers and to promote renewable energy sources, while reexamining the future of the coal industry and coal-based power generation.

A number of the accession countries do not yet apply the available mechanisms such as strategic environmental assessment to this end. In particular, development of the newest National Development Plans (which should integrate existing pre-accession documents, including Accession Partnerships, NPAA, ISPA strategies, etc.) should be subject to SEA, and agriculture projects receiving EU assistance should be assessed in advance for any potential negative impacts in biodiversity.

For example, organic farming could be an option of an integrated strategy along with a scheme of assisting and recognizing the environmental stewardship role of some farmers. Integration of environmental concerns in this sector should be encouraged through more application of SAPARD funds to organic farming, rural development and agro-environmentally friendly projects and less support for intensified production and food processing. Similarly, requirements for local co-financing for rural development and agro-environmental projects should be decreased to make SAPARD easily accessible to smaller farmers and businesses.

Of all the sectors, the air quality sector has perhaps the most potential for seeing gains from better integration of environmental concerns in the various economic fields. For example, a common problem throughout the accession countries – and indeed in the current Member States – is how to deal with the emissions from increasing numbers of motor vehicles. The internal market will require all new vehicles to meet stringent EU emissions standards, but the accession countries also need strategies for reducing the numbers of older, more polluting cars, including a consideration of other forms of transport. Measures for EU policy makers to consider include:

- Make SAPARD more accessible to smaller farmers and businesses by decreasing requirements for local co-financing for rural development and agro-environmental projects
- Promote renewable energy sources and the entry into the market of newcomers providing energy sources
- Increase financial support for sustainable urban transport and for establishing incentives for scrapping old motor vehicles

5.6 Looking to future EU requirements

In their focus on compliance with existing EU requirements as part of the price of membership status, it has been difficult to get the accession countries to look ahead to future legislation. For example, the new revisions to the Large Combustion Plant Directive will also require new strategies for compliance. The pre-1987 large combustion plants exempted under the previous LCP Directive must now be upgraded to meet the EU emission limit values, or closed down after a specified number of operating hours. Up until the time the new LCP Directive was adopted, a number of accession countries had thought they would have no compliance problems because all of their large combustion plants were pre-1986. They have now had to negotiate transition periods for meeting these new, more stringent requirements.

The failure to look to the future has at times raised concern that the pending Member States may not have an equivalent commitment to ensure a high level of environmental protection, and could form a blocking minority that might resist measures to firm up future EU requirements.

For example, most of the CEE accession countries are still experiencing difficulties achieving the minimum targets for collection of packaging waste and recycling of packaging materials. If and when the amendments to the Packaging Waste Directive recently proposed by the Commission come into force (scheduled at this point for 2006), the minimum targets for recycling and recovery of packaging waste will be ratcheted up, including for the new Member States. The most critical targets are the overall recovery targets, which will be difficult to achieve for countries without incineration facilities

(such countries would be compelled to achieve the target exclusively by recycling) and the specific target for plastics (plastics recycling is the only material for which recycling is clearly more expensive than alternative disposal).

The accession countries would be prudent to take into account even now the possibility of even more stringent targets in the future, while the EU institutions need to be on guard against allowing the accession countries to think that standards no longer count. It will be important in the months and years to come to monitor post-accession implementation and to hold the accession countries to their promises of full implementation within the transition periods agreed. It will also be important to make sure that whenever costs of implementation are discussed, the benefits of enlargement to the pending Member States as well as the existing Member States are taken into account.

Abbreviations and Terms Used

Aarhus Convention	Convention on Access to Information, Public Participation to the Decision-Making Process and Access to Justice in Environmental Matters (1998)
AQ	Air Quality
BAT	Best Available Technologies
CAP	Common Agricultural Policy
CBC	Cross Border Co-operation
CEE	Central and Eastern Europe
CEECs	Central and Eastern European countries
DANCEE	Danish Cooperation for Environment in Central and Eastern Europe
DEPA	Danish Environmental Protection Agency
DG	Directorate General
DISAE	Development of Implementation Strategies for Approximation in Environment
DSIFP	Directive-specific implementation and financial plans
EDIS	Extended Decentralised Implementation System
EIA	Environmental Impact Assessment
EMAS	Environmental Management Standards
EPA	Environmental Protection Agency
EU	European Union
EURATOM	European Atomic Energy Community
EUROSTAT	Statistical Office of the European Communities
DSIFP	Directive Specific Implementation and Financing Plans
GDP	Gross Domestic Product
GMM	Genetically Modified Micro-organism
GMO	Genetically Modified Organism
HELCOM	Helsinki Commission
Helsinki Convention	Convention on the Protection of the Marine Environment of the Baltic Sea Area
IPPC	Integrated Pollution Prevention and Control
ISPA	Instrument for Structural Policies for Pre-Accession
LCP	Large Combustion Plants
LIFE	Financial instrument of the Environment Directorate-General of the European Union for the Environment
MANRE	Ministry of Agriculture, Natural Resources and Environment (Cyprus)
MEDA	Financial instrument of the EU for the implementation of the Euro-Mediterranean Partnership
MEPRD	Ministry of Environmental Protection and Regional Development
MESP	Ministry of Environment and Spatial Planning
MEUR	Million EURO
MLSI	Ministry of Labour and Social Insurance
MoE	Ministry of Environment
MoEW	Ministry of Environment and Waters
MWEP	Ministry of Waters and Environmental Protection
NATO	North Atlantic Treaty Organisation
NDP	National Development Plan
NEAP	National Environmental Action Programme
NGO	Non-governmental organisation
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxide
OECD	Organisation for Economic Co-operation and Development
ODS	Ozone Depleting Substances
PCB/PCT	Polychlorinated Biphenyl/ Polychlorinated Triphenyl

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PCP	Pentachlorophenol
p.e.	Population Equivalent (as defined in the Urban Waste Water Treatment Directive)
PHARE	Poland and Hungary Assistance to Restructure the Economy
POPs	Persistent Organic Pollutants
SAC	Special Area of Conservation
SAPARD	Special Accession Programme for Agriculture and Rural Development
SDS	Sustainable Development Strategy
SEA	Strategic Environmental Assessment
SME	Small and Medium Enterprise
SO ₂	Sulphur Dioxide
UNECE	United Nations Economic Commission for Europe
UNOPS	United Nations Office for Project Services
UWW	Urban WasteWater
UWWT	Urban WasteWater Treatment
VOCs	Volatile Organic Compounds
WFD	Water Framework Directive
WMP	Waste Management Plan
WWTP	Waste Water Treatment Plant

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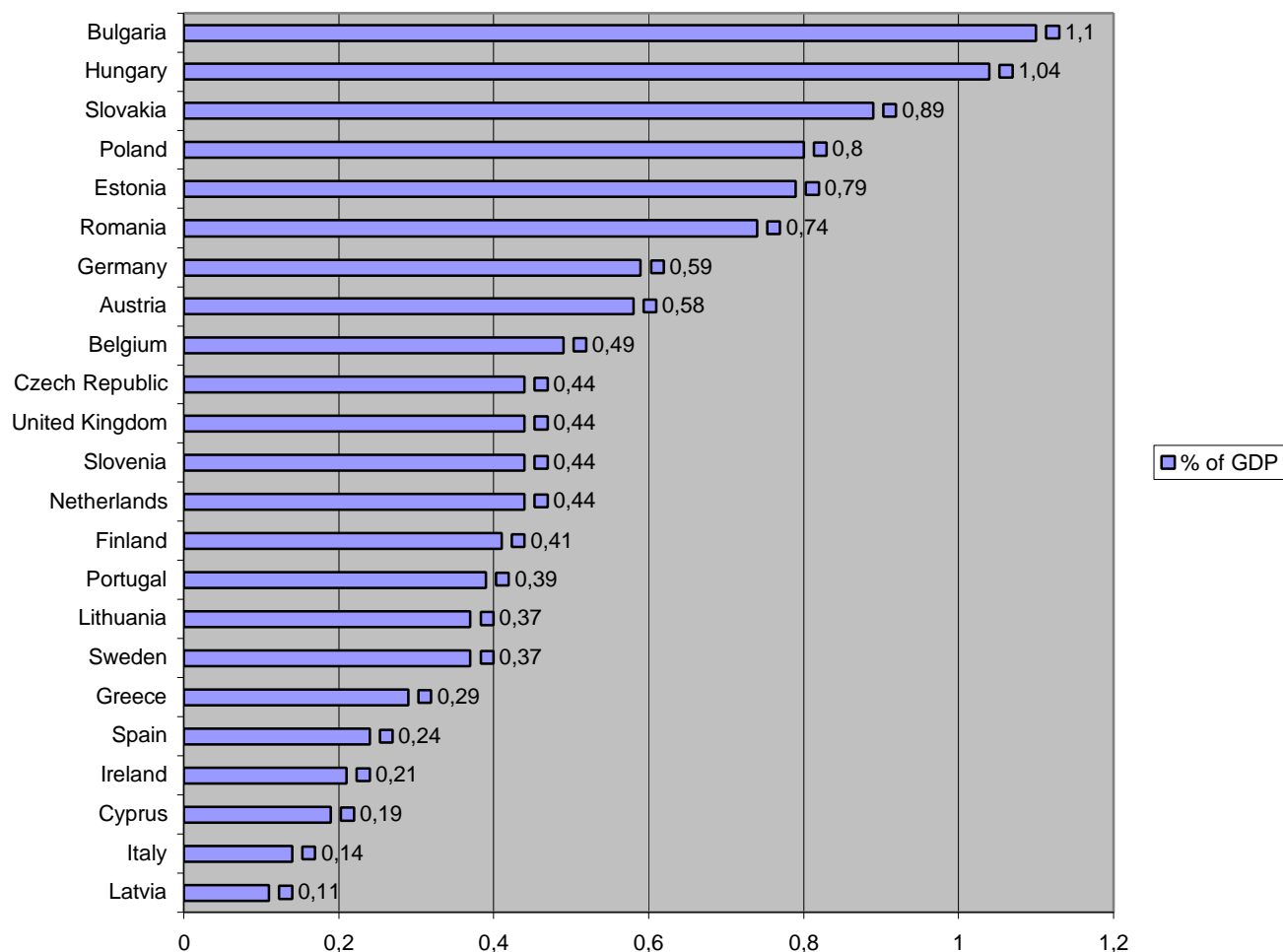
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Annex 1⁹⁶

Environmental protection expenditure by industry in 2000 as a % of GDP



⁹⁶ The data used for accession countries to compile Annex 1 pertains to the year 2000, and was taken from “Eurostat, Environmental Protection Expenditure in the accession countries: Data 1996 – 2000”. The data used for existing member states pertains to the year 1997, and is taken from “Eurostat, Environmental Protection Expenditure by industry in the EU: Theme 8 – 14/2002”. The only data available for Cyprus pertains to the year 2001, and was provided to the authors directly from Eurostat. No information is available yet for Malta.

Annex 2

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