# NATIONAL STRATEGY FOR ENVIRONMENTAL APPROXIMATION

2008

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Carl Bro

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LIST OF ABBREVIATIONS

| | |
|---|---|
| ADA | Austrian Development Agency |
| AHM | Association of Hydrology of Macedonia |
| AIE | Authorized Inspectorate of Environment |
| ASCI | Areas of Special Conservation Interest |
| AwAP | Adjustment with Adjustment Plan |
| AWM | Administration of Water Management |
| BAT | Best Available Technique |
| BATNEEC | Best Available Technology Not Entailing Excessive Costs |
| BIMS | Biodiversity Information Management System |
| BOT | Build-Operate-Transfer (Contract) |
| BPEO | Best Practicable Environmental Option |
| BREF | Best Available Technique Reference |
| CCNL | Concentration Contribution in Neighbour Locations |
| CDM | Clean Development Mechanism |
| CEN | European Committee for Standardization on Industrial Risks |
| CDCIR | Community Documentation Centre on Industrial Risks |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CORINE | Coordinated Information on the European Environment |
| CORINAIR | Emission Inventory Guidebook Danida Danish International Development Assistance |
| DFS | Direction for Food Safety |
| DfID | Department for International Development (UK) |
| DSIP | Directive Specific Implementation Plan |
| DPR | Direction for Protection and Rescue |
| EAR | European Agency for Reconstruction |
| EAZA | European Association of Zoos and Aquaria |
| EBRD | European Bank for Reconstruction and Development |
| ECENA | Environmental Compliance and Enforcement Network for Accession |
| EEA | European Environmental Agency |
| EIA | Environmental Impact Assessment |
| EIB | European Investment Bank EIS Environmental Information System |
| EIONET | European Environment Information and Observation Network |
| ELV | Emission Limit Values EMAS Environmental Management Audit Schemes |
| EMEP | European Monitoring and Evaluation Programme |
| EPER | European Pollutant Emission Register |
| ERDF | European Regional Development Fund |
| EPRTR | European Pollutant Release and Transfer Register |
| EUNIS | European Union Nature Information System |
| GDP | Gross Domestic Product |
| GMO | Genetically Modified Organisms |
| GMM | Genetically Modified Micro-Organisms |
| GTZ | Deutsche Gesellschaft für Technische Zusammenarbeit |
| HMD | Hydro-Meteorological Directorate (MAFWE) |
| IA | Implementation Analysis ICAO International Civil Aviation Organization |
| IEP | Integrated Environmental Permit IFI International Funding Institution |
| IMO | International Maritime Organization |
| IMPEL | EU network for Implementation & Enforcement of Environmental Law |

| | |
|---|---|
| IPA | Instrument for Pre-accession Assistance |
| IPC | Industrial Pollution Control |
| IPPC | Integrated Pollution Prevention and Control |
| ISO | International Standards Organization |
| ISPA | Instrument for Structural Policies for Pre-Accession |
| IUCN | International Union for Conservation of Nature |
| JICA | Japanese International Cooperation Agency |
| KfW | Kreditanstalt für Wiederaufbau |
| LEAP | Local Environmental Action Plan |
| LIBOR | London Inter-Bank Offered Rate |
| LoAAQ | Law on Ambient Air Quality |
| LoE | Law on Environment |
| LoFF | Law on Fire Fighting |
| LoPR | Law on Protection and Rescuing |
| LoSUP | Law on Spatial and Urban Planning |
| LoW | Law on Waters |
| LSGU | Local Self Government Unit |
| LWM | Law on Waste Management |
| MAHB | Major Accident Hazards Bureau |
| MAFWE | Ministry of Agriculture, Forestry and Water Economy |
| MARS | Major Accident Reporting System |
| MEAP | Municipal Environmental Action Plan |
| MEIC | Macedonian Environmental Information Centre (MoEPP) |
| MES | Ministry of Education and Science |
| MFA | Ministry of Foreign Affairs |
| MLSG | Ministry of Local Self Government |
| MLSP | Ministry of Labour and Social Policy |
| MoE | Ministry of Economy |
| MoEPP | Ministry of Environment and Physical Planning |
| MoF | Ministry of Finance |
| MoH | Ministry of Health |
| MoIA | Ministry of Internal Affairs |
| MoJ | Ministry of Justice |
| MTC | Ministry of Transport and Communication |
| NCSA | National Capacity Self Assessment |
| NEAP | National Environmental Action Plan |
| NERP | National Emission Reduction Plan |
| NGO | Non-Governmental Organisation |
| NPAA | National Programme for the Adoption of the Acquis Communautaire |
| NPAL | National Programme for the Approximation of Legislation |
| NSDS | National Sustainable Development Strategy |
| NSEA | National Strategy for Environmental Approximation |
| NSEI | National Strategy for European Integration |
| NWMP | National Waste Management Plan |
| NWMS | National Waste Management Strategy |
| PCB | Poly-Chlorinated Biphenyls |
| PCT | Poly-Chlorinated Terphenyls |
| PEEN | Pan-European Ecological Network |
| PHI | Public Health Institute (MoH) |
| PIO | Public Information Office |

| | |
|---|---|
| POP | Persistent Organic Pollutant |
| PRO | Public Relation Office (MoEPP) |
| PPP | Public Private Partnership |
| PWME | Public Water Management Enterprise |
| QA | Quality Assurance |
| RBD | River Basin District |
| RBMP | River Basin Management Plan |
| REACH | Registration, Evaluation and Authorisation of Chemicals |
| RIMSYS | Rivers Monitoring System |
| RIHP | Republic Institute for Health Protection (MoH) |
| RoHS | Restriction on Hazardous Substances |
| SABWM | State Administration Body for Water Management |
| SAC | Special Area of Conservation |
| SAI | State Agricultural Inspectorate (MAFWE) |
| SAS | Sector Approximation Strategy |
| SCI | State Communal Inspectorate (MTC) |
| SDC | Swiss Agency for Development and Cooperation |
| SEA | Strategic Environmental Assessment |
| SFRY | Soviet Federative Republic of Yugoslavia |
| SIDA | Swedish International Development Assistance |
| SIE | State Inspectorate for Environment (MoEPP) |
| SMI | State Market Inspectorate (MoE ) |
| SNAP | Selected Nomenclature for sources of Air Pollution |
| SPA | Special Protected areas |
| SSHI | State Sanitary and Health Inspectorate (MoH) |
| SWM | Strategy on Waste Management |
| TA | Technical Assistance |
| ToC | Table of Concordance |
| ToR | Terms of Reference |
| UNDP | United Nation Development Programme |
| UNFCCC | United Nations Framework Convention for Climate Change |
| UNECE | United Nations Commission for Europe |
| VOC | Volatile Organic Compound |
| WEEE | Waste Electric and Electronic Equipment |
| WMO | Water Management Organization |
| WMP | Water Master Plan |
| WMU | Water Users Organization |
| ZELS | Association of Local Self-Government Units |

## *F*OREWORD

Since its independence, Republic of Macedonia has shown strong commitment and eagerness to build stabile political and economic community, with legal system that enables integration in the European Union and in the broader international community.

One of the greater challenges in the environmental policy is the establishment of optimal balance among the economic, social and environmental dimension of development, which entails increased use of economic instruments in order to protect the environment.

The need to develop a National Strategy for Environmental Approximation, as a basic planning document, which should present the optimal route for the approximation process which covers the EU acquis communautaire, was identified in the past period. Its development was financially supported by the European Union within the Cards Program for 2005.

The National Strategy for Environmental Approximation, based on the prioritized EU legislation, ratified international agreements and Governmental priorities is a comprehensive framework of actions presented with related costs needed to accomplish legal transposition and technical implementation of all 10 environmental sectors: horizontal legislation, water management, air quality, waste management, industrial pollution control and risk management, nature protection, forests, chemicals, genetically modified organisms and noise.

The National Strategy for Environmental Approximation is a joint product of a great number of civil servants, scientific community, international experts, nongovernmental organizations, private sector organizations and the wider public, which by it self is a guarantee for the document's quality.

I would like to use this opportunity to express my gratitude to the Strengthening of Environmental Management Project funded by the European Union and managed by the European Agency for Reconstruction that greatly assisted the Ministry in the preparation and publication of the Strategy.

I would like to use this opportunity to express my gratitude to the Structural and Legal Reform Project funded by the European Union and managed by the European Agency for Reconstruction that greatly assisted the Ministry in the preparation and publication of the Strategy.

Minister

Dr.NexhatiJakupi

# EXECUTIVE SUMMARY

***Scope and Approach***

The main goal of the National Strategy for Environmental Approximation (NSEA) is to recommend the most appropriate and suitable approach for the Government of the Republic of Macedonia to response to the complex obligations of the EU environmental acquis and at the same time contribute to the sustainable development of the country. The NSEA is expected to provide a "route map" for a full and effective approximation process, including a sustainable, comprehensive framework of actions with associated costs needed for legal transposition and technical implementation in all ten environmental sectors. The general approach and methodology used in the development of the NSEA is the sequential "bottom to the top" pyramidal methodology (each phase is dependent on the foundations built in the preceding phases). The essential preparatory steps in developing the NSEA were the preparation of 19 Directive Specific Implementation Plans (DSIPs) and preparation of 9 Sector Approximation Strategies (SASs), based on 73 pieces of EU legislation. The process of developing the DSIPs / SASs / NSEA consisted of determination of present status of the approximation process and of specific national conditions and requirements, selection of the EU legislation upon which the SASs and the NSEA should be based and for which the DSIPs should be prepared, gap analyses, definition of all actions needed for the full approximation, preparation of the DSIPs and SASs, prioritization across sectors of the implementation of the EU legislation, and preparation of the National Strategy. An Approximation Plan was developed as an integrated part of the National Strategy, based on the prioritized EU legislation and taking into account the governmental priorities already identified and financial implications and constraints.

**Present Situation**

The Government has confirmed their commitment towards EU accession through the development of the relationship with the EU and has posed the EU Membership as a national goal of highest priority. In 1995 is established diplomatic relations with the EU and a Stabilization and Association Agreement was signed and ratified in 2001. In 2004 it submitted the application for full EU membership and was in 2005 granted candidate status. The principle of partnership was legalised by an EU Decision in 2006. In order to fulfil the criteria for full membership, the second National Programme for Adoption of the Acquis Communautaire (NPAA II) was adopted in April 2007. It comprises the plans for harmonization of the national legislation with the EU legislation, the necessary dynamics of institutional strengthening for implementation of the legislation, the necessary resources for realization, and an Action Plan. Several other important policy strategic documents in various environmental sectors have been adopted, clearly defining the government's environmental policy (e.g. Vision 2008, National Strategy for European Integration, National Environmental Action Plan, etc.).

In December 2006, the Ministry of Environment and Physical Planning (MoEPP) adopted a new administrative and organizational structure in accordance with the individual environmental sectors / areas corresponding to the obligations posed by the approximated legislation for an efficient fulfilment of the new competences and responsibilities. Attention is being given the capacity building and technical staffing.

The main responsibility for implementation of the environmental legislation lay on the MoEPP, but other ministries also have environmental related responsibilities (the MAFWE, MoE, MTC, MoH, MoF, MoIA, etc.). Clear differentiation between the responsibilities is crucial to avoid overlapping of competences between governmental institutions. The Local Self-Government Units (LGSUs) / municipalities have several responsibilities, such as local strategic planning, monitoring, inspection / enforcement, registration / licensing, data collection, reporting, and public information and consultation), but there is a lack of the human and financial resources and

knowledge, and the institutional set-up on local level need to be strengthened soonest possible. The business community have the responsibility to carry out self-monitoring and reporting of emissions, prepare policy documents, obtain and maintain license / permits for operation, respond to monitoring and mitigation plans, provide public information, data collection and report the collected environmental information to the responsible institutions. Setting the technical standards, accreditation of laboratories, inspection and certification is the responsibility of the Institute for Standardisation and the Institute for Accreditation. The academic institutions have the main responsibility on providing technical assistance to the governmental institutions. Some laboratories have the equipment, trained personnel and possibilities to perform the environmental monitoring and product quality as well as to perform various researches. The role of the professional associations is to provide the technical inputs to the public information and consultation process, to support the regulation drafting process with advice for the practical implementation of the legislation and during the process of setting the technical standards. The environmental NGOs representing the public have a very strong role in the public consultation processes, but the public participation is still in an early stage.

The status of transposition of the EU environmental legislation was identified through legal gap analysis, based on existing environmental Laws as wells as four environmental draft Laws (covering noise, water, GMOs and chemicals). The legal transposition is in a different stage for the various environmental sectors and is for most directives not started or is in the early stage of transposition. Only for a minor portion of the directives (about 25%) are the legal transposition advanced. It is mainly in the Horizontal Legislation Sector where the transposition is a little advanced, whilst it is in the early stage but progressing for the Waste Management, Air Quality, IPC and Nature Protection Sectors. Transposition of the Water Quality, Chemicals, GMO and Noise Sectors is still in a rather early stage. It is rather important that the transposition of the Horizontal Sector gets high priority as this legislation have effect on most of the other sectors, and that the legal transposition of the legislation within the Waste Management, Air Quality, IPC and Nature Protection Sectors get attention, as the transposed legislation is of great importance for controlling and enforcing the implementation of these big and complex sectors. It is rather critical that the transposition of the legislation in the Water Quality Sector is falling behind as it is considered a very important sector.

The draft Laws on Waters, Chemicals, and GMO should be completed and adopted soonest possible and the required secondary legislation should soon be prepared and adopted. The draft Law on Noise was lately adopted by the Government and the required secondary legislation should therefore be prepared and adopted. Future legal transposition efforts in the Chemicals Sector should be focused on the new REACH policy. In general, it is rather important that the legal transposition takes place soonest possible as the transposed EU legislation is needed to support and control the practical implementation. It is also important that the writing of the national legislation is being adjusted to actual national requirements.

The implementation of the main EU requirements is still at a low level and a lot of attention on the implementation and enforcement of the EU legislation will be needed in the coming years to fulfil the obligations and requirements of the said legislation within a reasonable time period (say less than 10 years).

Competent Authorities have been identified for the priority directives under the Waste Management, Air Quality, Horizontal Legislation, IPC and Noise Sectors, whilst the Competent Authorities still need to be established in the remaining sectors. Development of policy and / or planning documents are relatively advanced for the most important directives in the Waste Management, Air Quality, Chemicals, Horizontal Legislation, IPC and Noise Sectors, but are lacking in the remaining three sectors. Agglomerations / vulnerable zones / protected areas, etc. have been designated in the Air Quality and Noise Sectors, and are mainly outstanding in the

Water Quality, Waste Management and Nature Protection & Forestry Sectors. Establishing of registration, licensing or permitting systems are most advanced in the IPC, Nature Protection & Forestry and Noise Sectors, and are mainly outstanding in the Waste Management, Water Quality, Chemicals and GMO Sectors. Technical standards and / or quality assurance systems for data validation has mainly been set-up in the Waste Management Sector, but are still lacking behind in the remaining sectors. Monitoring mechanisms have mostly been established in the Air Quality and Noise Sectors, and are still to be further developed in the remaining sectors. Effective inspection and enforcement systems has mainly been established in the Air Quality, Horizontal Legislation and IPC Sectors, but are only in the early phase in the Waste Management, Water Quality, Chemicals, GMO, and Noise Sectors. A full cost recovery system is still to be proper developed in the Waste Management, Water Quality and the Nature Protection Sectors. A system for public information and public consultation has mostly been established in the Air Quality, Horizontal Legislation and IPC Sectors, but are still to be established in the remaining sectors. A system for transboundary information and consultation has mostly been established within the Chemicals, Horizontal Legislation and IPC Sectors, whilst it still needs to be proper developed within the remaining sectors. Data recording systems and reporting to public and EU Commission have mostly been established in the Air Quality, Chemicals and IPC Sectors, whilst it is in the early phase in the remaining sectors.

The Horizontal Legislation, Air Quality and IPC Sectors can be considered to be at a fair level of implementation, but still not very advanced. The implementation of the horizontal legislation is advanced, except for one directive. This legislation is important due to its horizontal nature and the implementation should therefore be given special attention. The implementation of six of the more important directives in the Air Quality Sector is relatively advanced, but not very advanced is another four directives. The implementation is relatively advanced for two of the more important directives in the IPC Sector, but not so advanced are 2 regulations / decisions, whilst four pieces of legislation is hardly implemented. The Air Quality and IPC Sectors require relatively big efforts (technical and financial) to implement.

The Waste Management, Chemicals and Noise Sectors are considered to be at a low level of implementation. For about half of the analysed directives in the Waste Management Sector, the level of implementation is relatively low, whilst for the other half the implementation has hardly started, and the implementation needs to be considerably improved. The Waste Management Sector requires a lot of technical and financial input. The Chemicals and Noise Sectors are much less demanding, but should not be neglected. For the two most important pieces of legislation in the Chemicals Sector the implementation is ongoing, but has not started yet for the remaining directives. The implementation of the legislation in the Noise Sector is still in the early stage / has hardly started. The implementation of the noise legislation is not that demanding either, but also this sector needs some attention.

The Water Quality, Nature Protection & Forestry and the GMO Sectors are at a very low level of implementation. Only for one directive in the Water Quality Sector is the implementation advanced, whilst the implementation of the remaining legislation is at a low level or is not started yet. It is of utmost importance that the implementation of this sector will be given full attention.The Water Quality and Nature Protection Sectors require a lot of technical and financial input. The GMO sector is a relatively small sector, but still needs attention due to its very low implementation.

Overall there has not yet been a great deal of investment in the environmental infrastructure except in the Water Quality and to a lesser extent Air Quality Sectors.

**Priorities for Transposition**

In general, the existing as well as draft national environmental legislation need to be amended and

secondary legislation need to be prepared and adopted to complete the legal transposition. Definitions, allocation of responsibilities, main principles and general obligations are best fitted in the primary legislation. Appropriate legal basis should be included in the national environmental legislation that will enable the adoption of secondary legislation. It is suggested that annexes found in the EU legislation as well as detailed procedures are provided through secondary legislation. Due account should be taken to avoid conflicts or overlaps with other existing legislation. It should in each case be considered if secondary legal act should remain as Rulebook or should be issued as a Decree.

A short term priority for the Horizontal Legislation Sector is the amendment of the Law on Environment, and secondly, appropriate legal basis should be included in the Law to enable legal basis for the adoption of secondary legislation. The transposition of directives dealing with environmental assessment, information and public participation are given high priority. Environmental liability is medium priority.

In the Air Quality Sector, amending the current Law on Ambient Air Quality and the Law on Environment (climate change issues) is a short term priority. Rulebooks will finalise the transposition of the framework directive and the first and second daughter directives. A Rulebook on Ozone Depleting Substance Management will complete implementation of the Montreal Protocol and the EMEP Protocol is still to be ratified. Other short-term priorities are adoption of the National Plan for Ambient Air Protection, Ratification of the Protocols to the Convention for Long Range Trans-boundary Air Pollution, and Rulebooks to deal with monitoring and reporting issues on ambient air quality, the form and content of a national plan for ambient air protection and emission limit values from mobile sources. As regards the Pollutant Release and Transfer Registers Protocol, a special unit for keeping registers and cadastres was established in April 2007.

In the Chemicals Sector changes will be needed in the areas of evaluation, classification and labelling of chemicals and the reverse burden of proof that lies with the producer will have to be taken into account. As the industry falls in the class of downstream users, the effects of the implementation of REACH should be carefully assessed before adoption of legislation. It is important to provide the relevant institutions the necessary adjustment time period, training and awareness. The short term priority is the adoption of the Law on Chemicals that will provide further transposition of the chemicals legislation. In the Law needs to accommodate issues that need to be included in the primary legislation.

In the GMO Sector, the first priority is to make amendments to the current draft Law on GMOs and adopt it. As a second priority, appropriate legal basis should be included in the Law on GMOs that will enable the adoption of secondary legislation. The preparation of secondary legislation will be a third priority.

The transposition of the directives in the IPC Sector requires a proper evaluation of the current national situation to take the technical and economic situation of the affected industries into account. In the short term an amendment of the Law on Environment is needed and preparation and adoption of secondary legislation to regulate technical and details issues. Two Decrees will complete the legal framework dealing integrated environmental permits. Regarding the VOCs, changes and amendments to the Law on Ambient Air Quality and preparation of Rulebooks will be the main tasks.

In the Nature Protection Sector, full transposition of the directives dealing with habitats and wild birds is a priority and requires amendments in the existing Law on Nature Protection and Hunting Law. Secondly, appropriate legal basis should be included in the two respective Laws to enable the adoption of secondary legislation. A link between the two laws must be provided and a thorough legal review undertaken for both Laws to avoid duplications that might jeopardise the

legal certainty. Short-term priorities are to amend the Law on Nature Protection and harmonise it with the Law on Misdemeanour in order to introduce direct charges along with the Law on Hunting. The adoption of a Decree will enable better alignment with the provisions of the CITES Convention and enable its proper implementation. Medium term priorities are the adoption of secondary legislation to enable full transposition of the Nature Protection legislation, as well as an amendment of the Law on Forest to enable proper implementation of the monitoring of forests in the Forestry Sector.

In the Noise Sector, the institutional approach for noise approximation will have to be decided before the final adoption of the Law on Environmental Noise. The legal framework should comprise guidelines for national certification of conformity, for noise emission labelling programmes as well as test procedures, including identification of certified institutions for performing tests. Among the important short term priorities is the final adoption of the draft Law on Environmental Noise. Appropriate legal basis that will enable the adoption of secondary legislation should be included in the draft Law. The medium term priorities are adoption of secondary legislation.

The short-term priorities for the Waste Management Sector are changes and amendments to the Waste Management Law and to enact by-laws. Consideration should be given to providing a legal framework allowing for amendments to legislation, and to environmental permits. In the short term priorities is also adoption of a programme dealing with illegal dumps. In order to implement the Law on Waste Management, the National Waste Management Strategy and Plan will be adopted. The foreseen secondary legislation covers a wide range of Rulebooks dealing with waste issues in general, hazardous waste management, waste oil management, PCB / PCTs management, landfills, and waste import / export. Medium term priorities cover actions that will enable transposition of several waste stream directives (packaging and packaging waste, waste of electrical and electronic equipment, batteries and accumulators, motor vehicles and waste incineration). Amendment of the Law on Waste management will harmonise provisions found in the Law on Misdemeanour in order to introduce direct charges.

In the Water Quality Sector, the adoption of the draft Law on Waters is essential which clearly should be setting out the legal framework, the principles for water management, responsibilities of Competent Authorities, and regulate water quality objectives, emission control issues and monitoring and reporting obligations. A distinction should be drawn between the provisions to be kept in the Law and the provisions to be included in secondary legislation.

**Priorities for Implementation**

The implementation strategy is taken into account national conditions and achievements towards the approximation process, and the implementation process shall be optimized by prioritizing the directives to be implemented using an objective methodology and taking into account the level of legal transposition, needs for new institutional set-up, financial implications on the country's economy and social aspects. A realistic implementation / approximation plan shall be prepared and implemented. The synergy effect of cross-sectoral actions shall be optimized where possible and the timing of the implementation plan shall be realistic in terms of the financial needs, human resources and time for implementation. Political and public support shall be secured for the adoption and implementation as well as progress monitoring. The benefits of implementing the EU environmental acquis shall be optimised. The National Strategy and in particular the Approximation Plan shall be updated as required (approximately every three years).

According the NPAA II (April 2007) in the short term (2007-2010), the implementation to be given the highest priority are actions related to the institutional set-up, appointment of the Competent Authorities / key persons, employment of new personnel, institutional strengthening, preparation of planning documents / methodologies / guidelines, and initiation of preparation of

technical documentation for the capital infrastructure investments. In the medium term (2011 - 2015), the focus should mainly be on the implementation dealing with the initiation and implementation of technical assistance projects covering the preparation of the technical documentation for the capital infrastructure projects, feasibility studies, applications for IPA and other foreign financial aids, and establishment of different management systems. In the long term (after 2015), focus should primarily be on the implementation of the capital infrastructure projects. Also important is the coordination of similar activities across directives and sectors (monitoring and reporting, data management, environmental awareness, public participation, permitting, inspection and enforcement) mainly during the medium term, as it creates synergy between implementation of the directives and between the sectors and increases the efficiency and reduces the overall costs. Initiation of projects within the priority sectors / priority directives should also be started as soon as possible and fund raising opportunities should be negotiated with the donor community.

The MoEPP has in December 2006 adopted a new administrative and organizational structure and prepared a recruitment plan (employment of 123 new staff until 2010) to respond to the EU approximation requirements. There are also several ongoing projects (in 5 sectors) and projects in the pipeline (in 2 sectors) addressing some of the EU approximation requirements. A detailed description of the ongoing actions / projects can be found in the respective SASs.

Due to the existence of constraints and limitations in the implementation process, a prioritization of the implementation of the EU legislation was carried out by the NSEA Working Group of some (by them) selected 36 most important pieces of EU environmental legislation, covering all sectors except forestry.

The top priority twelve pieces of EU environmental legislation belong to the sectors: Horizontal Legislation (EIA, SEA, Environmental Information, Public Participation, and Environmental Liability Directives), Air Quality (Ambient Air Quality Framework Directive), Waste Management (PCB / PCT, Hazardous Waste, and Waste Framework Directives), IPC (IPPC Directive and EPER Decision), and Nature Protection (Wild Birds Directive).

The middle priority twelve pieces of EU legislation belong to the sectors: Air Quality (Limit Values for $SO_2$, $NO_2$, $NO_x$, PM and Pb, and Quality of Petrol and Diesel Fuels Directives), Waste Management (Batteries and Accumulators, and Landfill Directives), IPC (SEVESO II, VOCs from Storage and Distribution of Petrol, and Large Combustion Plants Directives), Nature Protection (Endangered Species Regulation, and Habitats Directive) and Water Quality (Water Framework Directive), and Chemicals (Dangerous Substances Directive, and Ozon Depleting Substances Regulation).

The low priority twelve pieces of EU legislation belong to the sectors: Air Quality (National Emission Ceilings, and Sulphur Content of Fuel Directives), Waste Management (Waste Oils, Packaging Waste, and End-of-life Vehicles Directives), IPC (VOCs from Solvents Directive, and EMAS Regulation), Water Quality (Urban Waste Water Treatment, and Nitrates Directives), GMOs (Deliberate Release of GMOs, and Contained Use of GMMs Directives), and Noise (Environmental Noise Directive). The prioritized EU environmental legislation and sectors can serve to the MoEPP as a route map for focusing their human resources, the governmental budget and donor assistance (should be updated on regular basis, e.g. with 2 – 3 years interval).

Tables with all planned actions required for full technical implementation and enforcement of the EU environmental legislation within each sector are given in the respective SASs, where these actions also have been grouped into projects to make them more operational and to optimise implementation of actions of similar character. There are still a lot of actions to be implemented within all sectors before a full implementation of the EU environmental requirements is obtained. There is a need for additional institutional set-up, technical assistance as well as capital

infrastructure and operational actions. The short term activities are mainly institutional set-up actions consisting of new employments, appointment of Competent Authorities / responsible persons, and establishment of new management, systems and / or supporting actions. The short term activities also contain some technical assistance actions and a few capital infrastructure and operations actions. The medium terms actions are mainly technical assistance actions consisting of preparation of policy documents, investment documents and capacity strengthening, but contains also some institutional set-up actions and a few capital infrastructure and operation actions. The long term actions are mainly consisting of capital infrastructure and operation actions, but consist also of a few institutional set-up and technical assistance actions. The grouping into short, medium and long term actions is based on the performed prioritization.

Priorities for Investment The total estimated cost of transposing the EU environmental acquis into national law and fully implementing and enforcing it are (in constant 2006 prices) a total capital / one-off costs of approximately €2.3 billion (over €1,000 per capita and aout 37% of 1 year's GDP) and operating / recurrent costs of €206.5 million p.a. (about €100 per capita per year). Although the EU membership will generate economic benefits, these costs will obviously pose an enormous challenge for the country. The capital / one-off expenditure will be spread over a period and the operating / recurrent years will only rise to the mentioned value after a number of years.

By far the most costly sector is the IPC Sector, which accounts for over one-half of the total capital / one-off costs and 40% of the total operating costs. It includes all the major measures taken by industry to reduce its environmental impact. The capital / one-off costs for the three most cost-heavy sectors (IPC, Water Quality and Waste Management) account for over 98 % of the total. The overwhelming proportion of the capital / one-off costs (95%) are required for capital investment, mainly municipal / regional water and waste management infrastructure, equipment for pollution abatement and risk reduction and waste collection / recycling facilities. The amount required for technical assistance is quite significant at €122 million. The cost of salaries is €30 million p.a., corresponding to a total of some 1,235 new jobs of which 587 is within the MoEPP (about 400 dedicated to the National parks and Natura 2000 sites), 473 within other central government ministries.and the rest within the local self-government units and the industry.

By far the heaviest costs (over 92% of the total capital / one-off costs) will fall in the first place on industry and on local self-government units. These high costs relate, in the case of industry (€1,303 million), to the costs incurred by companies subject to IPPC to install best available technology in terms of emissions to water, air and soil, energy efficiency, waste and recycling, to meet emissions standards for volatile organic compounds (VOCs), etc. In the case of the local self-government units, these costs (€807 million) relate largely to the new infrastructure or upgrading / extending the old infrastructure to make it EU-compliant. These additional municipal costs will mainly relate to the upgraded services for waste, water supply and sanitation. The total capital / one off costs for the MoEPP are €155 million.

As agreed with the Core NSEA Working Group, the objective of the approximation process is that accession shall take place no later than 2015. However, it will be necessary to seek substantial transitional periods and it is possible that the EU will not accede to all the requests in this regard.

The evolution of costs in terms of four identified 'resource bottlenecks' (increase in MoEPP personnel, increase in state budget, funding for technical assistance, and cash flow of all expenditures) has been evaluated separately. There is an astonishingly good match between required and scheduled available personnel more or less throughout the approximation period. Also the costs of the technical assistance required up until the accession lie comfortably within the envelope of the funding likely to be available (in most years and overall). A difficulty is that it

is unlikely that grant funding for technical assistance will be available after accession. An increase in the annual state budget will be needed for implementing the environmental acquis. The rate of increase is starting at €1.6 million (in 2007) and ultimately reaching €43.6 million (at accession). No attempt was made to decide whether this is 'affordable' or not (it is a consequence of the accession by 2015). The total cost will be in excess of 3% of an (optimistic) GDP for the period 2015 to 2023, which is a severe burden for the country. Since most of the costs are associated with the installation and construction of industrial pollution abatement plants and municipal water supply, sanitation and waste management infrastructure, there is scope for reducing this strain by spreading out by a few more years the clean-up and procurement programme under the relevant cost-heavy directives.

**National Approximation Plan**

It has been evaluated that the earliest realistic year of accession into the EU will be 2015. The time up to accession has been divided into two periods: 2007-2010 (short term) and 2011-2015 (medium term). Furthermore, some capital infrastructure actions and related operation actions have to be carried out in a transition period after accession (long term) to secure that the implementation is realistic in terms of affordability. A close cooperation between the business community and the MOEPP should be established before negotiating with the EU on the transitional periods as a clear picture about the capacities, emissions and new investments planned is essential in order to make a realistic transition plan.

The Horizontal Legislation Sector is supposed to be fully approximated by 2012, whilst the GMO, Chemicals and Noise Sectors, which are relatively small sectors in terms of approximation requirements, are fully approximated by 2015 (accession year). The approximation of the more complex, demanding and costly sectors are supposed to be completed in the period 2018 – 2022, starting with the Nature Protection and Forestry Sectors, followed by the IPC and Risk Management Sector, and ending with the Waste Management, Water Quality and Air Quality Sectors.

The legal transposition of the environmental sectors is expected to be completed in the period 2008 - 2012, starting with the Air Quality and IPC Sectors and followed by the Noise Sector. All remaining sectors are fully transposed in 2010 except for the Chemicals Sector, which will be fully transposed in 2012.

The fully implementation (including enforcement) of the EU environmental legislation is expected to happen over the period 2012 – 2022. The first to be fully implemented is the Horizontal Legislation Sector (in 2012) because of its importance for and impact on all the other sectors. The three small sectors, GMO, Chemicals and Noise, are expected to be implemented during the period 2010 – 2015, i.e. before accession. The relative late start up of their implementation are that up to 2010, focus should be on getting the implementation of the remaining more complex and demanding sectors started up. The implementation of the more complex and demanding sectors will take place continuously up to 2022. A detailed approximation plan for a full legal transposition and implementation is shown in Annex V.

Transposing, implementing and enforcing the environmental acquis will cost an estimated €2.3 billion in capital and one-off costs plus operating / recurrent costs which will ultimately rise to some €200 million per annum. The costs will fall directly on industry, local self government units, the MoEPP and other central government departments, but these costs will set off a chain of secondary financial impacts which will be felt throughout the economy, including higher taxes, higher charges for water supply and sanitation and waste management, and higher prices for some products (e.g. electricity, tyres, batteries, lubricants, cars and other polluting products). These costs will build up over a period of about 20 years. However, various studies have suggested that the direct economic benefits probably exceed these costs. Furthermore, many of the costs imposed on industry, although primarily environmental, are part of the process needed to

modernise and regenerate the industry and make it international competitive.

The main cost categories falling on the central administration are personnel-related costs required for legal transposition, salaries and salary-related costs (implementation), technical assistance, and other one-off and recurrent costs. The personnel related costs for the legal transposition are €2.3 million (over the period 2007 – 2012), which all have to be found from the state budget. Personnel and personnel-related costs in the implementation phase will be the recurrent salary costs (rising to €17.8 million / year) and one-off training / equipment costs (€5.1 million). All the one-off costs and most of the recurrent costs (salaries) will generally have to come from the state budget. However, some of the salary costs can be recouped from other sources (IPPC permitting, Natura 2000 sites, etc.).

All technical assistance requirements of the central administration and LSGUs up to accession should be funded by grant aid. The technical assistance up to 2015 is €92 million (excluding hardware, software or apparatus), whereas the amount estimated to be available is €129 million (the surplus can be used to fund the excluded items). It is expected that by the time of accession, the national capacity will be sufficiently matured to meet the technical assistance needs at less cost. Other one-off and recurrent costs (equipment, activities to implement and enforce the law, and technical activities by the government) of the central administration are €83.2 million and €4.7 million / year, respectively. These expenditures cab typically be included in technical assistance projects.

Operating costs for hazardous waste facilities fall in the first place on MoEPP, but the full costs will be charged back to the hazardous waste generators through fees or charges. However, the capital expenditure (€2.2 million) will still need financing which can be obtained through IPA, loans from international funding institutions / bilateral development banks / commercial banks or private capital. As far as the remediation of contaminated land is concerned, this is a costly and complex problem and is not a priority that can be tackled before 2015.
The total required increase in the state budget for the environment for all central administrations and other agencies is €1.6 million p.a. rising to €43.6 million p.a.

The main cost categories for the LSGUs are construction and operation of municipal infrastructure, as well as the salaries, technical assistance, and other one-off and recurrent costs. Construction and operation of municipal infrastructure is by far the most costly component with a total capital cost of nearly €800 million and operating costs which will rise to €64 million p.a. The costs must be met in full by the users of the services (‘polluter pays’ / ‘user pays’ principles), which will result in rise of water, sanitation and waste charges. However, the capital investment (€792 million) will have to be financed (of which €248 million will be invested prior to accession). The main options of financing are the IPA, grants, loans from international financing institutions / commercial banks or private sector investment. A very significant proportion of the capital investment up to accession is expected to be funded with grant aid. From the time of accession it will be possible to access the cohesion and regional development funds. This can be expected to provide substantial (co-)funding for completion of the municipal infrastructure investment programme. The other part of the funding will be provided by international financing institutions and to some extent also the public budget (capital account).

The total costs falling to industry (all actors which are not central or local government or households) are capital / one-off costs of €1,304 million and operating / recurrent costs rising from €3 million p.a. to €121 million p.a. All these costs will be met by the industry itself (polluter pays principle), but will be passed on to its customers through higher sales prices. These investment requirements will represent a very formidable hurdle to the industrial companies, many of which have invested little for many years, and are obsolete. However, environmental approximation and best available techniques is not really the culprit, but the question is more

whether the industry is willing to modernise their industries and make them competitive.

The suggested sources of funding to meet all capital costs for transposition and implementation up to 2015 are:

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|
| Total capital costs | 7.1 | 50.1 | 52.4 | 70.5 | 128.9 | 148.8 | 150.3 | 154.2 | 166.1 |
| Sources of finance | | | | | | | | | |
| - State budget | 1.3 | 1.1 | 0.9 | 0.9 | 0.9 | 0.8 | 0.6 | 0.5 | 0.2 |
| Grant funding, technical assistance projects | | | | | | | | | |
| - CARDS | 1.0 | 1.0 | | | | | | | |
| - IPA components I & IV | | | 11.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 7.5 |
| - Non-EU grant funding | 4.8 | 9.0 | - | 11.4 | 2.9 | 2.8 | 3.5 | 1.4 | - |
| Instruments for financing municipal infrastructure | | | | | | | | | |
| -IPA component III | | | | 5.0 | 16.0 | 25.5 | 21.7 | 21.5 | 23.6 |
| -Special EU contribution | | | | | | | | 0.1 | 0.3 |
| -Bi- & multilateral grants | | | | 5.0 | 11.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| -EBRD loan (or other IFI) | | | | | 5.0 | 5.0 | 6.3 | 9.0 | 10.4 |
| -PPP (e.g. BOT) | | | | | | 12.5 | 12.0 | 12.5 | 14.0 |
| -Municipal budget | | | 1.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 |
| -Hazardous waste producers | | | | | | 1.1 | 1.1 | | |
| -Normal company financing | | 39.0 | 39.0 | 39.0 | 84.0 | 84.0 | 88.0 | 92.0 | 102.0 |
| Total finance available | 7.1 | 50.1 | 52.4 | 70.5 | 128.9 | 148.8 | 150.3 | 154.2 | 166.1 |

Looking at the cost-heavy categories, by accession the total accumulated investment in municipal infrastructure will have reached €248 million, about 30% of the total necessary investment. The total accumulated investment by industry in abatement equipment and emissions reduction will have reached €567 million, about 43% of the total necessary investment.

The suggested sources of funding for annual and recurrent costs up to accession are:

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|
| Total annual costs | 0.2 | 4.2 | 10.5 | 15.2 | 32.2 | 47.4 | 61.6 | 76.0 | 93.7 |
| Sources of finance | | | | | | | | | |
| - State budget | 0.1 | 1.1 | 2.6 | 3.1 | 7.2 | 10.1 | 11.3 | 11.7 | 13.1 |
| -IPPC permit fees | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| -Revenues, Natura 2000 sites | | | | | | | | | 1.3 |
| -Waste producers (not industry) | | | | 1.0 | 5.0 | 10.3 | 14.3 | 19.3 | 24.3 |
| -LGWU budgets | | | 0.8 | 1.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| -Companies: additions to prices or reductions in profits | | 3.0 | 7.0 | 10.0 | 18.0 | 25.0 | 34.0 | 43.0 | 53.0 |
| Total funding available | 0.2 | 4.2 | 10.5 | 15.2 | 32.2 | 47.4 | 61.6 | 76.0 | 93.7 |

There is little need or benefit in trying to quantify the sources of finance after accession, as the uncertainties become considerable and the strategy to be employed will depend on how the industrial and financial climate evolves in the country. After accession the country will be able to benefit from co-funding from the EU cohesion and regional funds, intended to benefit less affluent regions in the Community.

The benefits of the implementation of the environmental acquis can be better public health, less damage to the environment / buildings / fields / fisheries, promotion of tourism, reduced risk of water-related illnesses, better water quality, increased economic efficiency, lower consumption of primary material, better protection of natural ecosystems, increased economic efficiency and higher productivity for companies. To achieve the full benefits it is important that the approximation activities is integrated into other policy areas and that environmental objectives is taken into account early on in the development process for other policy areas.

The main key issues related to a successful implementation of this strategy are political understanding and support, optimization of national benefits, involvement of stakeholders, capacities of LSGUs, proper spatial planning, integration of environmental considerations into other policy areas, monitoring, data management, access to environmental information, and optimized benefits from donor projects. Some of the uncertainties are the degree of political support, availability of staff with the needed competences, level of donor support, and year of accession.

# 1. SCOPE AND APPROACH

## 1.1 General Approach Adopted

The Republic of Macedonia started its relationship with the European Union (EU) in October 1992 with the main aim to become a Member of the European Union (EU). On 17th of December 2005 it was granted candidate status. A condition for such membership is that the candidate country aligns its national legal system with the EU legislation, the so called acquis communautaire, which cover all obligations and criteria of EU membership. The environmental chapter is known to be one of the most difficult to fulfil among the 33 chapters of the EU acquis communautaire.

The process of integrating the EU law into the national legal administrative systems is called the approximation process, which is the main issue of this National Strategy for Environmental Approximation (NSEA). The approximation process consists of three main components: legal transposition of the EU legislation, practical implementation of the legislation, and enforcement. Put simplistically, an approximation strategy is about what? has to be done by whom? and when? These three questions will in this strategy be answered as precisely as possible based on the information and data available at the time of project implementation.

Main Goal of the National Strategy for Environmental Approximation

The preparation of this National Strategy for Environmental Approximation has been identified as an essential strategic planning document that should show the optimal path of the approximation process covering the EU environmental legislation. The main goal of the National Strategy is to recommend the most appropriate and suitable approach for the Government of the Republic of Macedonia to response to the complex obligations of the EU environmental acquis and at the same time contribute to the sustainable

development of the country.

The National Strategy for Environmental Approximation is expected to:

Provide a “route map” for the full and effective approximation process addressing the required legal transposition and practical implementation actions, the timeframe, the responsible institutions and the related investments for full compliance of the EU environmental legislation.

Provide a sustainable, comprehensive framework of actions with associated costs needed for legal transposition and technical implementation (including enforcement) in all ten environmental sectors, which will move the Republic of Macedonia towards full compliance with the EU environmental acquis;

Support the completion of the already started process of legal transposition and technical implementation and enforcement of the EU environmental acquis in the most effective and timely manner, optimizing the human and financial resources through a prioritization of the EU obligations and requirements;

Provide a coherent financial strategy to secure the full compliance with the environmental legislation and standards, taking into account the national economic circumstances, priorities and available and potential foreign aid for environmental projects;

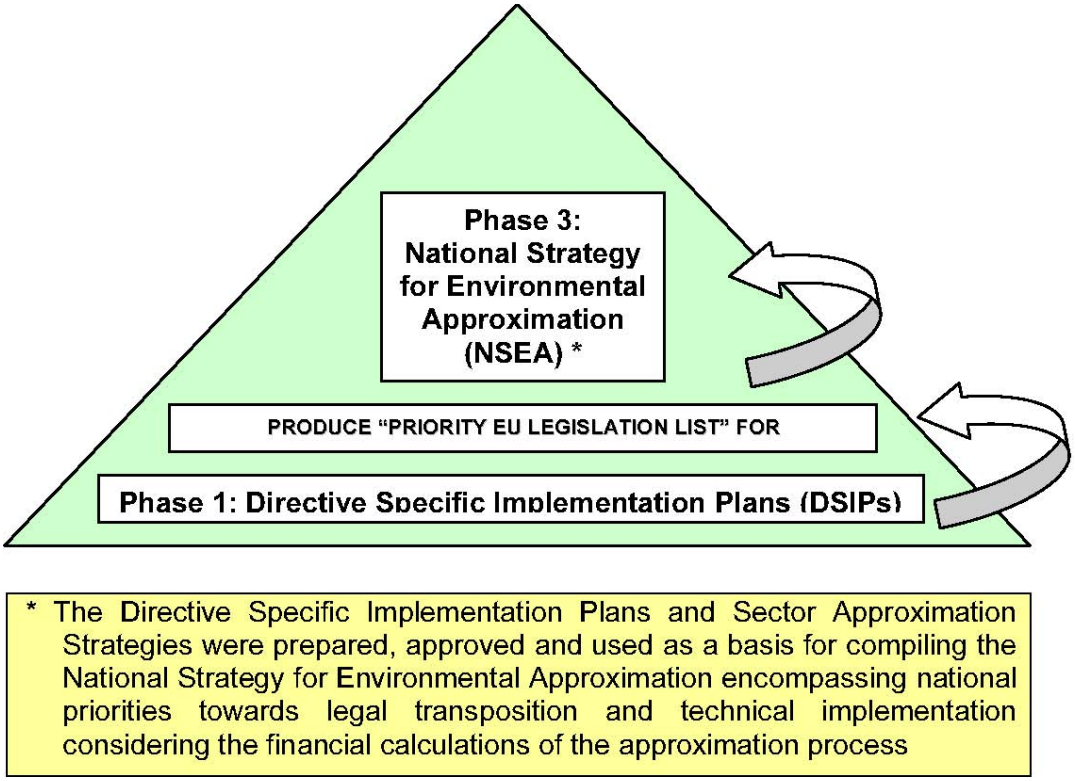
The National Strategy for Environmental Approximation is, in addition to serve as a route map, intended to be a tool for focusing on the human resources of the Ministry of Environment and Physical Planning, the governmental budget and donor assistance in a systematic and consistent way.

In developing this National Strategy for Environmental Approximation, several issues have been taken into account, such as the experience and lessons learnt from other accession countries during the EU enlargement process, best practices from the Member States on the implementation of the environmental legislation (including the resources needed, costs and financial strategy to achieve it) as well as national circumstances and priorities.

General approach for developing the National Strategy for Environmental Strategy

The general approach and methodology used in the development of the National Strategy for Environmental Approximation (adopted by the National Project Steering Committee and accepted by all stakeholders through established working groups) is the sequential “bottom-to-the-top“ pyramidal methodology, which means that each phase is dependent on the foundations built (and approved) in the preceding phase(s). The “pyramidal” scheme on the development of the National Strategy for Environmental Approximation is illustrated in Figure 1 below:

Figure 1: "Pyramidal” methodology for development of the NSEA

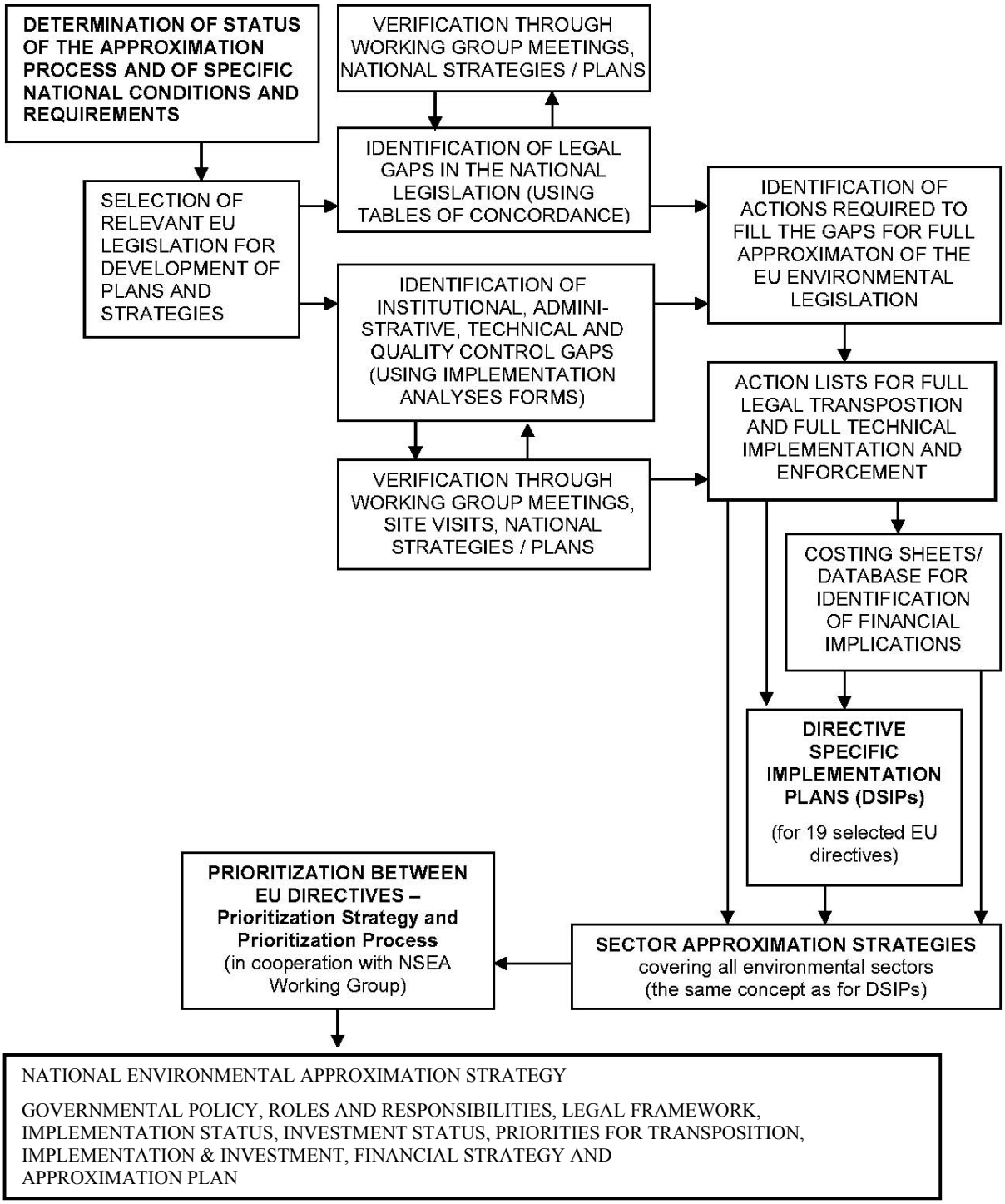



As shown in the above figure, the essential preparatory steps in developing the National Strategy for Environmental Approximation were: Preparation of Directive Specific Implementation Plans (DSIPs), which were done for 19 selected EU environmental directives (refer Sub-chapter 1.5);

Preparation of Sector Approximation Strategies (SASs), covering all ten environmental sectors, and based on a total of 73 EU environmental Directives, Regulations and Decisions and their amendments (refer Subchapter 1.6);

The Directive Specific Implementations Plans and the Sector Approximation Strategies contain detailed information on all aspects covered by the National Strategy for Environmental Strategy. The developing process and general concept used in developing the Directive Specific Implementation Plans, the Sector Approximation Strategies and the National Strategy for Environmental Approximation are presented schematically in Figure 2 below:

Figure 2: Developing Process and General Concept of Plans and Strategies




As can be seen on the above shown flow diagram, the process of developing the

- plans and strategies consists of the following steps: Determination of the present status of the approximation process and of specific national conditions and requirements to be taken into account in the selection of EU legislation of particular importance for the Republic of Macedonia. Selection of the EU legislation upon which strategies

and plans shall be based, and identification of the corresponding relevant national legislation, including multilateral agreements signed and ratified by the Republic of Macedonia; Performing the first prioritization among the selected EU Directives within each environmental sector using several criteria in order to divide them into three groups:

- EU Directives within each sector for which detailed gap analyses (institutional, legal, implementation and investment) are performed and for which detailed Directive Specific Implementation Plans are developed;
- EU Directives within each sector for which detailed gap analyses (institutional, legal, implementation and investment) are performed (but no Directive Specific Implementation Plans are developed) to give the broader picture of the whole sector;
- EU Directives within the sector for which broader gap analyses are performed to give the complete picture about the necessary implementation tasks towards the EU approximation within the sector;

Performing legal and implementation gap analyses on selected directives using different analyses tools (Tables of Concordance and Implementation Analyses forms) in order to identify the legal gaps in the national legislation and to identify the institutional, administrative, technical and quality control gaps in the practical implementation of the EU legislation requirements. The gap analyses were performed in close cooperation with relevant high officials of each sector within the Ministry of Environment and Physical Planning;

Verification of the identified legal and implementation gaps through held Sector Working Groups meetings, site visits and usage of already prepared and adopted national strategies and plans;

Definition of all actions within each sector needed for the full legal transposition and practical implementation of the EU requirements, with the identification of the main responsible governmental institutions, the timeframe, and financial implications on the implementation of those proposed actions;

Presentation and validation by the Sector Working Groups of key findings of the gap analysis and related proposed actions for the full implementation of the selected EU Directives;

Compilation of the validated sector actions for full implementation into groups of action according to type of actions, taking into account the institutional setup requirements, technical assistance needed and capital investments in the sector;

Identification of feasible projects, incorporating the proposed actions needed in the EU approximation process, that should be initiated and coordinated by the Government of the Republic of Macedonia with financial and technical assistance support provided by the national budget and the international donor community;

Preparation of the Directive Specific Implementation Plans for selected EU Directives and Sector Approximation Strategies covering all sectors based on the results of the gap analysis performed.

Prioritization of the implementation of the EU legislation (see further description below), which is necessary due to the existence of constraints and limitations in the implementation process to obtain full compliance with all EU obligations and requirements.

Preparation of the National Strategy for Environmental Approximation, including an Approximation Plan (see further description below), based on already developed plans and strategies, the results of the prioritization of the EU legislation, and financial requirements and constraints.

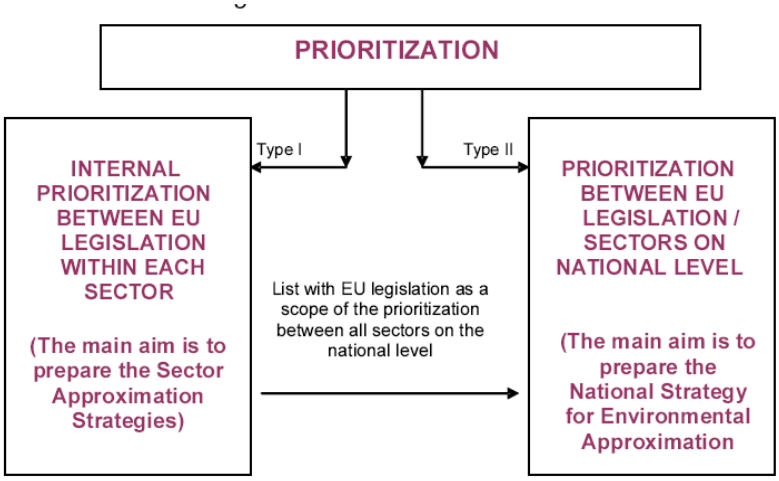
The prioritization process used for determination of a prioritized implementation of the EU

legislation and the process of developing the national Approximation Plan (as part of the National Strategy) are further elaborated in the following.

Prioritization process

As the priorities for legal transposition already were identified by the Government of the Republic of Macedonia according the adopted second National Programme for Approximation of the Acquis Communautaire (NPAA II) from January 2007, the prioritization process was conducted only for the technical implementation and enforcement of the EU legislation. In the prioritization, all constraints and limitations have been addressed in form of human resources available at all governmental institutions, necessity of new institutional set up, designation and establishment of Competent Authorities, financial resources available from the governmental budget on annual basis, financial resources available from the international donor community, etc. Two types of prioritization have been performed, as shown in Figure 3 below, during the preparation of the Sector Approximation Strategies and the National Strategy.

Figure 3: Prioritization Process




The main tasks involved in the two types of prioritizations were:

Perform the prioritization on sector level between covered EU legislation using suitable criteria identifying which EU legislation are the most important to be implemented first. This prioritization was used in the development of the Sector Approximation Strategies taking into account all human, institutional and financial limitations;

Produce a List with "the most important" EU legislationfrom each sector as a basis for the prioritization on national level of EU legislation across all sectors. The List contains 36 EU Directives, Regulations and Decisions from all the environmental sectors, selected in cooperation with the Core NSEA Working Group established with the main role to confirm the proposed prioritization methodology, including prioritization criteria, sub-criteria and indicators;

Perform the prioritization (on national level) of EU legislation across the sectors, using a prioritization methodology based on the Multi-Criteria Decision Analysis (MCDA) technique with 30 appropriate legal, institutional, implementation, financial, economic and social criteria, sub-criteria and indicators ensuring a more objective prioritization. The prioritization was performed by the NSEA Working Group consisting of key stakeholders, to achieve a more transparent and realistic prioritization;

A more detailed presentation of the prioritization methodology (the Multi-Criteria Decision Analysis technique) can be found in Annex II.

**Approximation Plan**

An Approximation Plan was developed based on the prioritized EU legislation across sectors, taking into account the internal prioritization within the sectors, governmental priorities already identified and financial implications and constraints. The Approximation Plan was developed as an integral part of the National Strategy for Environmental Approximation (refer Figure 1).

- In the process of making a realistic and appropriate Approximation Plan, taken into consideration were:
  Results obtained by the two types of prioritization:
  - Prioritization within sectors during the preparation of the Sector Approximation Strategies;
  - Prioritization between covered EU Directives across sectors during the preparation of the National Strategy;

- The priorities already defined in other previously adopted strategic governmental documents, such as the second National Programme for Adoption of the Acquis Communautaire (NPAA II), the second National Environmental Approximation Plan (NEAP II), the National Solid Waste Management Plan, the National Approximation Strategy of the Republic of Macedonia, the Operational Programme for IPA Applications, and other relevant documents where the Government of the Republic of Macedonia already had decided on some priorities for the next coming period;
- EU priorities on some specific topics / sectors;
- Financial / economic implications of all proposed actions for transposition and implementation of the selected directives taking into account that it is not possible to do everything at once with limited human and financial resources available;
- Amount of available international financial aids that could support the approximation process;
  - Proposed negotiable transitional periods for the heavy-cost directives, such as the Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC), the Large Combustion Plants Directive (2001/80/EC), and the Urban Waste Water Treatment Directive (91/271/EEC), plus some waste management, water quality and volatile organic compounds (VOCs) related directives.

All these issues were taken into account in developing the Approximation Plan, which thereby presents the optimized result of the adjustment of all these issues matched at the point to get the synergy between available human resources, financial means available and time period needed for the whole approximation process.

## 1.2 EU Legislation Covered

Using the "bottom to the top" approach for developing the National Strategy for Environmental Approximation (Directive level Sector level National level), the EU legislation to be covered within the various phases of the project implementation have step-by-step been identified in cooperation with the project sector coordinators from the Ministry of Environmental and Physical Planning.

In order to identify for which EU Directives detailed Directive Specific Implementation Plan should be developed as the first step in the development process of the National Strategy (refer Figure 1), the following selection criteria was adopted:

Whether the Directive is a framework Directive (framework Directives are of overarching importance in planning infrastructure) or important in supporting

key directives from a sustainable development point of view; Whether the Directive / Regulation is likely to pose particular problems in implementation, e.g. because:

- o it is administratively complex to implement, and / or
- o implementation mechanisms are not clearly defined, and / or
- o it will be very costly to implement;

Whether the Directive / Regulation is likely to require significant investment in technological improvements (e.g. installation of new plant and / or associated infrastructure such as pipe work connections with individual buildings / households, retrofitting of old equipment with new abatement plant, etc.);
Whether the investment is likely to benefit small or large groups of inhabitants (e.g. improve drinking water quality, improve urban air quality, etc.);
The current status of transposition, implementation and / or financing of the Directive / Regulation concerned;
Specific requirements derived from official documents such as:

- Commission Opinion on the Application from the Republic of Macedonia for Membership of the European Union (November 2005[1]);
- Analytical Report for the Opinion on the Application from the Republic of Macedionia for EU membership (2005);
- The Republic of Macedonia 2006 Progress Report;
- The European Partnership Action Plan 2005;
- The National Programme for Adoption of Acquies Communautaire (2006 and 2007);
- The Answers to the Questionnaire for the Preparation of the EC's Opinion on the Application of the Republic of Macedonia for EU Membership.

Based on the above mentioned criterias, 19 EU directives were choosen from the ten environmental sectors for detailed institutional, legal, implementation and investment gap analyses, definition of the actions and financial requirements to cover the gaps, and development of Directive Specific Implementation Plans.

To support the development of the Sector Approximation Strategies, another 19 EU Directives, Regulations and Decisions were selected for further detailed institutional, legal, implementation and investment gap analyses, and in addition, a group of 35 EU directives, regulations and decisions were chosen for more broad

institutional, legal, implementation and investment gap analyses. Definition of the actions and financial requirements to cover the identified gaps were also carried out for these 54 pieces of EU legislation.

In conclusion, a total of 73 EU pieces of environmental legislation have been covered (see Table 1) in the development of the Sector Approximation Strategies and the National Strategy for Environmental Approximation. Also shown in Table 1 is the priority of the EU Directives selected during the prioritization process and for which directives a Directive Specific Development Plan has been developed.

Table 1: EU Legislation covered

| Sector | EU covered Directives by the National Strategy for Environmental Approximation | DSIPs developed | Priority for implementation (1 is highest) |
|---|---|---|---|
| Waste Management | Waste Framework Directive (2006/12/EC) | √ | 8 |
| | Hazardous Waste Directive (91/689/EEC), as amended by 94/31/EC | √ | 7 |
| | Landfill Directive (99/31/EC), as amended by Regulation (EC) 1882/2003 | √ | 23 |
| | Packaging and Packaging Waste Directive (94/62/EC), as amended by Regulation (EC) 1882/2003, and Directives 2004/12/EC and 2005/20/EC | √ | 32 |
| | Waste Incineration Directive (2000/76/EC) | | Not a priority |
| | Batteries and Accumulators Directive (2006/66/EC) | | 17 |
| | Waste Electrical and Electronic Equipment (WEEE) Directive (2002/96/EC), as amended by Directive 2003/108/EC | | Not a priority |
| | Labelling of Batteries Directive (93/86/EC) | | Not a priority |
| | Disposal of Waste Oils Directive (75/439/EEC), as amended by Directives 87/101/EEC, 91/692/EEC and 2000/76/EC | | 25 |
| | PCB/PCT Directive (96/59/EC) | | 6 |
| | End-of-life vehicles Directive (2000/53/EC), as amended by Decisions 2002/525/EC, 2005/63/EC, 2005/437/EC, 2005/538/EC and 2005/673/EC | | 34 |
| | Restriction of Hazardous Substances (RoHS) Directive (2002/95/EC), as amended by Decision 2005/618/EC, 2005/717/EC, 2005/747/EC and 2006/310/EC | | Not a priority |
| | Waste Shipment Regulation (EEC) 259/93, as amended by Decisions 94/721/EC, 96/660/EC, 98/368/EC and 99/816/EC, and Regulations (EC) 2408/98, (EC) 120/97 and (EC) 2557/2001 | | Not a priority |
| | Waste from the Extractive Industries Directive (2006/21/EC) | | Not a priority |
| Air Quality [1] | Ambient Air Quality Framework Directive (96/62/EC), as amended by Regulation (EC)1882/2003 | √ | 4 |
| | National Emission Ceiling Directive (2001/81/EC) | √ | 28 |
| | Limit values for Sulphur Dioxide ($SO_2$), Nitrogen Dioxide ($NO_2$), Nitrogen Oxides ($NO_x$), Particulate Matter (PM) and Lead (Pb) in Ambient Air Directive (1999/30/EC), as amended by Decision 2001/744/EC | | 19 |
| | Benzene and Carbon Monoxide Directive (2000/69/EC) | | Not a priority |
| | Ozone in Ambient Air Directive (2002/3/EC) | | Not a priority |
| | Arsenic (As), Cadmium (Ca), Mercury (Hg), Nickel (Ni) and Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Directive (2004/107/EC) | | Not a priority |
| | Emission Trading Directive (2003/87/EC), as amended by Directive 2004/101/EC and Regulation (EC) 2216/2004 | | Not a priority |
| | Reduction in Sulphur (S) Content of Certain Liquid Fuels Directive (1999/32/EC), as mended by Regulation (EC)1882/2003 and Directive 2005/33/EC | | 35 |
| | Consumer Information Directive (1999/94/EC), as amended by Directive 2003/73/EC | | Not a priority |
| | Quality of Petrol and Diesel Fuels Directive (98/70/EC), as amended by Directives 2000/71/EC, 2003/17/EC and Regulation (EC) 1882/2003 | | 20 |
| Qu | Water Framework Directive (2000/60/EC), as amended by Decision 2455/2001/EC | √ | 15 |

[1] The report states: "On the environment, very significant efforts will be needed, including substantial investment and strengthening of administrative capacity for the enforcement of legislation. Full compliance with the acquis could be achieved only in the long term and would necessitate increased levels of investment". [1]

| Sector | EU covered Directives by the National Strategy for Environmental Approximation | DSIPs developed | Priority for implementation (1 is highest) |
|---|---|---|---|
| | Urban Waste Water Treatment Directive (91/271/EEC), as amended by Directive 98/15/EC and Regulation (EC) 1882/2003 | √ | 31 |
| | Nitrates Directive (91/676/EEC), as amended by Regulation (EC) 1882/2003 | √ | 33 |
| | Drinking Water Directive (98/83/EC), as amended by Regulation (EC) 1882/2003 | | Not a priority |
| | Surface Water for Abstraction Directive (75/440/EEC), as amended by Directives 79/869/EEC and 91/692/EEC (to be repealed under the Water Framework Directive (2000/60/EC) as from 22/12 2007) | | Not a priority |
| | Bathing Water Directive (2006/7/EC) | | Not a priority |
| | Dangerous Substances to Water Discharges Directive (76/464/EEC), as amended by Directive 91/692/EEC and 2000/60/EC (to be repealed under the Water Framework Directive (2000/60/EC)from 22/12 2013, except for Article 6, which was repealed from 22/12 2000) | | Not a priority |
| | Sewage Sludge Directive (86/278/EEC) | | Not a priority |
| | Measurement of Drinking Water Directive (79/869/EEC), as amended by Directives 81/855/EEC and 91/692/EEC, and Regulation (EC) 807/2003 (to be repealed under the Water Framework Directive (2000/60/EC) as from 22/12 2007) | | Not a priority |
| | Groundwater Directive (80/68/EEC), as amended by Directive 91/692/EEC | | Not a priority |
| | Mercury Discharges from Chlor-Alkali Industries Directive (82/176/EEC), as amended by Directive 91/692/EEC | | Not a priority |
| | Cadmium Discharges Directive (83/513/EEC), as amended by Directive 91/692/EEC | | Not a priority |
| | Other Mercury Discharges Directive (84/15/EEC), as amended by Directive 91/692/EEC | | Not a priority |
| | Hexachlorocyclohexane (HCH) Discharges Directive (84/491/EEC), as amended by Directive 91/692/EEC | | Not a priority |
| | List One Substances Directive (86/280/EEC), as amended by Directives 88/347/EEC, 90/415/EEC and 91/692/EEC | | Not a priority |
| | Fish Water Directive (78/659/EEC), as amended by Directive 91/692/EEC and Regulation (EC) 807/2003 | | Not a priority |
| | Shellfish Water Directive (79/923/EEC), as amended by Directive 91/692/EEC | | Not a priority |
| Chemicals | Classification, Packaging and Labelling of Dangerous Substances Directive (67/548/EEC) as amended by Directives 69/81/EEC, 70/189/EEC, 71/144/EEC, 73/146/EEC, 75/409/EEC, 76/907/EEC, 79/370/EEC, 79/831/EEC, 80/1189/EEC, 81/957/EEC, 82/232/EEC, 83/467/EEC, 84/449/EEC, 86/431/EEC, 87/432/EEC, 88/302/EEC, 88/490/EEC, 90/517/EEC, 91/325/EEC, 91/326/EEC, 91/410/EEC, 91/632/EEC, 92/32/EC, 92/37/EC, 93/21/EC, 93/72/EC, 93/101/EC, 93/105/EC, 94/69/EC, 96/54/EC, 96/56/EC, 97/69/EC, 98/73/EC, 98/98/EC, 99/33/EC, 2000/32/EC, 2000/33/EC, 2001/59/EC and 2004/73/EC, and Regulation (EC) 807/2003 | √ | 16 |
| | Ozone-Depleting Substances Regulation ((EC) 2037/2000), as amended by Regulations (EC) 2038/2000, 2039/2000, 1804/2003 and 2077/2004, and Decisions 2003/160/EC & 2004/232/EC | | 22 |
| | Animal Experiments Directive (86/609/EEC), as amended by Directive 2003/65/EC | | Not a priority |
| | Asbestos Directive (87/217/EEC) as amended by Directive 91/692/EEC and Regulation (EC) 807/2003 | | Not a priority |
| | Biocides Directive (98/8/EC) as amended by Regulation (EC) 1882/2003 | | Not a priority |
| | Risk Assessment Regulation (EC 793/93) as amended by Regulation (EC 1882/2003) | | Not a priority |
| | Import and Export of Dangerous Chemicals Regulation (EC 304/2003) as amended by Regulations (EC) 1213/2003 and 775/2004; | | Not a priority |
| | Classification, Packaging and Labelling of Dangerous Preparations Directive (1999/45/EC) | | Not a priority |

| | | | |
|---|---|---|---|
| GMO | Deliberate Release of GMOs Directive (2001/18/EC) as amended by Regulations 1829/2003, 1830/2003 and Decisions 2002/623/EC and 2002/811/EC | √ | 26 |
| | Contained Use of GMMs Directive (90/219/EEC), as amended by Directives 94/51/EC, 98/81/EC and Regulation (EC) 1882/2003 and Decisions 2001/204/EC and 2005/174/EC | | 27 |
| HorizontalLegislation | Environmental Impact Assessment (EIA) Directive (85/337/EEC) amended by Directives 97/11/EC and 2003/35/EC | √ | 1 |
| | Strategic Environmental Assessment (SEA) Directive (2001/42/EC) | √ | 5 |
| | Access to Environmental Information Directive (2003/4/EC) | | 2 |

| Sector | EU covered Directives by the National Strategy for Environmental Approximation | DSIPs developed | Priority for implementation (1 is highest) |
|---|---|---|---|
| | Public Participation and Access to Justice Directive (2003/35/EC) | | 3 |
| | Environmental Liability Directive (2004/35/EC) | | 12 |
| Integrated Pollution Control (IPC) | Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC) as amended by Directives 2003/35/EC and 2003/87/EC, and Regulation (EC) 1882/2003 | √ | 9 |
| | Large Combustion Plants Directive (2001/80/EC) | √ | 24 |
| | Control of Major Accident Hazards (SEVESO II) Directive (96/82/EC), as amended by Directive 2003/105/EC and Regulation (EC) 1882/2003 | √ | 13 |
| | Volatile Organic Compounds (VOCs) from Solvents Directive (1999/13/EC), as amended by Regulation (EC) 1882/2003 and Directive 2004/42/EC | | 29 |
| | Volatile Organic Compounds (VOCs) from Storage and Distribution of Petrol Directive (94/63/EC), as amended by Regulation (EC) 1882/2003 | | 21 |
| | European Pollutant Emission Register (EPER) Decision (2000/479/EC) / European Pollutant Release and Transfer Register (EPRTR) Regulation (EC) 166/2006 | | 10 |
| | Eco-Label Award Scheme Regulation (1980/2000) | | Not a priority |
| | Eco-Management and Audit Scheme (EMAS) Regulation ((EC) 761/2001) | | 30 |
| Nature and Forestry | Conservation of Natural Habitats and of Wild Fauna and Flora Directive (92/43/EEC), as amended by Directives 97/62/EC and 97/266/EC | √ | 18 |
| | Conservation of Wild Birds Directive (79/409/EEC), as amended by Directives 81/854/EEC, 85/411/EEC, 91/244/EC, 94/24/EC and 97/49/EC, and Regulation (EC) 807/2003 | √ | 11 |
| | Endangered Species Regulation ((EC) 338/97) as amended by Regulations (EC) 938/97, 2307/97, 2214/98, 1476/99, 2724/2000, 1579/2001, 2476/2001, 1497/2003, 1882/2003, 834/2004, 252/2005 and 1332/2005 | | 14 |
| | Keeping of Wild Animals in ZOO Directive (1999/22/EC) | | Not a priority |
| | Leghold Traps Regulation (EEC) 3254/91 | | Not a priority |
| | Monitoring of Forests Regulation (EC) 2152/2003 | | Not a priority |
| Noise | Assessment and Management of Environmental Noise Directive (2002/49/EC) | √ | 36 |
| | Motor Vehicles Directive (92/97/EEC), as amended by Directive 92/97/EC | | Not a priority |
| | Outdoor Equipment Directive (2000/14/EC) | | Not a priority |

## 1.3 International Agreements Covered

Taking into consideration that the many environmental problems have a transboundary nature and global impact, the European Community takes an active part in the elaboration, ratification and implementation of multilateral environmental agreements at global level (multilateral agreements negotiated under the UN), at regional level (e.g. in the context of the UN / ECE or the European Council) and on sub-regional level (e.g. for

the transboundary waters). Some of these international agreements are covering issues relevant for several sectors and they have a great impact on harmonization of the legislation drafting process across different environmental sectors (e.g. Aarhus Convention on Access to Environmental Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, 1998). The most important international agreements covered within the performed legal gap analysis are presented in Table 2.

One of the great challenges in front of the Republic of Macedonia in the approximation process is the ratification of the international agreements already ratified by the EU. The Government of the Republic of Macedonia has already recognised the importance to be a member of the international community, implementing the actions for improvement of all aspects within the environmental sectors through the ratification of many multilateral and bilateral agreements. It has already ratified several international conventions and for some of these there are initiatives for ratification of protocols under the convention. As the already ratified agreements are part of the national legislation, they are also addressed in Sub-Chapter 2.3.

Table 1: International Agreements covered within the legal gap analysis

| International Agreements covered | Impact on sector(s) |
|---|---|
| Vienna Convention for the Protection of the Ozone Layer (1985) | Air Quality / Chemicals |
| Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal, September 1987) and its amendments: the Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer – London; the Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer – Copenhagen; the Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer – Montreal; the Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer – Beijing, 1991 | Air Quality / Chemicals |
| United Nations Framework Convention on Climate Change (New York 1992) | Air Quality |
| Kyoto Protocol to the United Nations Framework Convention on Climate Change | Air Quality |
| Convention on Long-range Transboundary Air Pollution (LRTAP Convention) (1979) and LRTAP Convention Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (1999); LRTAP Convention Protocol on Persistent Organic Pollutants (POPs) (1998); LRTAP Convention Protocol on Heavy Metals (1998); LRTAP Convention Protocol on Further Reduction of Sulphur Emissions (1994); LRTAP Convention Protocol concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes (1991); LRTAP Convention Protocol concerning the Control of Nitrogen Oxides or their Transboundary Fluxes (1988); LRTAP Convention Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent (1985); LRTAP Convention Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) (1984) | Air Quality |
| Stockholm Convention on Persistent Organic Pollutants (POPs) | Air Quality / Chemicals |
| Rotterdam Convention on Prior Informed Consent (PIC) | Chemicals |
| Convention on Access to Environmental Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention) 1998 | GMO / Horizontal Legislation / IPC / Water Quality |
| Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 2000. (See Council Decision 2002/628/EC on the conclusion, on behalf of the EC, of the Cartagena Protocol on Biosafety and Regulation No. 1946/2003 of the European Parliament and of the Council on | GMO |

| | |
|---|---|
| transboundary movements of genetically modified organisms adopted for its implementation) | |
| Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991) | Horizontal Legislation / IPC / Water Quality |
| Protocol on Strategic Environmental Assessment. The Protocol has been adopted on the basis of the Espoo Convention and was signed in May 2003, in Kiev, Ukraine, at the Fifth Ministerial Conference "Environment for Europe | Horizontal Legislation |
| Helsinki Convention on Industrial Accidents (1992) | IPC |
| Convention on Wetlands of International Importance Especially as Waterfowl Habitat | Nature Protection |
| Convention on Biological Diversity | Nature Protection |
| Convention on International Trade in Endangered Species of Wild Fauna and Flora | Nature Protection |
| Convention on Conservation of Migratory Species of Wild Animals | Nature Protection |
| Convention on the Conservation of European Wildlife and Natural Habitats | Nature Protection |
| Basel Convention on the control of transboundary movements of hazardous waste and their disposal (1989) | Waste Management |
| OECD Decision C (2001) 107 concerning the control of transboundary movements of wastes destined for recovery operations, as amended by C(2004)20 | Waste Management |
| Helsinki Convention on Watercourses and International Lakes (1992) | Water Quality |

| International Agreements covered | Impact on sector(s) |
|---|---|
| River basin conventions (Danube (1987), Elbe (1990), Oder (1996), Rhine (1999)) | Water Quality |
| Barcelona Convention (1976) as amended and its protocols | Water Quality |
| OSPAR Convention (1992) on the protection of the marine environment of the North-East Atlantic | Water Quality |
| Bonn Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil and other Harmful Substances (1983) | Water Quality |
| Helsinki Convention on the Baltic Sea (1992) | Water Quality |

## 1.4 Links between Sectors

It is obviously that within the environmental chapter there is a lot of direct and indirect links between sectors and related EU directives covering the same media and / or similar issues. The identified links between the environmental sectors and relevant EU Directives are given in Table 3. These links are important to take into consideration when the legal and institutional gap analysis are performed and while drafting the actions for full legal transposition and technical implementation in each Sector Approximation Strategy. The links between the provisions in different EU directives should be taken into consideration as much as possible during the national regulation drafting process, institutional set-up within the governmental bodies, during the preparation of the strategic planning documents and during the initiation and implementation of the projects containing the proposed actions. There are several cross-cutting issues across environmental sectors (monitoring laboratories, public participation, environmental information etc.) that should be considered together, in order to use the synergy between the limited human and financial resources.

Table 3: Links between environmental sectors

| Sector | Links to other sectors | Related EU Directives |
|---|---|---|
| Air Quality | Horizontal Legislation | Environmental Impact Assessment (EIA) Directive (85/337/EEC) |
| | | Strategic Environmental Assessment (SEA) Directive (2001/42/EC) |
| | | Access to Environmental Information Directive (2003/4/EC) |
| | | Public Participation and Access to Justice Directive (2003/35/EC) |
| | | Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC) |
| | | Control of Major Accident Hazards (SEVESO) Directive (96/82/EC) |
| | Industrial Pollution Control (IPC) | Large Combustion Plants Directive (2001/80/EC) |
| | | VOCs from Storage and Distribution of Petrol Directive (94/63/EC) |
| | | VOCs from Solvents Directive (1999/13/EC) |
| | Waste Management | Waste Incineration Directive (2000/76/EC) |
| | | Asbestos Directive (87/217/EEC) |
| | Chemicals | Ozone-Depleting Substances Regulation ((EC) 2037/2000) |
| Horizontal Legislation | Air Quality | Ambient Air Quality Framework Directive (96/62/EC) |
| | Chemicals | Classification, Packaging and Labelling of Dangerous Substances Directive (67/548/EEC) |
| | GMO | Deliberate Release of GMOs Directive (2001/18/EC) |
| | Industrial Pollution Control (IPC) | Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC) |
| | Nature Protection & Forestry | Conservation of Natural Habitats and of Wild Fauna and Flora Directive (92/43/EEC) |

| Sector | Links to other sectors | Related EU Directives |
|---|---|---|
| | | Conservation of Wild Birds Directive (79/409/EEC) |
| | Noise | Assessment and Management of Environmental Noise Directive (2002/49/EC) |
| | Waste Management | Waste Framework Directive (2006/12/EC) |
| | | Hazardous Waste Directive (91/689/EEC) |
| | | Landfill Directive (99/31/EC) |
| | | Waste Incineration Directive (2000/76/EC) |
| | Water Quality | Water Framework Directive (2000/60/EC) |
| | | Urban Waste Water Treatment Directive (91/271/EEC) |
| | Industrial Pollution Control (IPC) | Control of Major Accident Hazards (SEVESO) Directive (96/82/EC) |
| | Waste Management | Hazardous Waste Directive (91/689/EEC) |

| | | |
|---|---|---|
| Chemicals | Horizontal Legislation | Access to Environmental Information Directive (2003/4/EC) |
| | Air Quality | Ambient Air Quality Framework Directive (96/62/EC) |
| | Water Quality | Water Framework Directive (2000/60/EC) |
| GMO | Horizontal Legislation | Access to Environmental Information Directive (2003/4/EC) |
| | | Reporting Directive (91/692/EEC) |
| Industrial Pollution Control (IPC) | Horizontal Legislation | Environmental Impact Assessment (EIA) Directive (85/337/EEC) |
| | | Strategic Environmental Assessment (SEA) Directive (2001/42/EC) |
| | | Access to Environmental Information Directive (2003/4/EC) |
| | | Reporting Directive (91/692/EEC) |
| | | Public Participation and Access to Justice Directive (2003/35/EC) |
| | Waste Management | Waste Framework Directive (2006/12/EC) |
| | | Hazardous Waste Directive (91/689/EEC) |
| | | Waste Incineration Directive (2000/76/EC) |
| | | Landfill Directive (99/31/EC) |
| | | Disposal of Waste Oils Directive (75/439/EEC) |
| | | Waste from the Titanium Dioxide Industry (78/176/EEC) |
| | Air Quality | Ambient Air Quality Framework Directive (96/62/EC) |
| | | National Emission Ceiling Directive (2001/81/EC) |
| | | Convention on Long Range Transboundary Air Pollution Decision (81/462/EEC) |
| | Water Quality | Waste Framework Directive (2006/12/EC) |
| | | Dangerous Substances to Water Discharges Directive (76/464/EEC) |
| | | Surface Water for Abstraction Directive (75/440/EEC) |
| | | Fish Water Directive (78/659/EEC) |
| | | Shellfish Water Directive (79/923/EEC), |
| | Chemicals | Classification, Packaging and Labelling of Dangerous Substances Directive (67/548/EEC) |
| | | Asbestos Directive (87/217/EEC) |
| | | Safety and Health of Workers at Work Directive (89/391/EEC) |
| | Noise | Assessment and Management of Environmental Noise Directive (2002/49/EC) |
| Nature Protection | Horizontal Legislation | Environmental Impact Assessment (EIA) Directive (85/337/EEC) |
| | | Strategic Environmental Assessment (SEA) Directive (2001/42/EC) |

| Sector | Links to other sectors | Related EU Directives |
|---|---|---|
| | | Access to Environmental Information Directive (2003/4/EC) |
| | | Reporting Directive (91/692/EEC) |

| | | |
|---|---|---|
| | Water Quality | Water Framework Directive (2000/60/EC) |
| Noise | Horizontal Legislation | Access to Environmental Information Directive (2003/4/EC) |
| | Industrial Pollution Control (IPC) | Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC) |
| Waste Management | Horizontal Legislation | Environmental Impact Assessment (EIA) Directive (85/337/EEC) |
| | | Strategic Environmental Assessment (SEA) Directive (2001/42/EC) |
| | | Access to Environmental Information Directive (2003/4/EC) |
| | | Reporting Directive (91/692/EEC) |
| | Industrial Pollution Control (IPC) | Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC) |
| | | Control of Major Accident Hazards (SEVESO) Directive (96/82/EC) |
| | | Eco-Management and Audit Scheme (EMAS) Regulation (EC) 761/2001 |
| | Water Quality | Waste Framework Directive (2006/12/EC) |
| | | Sewage Sludge Directive (86/278/EEC) |
| | | Urban Waste Water Treatment Directive (91/271/EEC) |
| | | Nitrates Directive (91/676/EEC) |
| | | Groundwater Directive (80/68/EEC) |
| | Air Quality | Ambient Air Quality Framework Directive (96/62/EC) |
| | | National Emission Ceiling Directive (2001/81/EC) |
| | Chemicals | Classification, Packaging and Labelling of Dangerous Substances Directive (67/548/EEC) |
| | | Asbestos Directive (87/217/EEC) |
| | | Risk Assessment Regulation (EC 793/93) |
| | | Restrictions on the Marketing and Use of Certain Dangerous Substances and Preparations Directive (76/769/EEC) |
| Water Quality | on Control (IPC) Industrial Polluti | Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC) |
| | | Control of Major Accident Hazards (SEVESO) Directive (96/82/EC) |
| | Horizontal Legislation | Environmental Impact Assessment (EIA) Directive (85/337/EEC) |
| | | Strategic Environmental Assessment (SEA) Directive (2001/42/EC) |
| | | Access to Environmental Information Directive (2003/4/EC) |
| | Waste Management | Waste Framework Directive (2006/12/EC) |
| | | Hazardous Waste Directive (91/689/EEC) |
| | | Waste from the Titanium Dioxide Industry (78/176/EEC) |
| | Nature Protection | Conservation of Natural Habitats and of Wild Fauna and Flora Directive (92/43/EEC) |

| | | |
|---|---|---|
| | | Conservation of Wild Birds Directive (79/409/EEC) |
| | Chemicals | Risk Assessment Regulation (EC 793/93) |

## 1.5 Directive Specific Implementation Plans

Detailed Directive Specific Implementation Plans (DSIPs) were developed for the selected EU Directives given in Table 4 (refer the developing process described in Sub-chapter 1.1).

Table 4: List with selected EU Directives for which DSIPs were developed

| Sector | Directive Specific Implementation Plan prepared for the selected EU Directives |
|---|---|
| Waste Management | Waste Framework Directive (2006/12/EC) |
| | Hazardous Waste Directive (91/689/EEC) as amended. |
| | Landfill Directive (99/31/EC) as amended. |
| | Packaging Waste Directive (94/62/EC) as amended. |
| Water Quality | Water Framework Directive (2000/60 /EC) as amended. |
| | Urban Waste Water Directive (91/271/EEC) as amended. |
| | Nitrates Directive (91/676/EEC) as amended. |
| Air Quality | Ambient Air Quality Framework Directive (96/62/EC) as amended. |
| | National Emission Ceilings Directive (2001/81/EC) |
| Industrial Pollution Control (IPC) | IPPC Directive (96/61/EC) as amended. |
| | Large Combustion Plants Directive (2001/80/EC) |
| | SEVESO II Directive (96/82) as amended. |
| Horizontal Legislation | EIA Directive (85/337/EEC) as amended. |
| | SEA Directive (2001/42/EC) |
| Nature Protection | Wild Birds Directive (79/409/EEC) as amended. |
| | Habitats Directive (92/43/EEC) as amended. |
| GMO | Deliberate Release of GMOs Directive (2001/18/EC) as amended. |
| Chemicals | Dangerous Substances Directive (67/548/EEC) as amended. |
| Noise | Assessment and Management of Environmental Noise Directive (2002/49/EC) |

It is recommended that the Ministry of Environment and Physical Planning is continuing the preparation of DSIPs for other priority EU Directives (refer Table 1). The priority list for implementation of EU Directives / Regulations / Decisions in the Republic of Macedonia (refer Annex II) can serve as a priority list also for the development of additional Directive Specific Implementation Plans. In developing additional implementation plans, similar approach as used in the already prepared Directive Specific Implementation Plans should be applied using the already adopted tools, methodology and database for financial calculations (refer Annex IV), and taking into account the national circumstances.

## 1.6 Sector Approximation Strategies

Nine Sector Approximation Strategies (SASs) were prepared covering all ten environmental sectors, as it was agreed with the Ministry of Environment and Physical Planning to combine the required approximation activities for the Nature Protection Sector and Forestry Sector into one approximation strategy.

The main aim of the Sector Approximation Strategies was to recommend the most appropriate and suitable approach for the Government of the Republic of Macedonia to implement the overall milestones needed in the EU integration process. The Sector Approximation Strategies were prepared based on the above listed 19 Directive Specific Implementation Plans plus the result of some additional detailed gap analyses performed on another 19 Directives and some broader gap analyses of another 33 pieces of legislation. In the Sector Approximation Strategise are defined all actions needed for the full legal transposition and practical implementation of the EU requirements within the sector, including identification of the main responsible governmental institutions, the timeframe, and financial implications on the implementation of those proposed actions. A prioritization process was established (refer Sub-Chapter 1.1) in order to recognise and to agree upon the priorities for transposition, implementation and investment between the EU covered directives within each sector as well as between the defined actions for each piece of legislation. Within the process of developing the approximation strategies there was an active involvement of nearly all relevant stakeholders through the Sector Working Groups, validating the proposed actions and confirming the intentions of the relevant institutions to response to the EU integration process requirements. In the development of the Sector Approximation Strategies, proper consideration was also taken to the existing national strategies and plans. The executive summaries of the nine Sector Approximation Strategies are presented in Annex VI.

## 2. PRESENT SITUATION

### 2.1 Government Policy

The Government of the Republic of Macedonia has confirmed their commitment towards EU accession through the development of the relationship with the EU since October 1992, and has posed the EU Membership on its political agenda as a national goal of highest priority from the very beginning of the state independency obtained in 1991. The achievement of this goal is not an easy task. The Republic of Macedonia does not at present have the capacity to quickly adjust to fulfil the EU requirements, and EU therefore support the country in its efforts. The mutual commitment is reflected in the development and strengthening of the relationships between the Republic of Macedonia and EU, which may be summarized as follows:

1992: Appointment of a representative from the Republic of Macedonia to Brussels; 1995: Establishment of diplomatic relations between the Republic of Macedonia and EU;

2000: Establishment of the EU delegation in the Republic of Macedonia and appointment of the first Head of Delegation at ambassadorial level;

2001: Stabilization and Association Agreement between EU and the Republic of Macedonia signed and ratified by their respective Parliaments;

2004: The Government of Republic of Macedonia submitted the application for full membership of the European Union

2004: The European Commission submitted to the Government of Republic of Macedonia a Questionnaire for the preparation of the European Commission's opinion on the application of the Republic of Macedonia for EU membership.

2004: Adoption by the Parliament of the Republic of Macedonia of a Declaration for Submission of an Application for Membership of the EU.

2005: Submission of the Answers to the Questionnaire of the European Commission for the preparation of the European Commission's Opinion on the application of the Republic of Macedonia for EU membership

2005: Analytical Report for the Opinion on the Application from the Republic of Macedonia for EU membership. 2005: The Republic of Macedonia was granted by EU the candidate status for full EU membership.

2006: The principle of partnership was legalised by an EU Decision on the Principles, Priorities and Conditions Contained in the European Partnership with the Republic of Macedonia.

The progress in fulfilment of the obligation undertaken by the Government concerning the adoption of the EU Acquis is continuously monitored by the EU Commission. The findings are expressed in the Annual Progress Reports.

In order to fulfil the criteria for full membership, the Republic of Macedonia adopted in April 2007 the National Programme for Adoption of the Acquis Communautaire (NPAA), incorporating the comments provided by the European Commission (EC) on the Draft Programme for Adoption of the Acquis, Work Programme of the Government of the Republic of Macedonia, priorities of the European Partnership, Strategic Plans of the ministries, current and planned foreign assistance projects and alignment with the governmental budget. The NPAA comprises the plans for harmonization of the national legislation with the EU legislation, the necessary dynamics of institutional strengthening for implementation of the legislation, as well as the necessary resources for realization. The NPAA includes an Action Plan as a matrix of priorities, objectives and activities, which enables efficient following up of the realization of the Programme. The matrix

contains the detailed activities for implementation of the priorities and objectives of each sector. With its comprehension and structure, the NPAA is a powerful instrument for monitoring the whole association process, to be used by the Government of the Republic of Macedonia as well as by the European Commission. It helps the Republic of Macedonia to answer questions posed by EU Commission based on which, the Commission prepares Annual Progress Report on the Republic of Macedonia. Chapter 3.27 of the NPAA addresses the achievements and the remaining obligations in the field of Environment. Obligations (or activities for their fulfilment) are classified as short (2007) and medium term (2007-2010) obligations.

The core of the planned activities in the field of environment of the NPAA comprises:

- Adoption of the remaining legal acts completing the legal transposition in 2010.
  This covers all environmental media and areas in compliance with EU legislation and broader international agreements;
- Implementation of action plans contained in already adopted policy documents.
  The implementation of the second National Environmental Action Plan (NEAP II) is a good base for introduction of the Environmental Policy Integration (EPI) concept, which suggests that environmental requirements must be specifically integrated into other policies and activities. The implementation of EPI may ask for some new institutional set up and the implementation of EPI through NEAP II has in any case the potential to eliminate the repetition of the mistakes from the past (e.g. the unsolved status of several contaminated sites, which pose a big burden to the Government). Annual Programs for Investment in the Environment, which are traditionally financed by national funds, are foreseen as valuable support for the implementation of the Action Plans of adopted policy documents.
- Adoption of the additional important Policy Documents and their subsequent implementation. In this context, the National Strategy on Sustainable Development planed to be adopted in 2008 is foreseen as a strong initiative for achieving the overarching long-term objectives: economic prosperity, social equity, environmental protection and international responsibilities. It will at the same time be an impact assessment of the contribution to the sustainability of all major policy documents already adopted.
- Planning and managing the space (land) and natural and cultural heritage.

  This comprises measures to identify places which have the value of national treasure and heritage (nature, biodiversity, historical monuments, etc.) and to push ahead their protection and promotion. A Biodiversity Strategy and Action Plan have been adopted in 2004 and implementation is well advanced. In this context, the Government has upgraded the legal protection of three national parks (Galičica, Mavrovo and Pelister). In addition, adoption and implementation of the National Strategy for Nature Protection is on the agenda of the Ministry of Environment and Physical Planning (MoEPP), too. A data base of rare and endangered species of flora and fauna will be prepared and presented as Red Book and Red List.
- Intensifying the monitoring of the environment, communication with public and its involvement in decision-making process, communication with international
  authorities on environmental issues as well as public awareness rising. The trend of improvement of the quality and efficiency of reporting is steady. To make the communication with public more efficient, a Sector for Public Communication comprising Unit for Public Relations and Unit for Public Awareness and Education has been established (by the MoEPP). A significant part of the budget funds aimed to the Environmental Investment Program is directed to support capacity building and networking of the non-government organizations (NGOs).
- Support to the decentralization process to meet the environmental requirements.

The MoEPP is already now (and plan to intensify) the support to the Local Self-Government Units (LSGUs) to strengthen local capacities in planning and management of natural resources and protection of the environment. In this direction, the major part of the 2007th funds of the Environmental Investment Program were addressed to support solving LSGUs' problems in the area of waste management and water sector and to support preparation of the Local Environmental Action Plans (LEAPs) for the municipalities

. • Intensification of the international cooperation. The MoEPP is strongly committed to implement obligations undertaken by the International Agreements as well as to ratify new agreements (e.g. ratification of the Rotterdam Convention - PIC Convention is planned to be finalized, which is seen as a compatible action with the process of transposition and implementation of the new EU REACH policy on registration, evaluation, authorization of chemicals). Strong accent is given to the intensification of bilateral and regional cooperation as the Republic of Macedonia is shearing very often same resources and facing common environmental problems with the neighbouring countries as well as suffering similar obstacles in resolving them;

. • Increased investments in the environmental infrastructure. Government plan to intensify investment in the environmental infrastructure with particular emphasis on waste water collection and treatment, drinking water supply, waste management and air pollution abatement. In this context, Adoption of the Environmental Investment Strategy, based on estimates of the cost of alignment with the environmental acquis, is to be prepared. The already prepared Operating Program on IPA will be used as one of the tools in planning financial matters of the Environmental Investment Strategy. Public Private Partnership is seen as one of the most convenient options (new environmental laws open the entrance of the private sector in environmental infrastructure projects).

• Increased support and communication with the Economy Sector in order to facilitate their adaptation to the environmental standards. The MoEPP plan to be deeply involved in the improvement of human resources, supporting assets

(e.g. accredited laboratories) and administrative structures of the enterprises. Trainings have been performed, but much more are planned. In this context, use of Best Available Techniques (BATs), cleaner production principles and technologies, implementation of voluntary agreements, introduction of quality control and quality assurance (QC / QA) , etc. will be promoted and supported.

. • Introduction and enforcement of the economic instruments. Economic instruments are seen as a tool for full implementation of the "polluter and user pays principle" as well as an incentive to move to the more sustainable behaviour of production and consumption. The Law on Environment already introduced a set of the economic instruments in sectors asking urgent intervention, but they will be further developed in order to achieve the desired effect.

Building a public administration that is capable to cope with the EU integration and later with the obligation arising from membership, is a high priority of the Government and the MoEPP. In December 2006, the MoEPP adopted a new administrative and organizational structure based on the report Functional Analysis and the Plan for Institutional Development. According the new organization scheme, the MoEPP is organized in accordance with the individual environmental sectors / areas corresponding to the obligations posed by the approximated legislation, and for the purpose of defining an efficient fulfilment of the new competences and responsibilities.

It is the intension that much attention will be addressed to the capacity building and technical staffing of the State Environmental Inspectorate, the Service of Spatial Information System and the Administration for Environment. Specialized training of inspectors at both national and local levels, focusing on pronouncing direct fines stipulated in accordance with the relevant laws and the new Law on Misdemeanours will be organized.

The Republic of Macedonia has adopted several policy strategic documents in various environmental sectors where the governmental policy towards improvement of environment has been clearly defined. As these documents present the governmental policy, the relevant information, recommendations, priorities and actions already proposed within the above mentioned strategic documents were used during the development of this National Strategy for Environmental Approximation to the greatest extend. Some of the most important policy documents adopted (or to be adopted) by the Government of the Republic of Macedonia, in addition to the NPAA, are:

- National Strategy for Sustainable Development with Action Plan (to be adopted 2008). The aim of this strategy is to continue the EU approximation process using a sustainable approach;
- National Strategy for Clean Development Mechanism (2007), with the main goal to facilitate transfer of investment and technologies through Clean Development Mechanisms for implementation of projects that reduce Green House Gas emissions.
- Second National Environmental Action Plan (NEAP II, 2006). The NEAP II defines the environmental problems and the measures and activities required within the environment for a six year period, with the aim of continuing the process of approximation with the EU environmental policy;
- National Strategy for European Integration of the Republic of Macedonia (2004), which is setting the fundamental aims, policies and priorities in the process of EU integration and EU membership for the Republic of Macedonia.
- Vision 2008 (2004), which is a comprehensive policy programme and a vision for the country toward the accession to EU, aiming at a healthy and clean environment.
- Strategy for Biological Diversity Protection and the Action Plan (2004), which defines the overall vision and goals of biological diversity protection and identifies specific actions to be implemented in order to achieve the goals;

A list of the main policy documents dealing with the environment and adopted (or to be adopted) by the Government of the Republic of Macedonia can be found in Annex I.

## 2.2 Roles and Responsibilities

The environmental chapter is very complex in respect to environmental functions and requires involvement of plenty of governmental institutions with their constituent bodies, academic institutions, Local Self-Government Units (LSGUs), professional associations and non-governmental organizations, the business sector (industry and consultant companies) in fulfilling the EU environmental requirements. To present an overview of the roles and responsibilities within the environmental chapter in the Republic of Macedonia, the environmental functions required by the EU Directives have been compiled into the following eleven groups of key management functions:

- Drafting and adoption of the regulation;
- Policy making and planning;
- Monitoring;
- Set the technical standards and accreditation process;
- Preparation of guidance and providing training;
- Registration, licensing and permitting;
- Inspection and enforcement;
- Preparation of the financial plans and proposing the economic instruments;
- Public information and consultation;
- Data collection;
- Reporting to EU and to the public.

Who the responsible for these key environmental management functions is in the Republic of Macedonia was identified in order to address the responsibility for implementation of the proposed actions for full legal transposition and technical implementation, as well as to provide the recommendations to the Ministry of Environment Physical Planning to involve all other relevant stakeholders through the approximation process. Table 5 below is presenting all relevant stakeholders versus the key environmental management functions for all environmental sectors based on the analysis performed during the process of drafting the Sector Approximation Strategies.

Table 5: Roles and Responsibilities of the institutional bodies for key environmental functions

| Key environmental management functions | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sector | Drafting and adopting regulation | Policy making and Planning | Monitoring | Technical standards & accreditation | Preparation of guidance/ providing training | Registration, licensing & permitting | Inspection | Enforcement | Financial plans and economic instruments | Public information and consultation | Data collection and reporting |
| Waste Management | MoEPP, MoH, MoE, MoF, LSGUs, MTC | MoEPP, MoE, MoH, MoAFWE, MoF, LSGUs, MTC, Associations (Packagers and Environment, Secondary Raw Materials, Managing End-of-life-vehicles) | MoEPP, MoE, LSGUts (municipalities), Custom Administration | MoEPP, Institute for Standardisation, Institute for Accreditation | MoEPP, MoH, MTC, LSGUs (municipalities), NGOs, Associations (Professional, Packagers and Environment, Secondary Raw Materials, Managing End-of-life-vehicles) | MoEPP (Administration for Environment), LSGUs (municipalities), MoE, MTC | MoEPP (State Inspectorate for Environment), MoH (State Sanitary and Health Inspectorate), LSGUs (municipalities) | MoEPP (State Inspectorate for Environment), MoH (State Sanitary and Health Inspectorate), LSGUs (municipalities) | MoEPP, MoF, MoE, LSGUs (municipalities) | MoEPP MEIC Sector for Public Relation, LSGUs (municipalities), Entities generating hazardous waste | MoEPP (Macedonian Environmental Information Centre-MEIC), LSGUs (municipalities), Entities generating hazardous waste,/ involved in solid waste management, Facility operators |

| Key environmental management functions | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sector | Drafting and adopting regulation | Policy making and Planning | Monitoring | Technical standards & accreditation | Preparation of guidance/ providing training | Registration, licensing & permitting | Inspection | Enforcement | Financial plans and economic instruments | Public information and consultation | Data collection and reporting |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Horizontal | MoEPP, Government | MoEPP, Municipalities and City of Skopje | MoEPP (Administration for Environment), Relevant ministries | | MoEPP (Administration for Env.), State Inspectorate for Env.), Other Min. | | MoEPP (State Inspectorate for Environment) | MoEPP (State Inspectorate for Env.), PR Office), MFA | | MoEPP (Sector for Public Relation), Municipalities & City of Skopje | MoEPP (Sector for Public Relation) |
| IPC | MoEPP, MoH, MoE, LSGUs (municipalities), NGOs, DPR, Companies | MoEPP, MoH, MoE, MTC LSGUs (municipalities), NGOs, DPR, Companies | MoEPP, Accredited Laboratories, LSGUs (municipalities), MoIA, Companies (self-monitoring) | MoEPP, Institute of Standardization, Institute on Accreditation | MoEPP, MoH, DPR, MoE, LSGUs (municipalities), Consultants (international / national) | MoEPP (Administration for Environment), MoIA, LSGUs (municipalities) | MoEPP, (State Inspectorate for Env.), DPR, MoIA, LSGUs (Authorised Environ. Inspectors) | MoEPP, (State Inspectorate for Env.), DPR, MoIA, LSGUs (Authorised Environmental Inspectors) | MoEPP (Sector for Public Relation), LSGUs (municipalities) | MoEPP (Macedonian Environmental Information Centre) LSGUs (municipalities) | MoEPP (Administration for Environment), Companies |
| Water Quality | MoEPP, MoH, MAFWE, MTC, MoE, Government | MoEPP, MoH, MAFWE, MTC, LSGUs (municipalities), MoE, Government | MoEPP, MoH, MAFWE (Hydro-Meteorological Directorate), MTC, LSGUs (municipalities), River Basin Authority, Accredited Laboratories | MoEPP, Institute for Standardisation, Institute for Accreditation, MoH, MAFWE, MTC, NGOs | MoEPP, MoH, MAFWE, NGOs, Professional Associations, Farmer's Associations | MoEPP (Administration on Environment, MoH (Republic Health Institute), MAFWE, MTC, LSGUs (municipalities), MoE | MoEPP (SIE), MoH (SSHI), DFS, MTC, State Communal Inspection, MAFWE, State Water Economy Inspection, LSGUs (Authorised Inspectors) | MoEPP, MoH, MTC MAFWE, LSGUs (Authorised Inspectors), MoE | MoEPP, MoH (RHRI), MTC, MAFWE, LSGUs (municipalities), MoF, ZELS | MoEPP (Sector for Public Relation, MoH (Republic Health Institute), MAFWE, LSGUs (municipalities), River Basin Authority | MoEPP (Macedonian Environmental Information Centre), MoH (Republic Health Institute), MAFWE, (Hydro-Meteorological Directorate), MTC, LSGUs (municipalities), River Basin Authority |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Air Quality | MoEPP, MoH, MoE | MoEPP, MoE, MoH, LSGUs (municipalities), MoF, MAFWE | MoEPP, MoH, (National Network), MoE (State Market Inspectorate) LSGUs (Local Network), Industry, MoF (Custom Administration) | MoEPP, Institute for Standardisation, Institute for Accreditation, MoE | MoEPP, MoE, NGOs, Professional Association | MoEPP (Administration of Environment), MoH, MoE | MoEPP (State Inspectorate for Environment), MoH (State Sanitary and Health Inspectorate), MoE (State Market Inspectorate) | MoEPP SIE), MoH (State Sanitary and Health Inspectorate), MoE (State Market Inspectorate) | MoEPP, MoH, MoF | MoEPP (Macedonian Env. Information Cen. (Sector for Public Relation), MoH, LSGUs (municipalities), Industry, MoE, Car producers/ sellers | MoEPP (Macedonian Env. Info. Cen.), LSGUs (municipalities), Industry, MoE, Center for Energetic, Informatics & Materials, Private consulting companies |
| Noise | MoEPP, MoH, MoE | MoEPP, LSGUs (municipalities & the City of Skopje), MoH, MoTC, MFA, MLSP, MoE, MoIA | MoEPP (Central laboratory), MoH (Republic Health Institute), Accredited laboratories . | MoEPP, Inst. for Standardization & for Accreditation & for Material tests & new technol., Faculty of Mechanical Eng., MoE | MoEPP, LSGUs (municipalities), MoE, MoH, MoTC, | | MoEPP (State Inspectorate for Env.), MoIA, Faculty of Mechanical Engineering (authorisation from MoE) | MoEPP, MoH, MFA, MoI, MoE | | MEPP (Macedonian Env. Information Cen). (Sector for Public Relation) LSGUs (Municipalities), MoE | MoEPP (Macedonian Environmental Information Centre), MoIA, MoE |

| Key environmental management functions | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sector | Drafting and adopting regulation | Policy making and Planning | Monitoring | Technical standards & accreditation | Preparation of guidance/ providing training | Registration, licensing & permitting | Inspection | Enforcement | Financial plans and economic instruments | Public information and consultation | Data collection and reporting |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nature Protection | MoEPP, MAFWE, MoF (Custom Administration) | MoEPP, MAFWE, MoF (Custom Administration) | MoEPP LSGUs (municipalities), Public Enterprise Macedonian Forestry, Institute for Biology, Forestry & Agriculture Faculty | MoEPP MAFWE | MoEPP, MoF (Custom Administration), LSGUs (municipalities), Professional Associations, Public Enterprise Macedonian Forestry, NGOs | MoEPP (Administration for Environment) MAFWE, LSGUs (municipalities), Public Enterprise Macedonian Forestry, MoF (Custom Admin.) | MoEPP (State Inspectorate for Env.), LSGUs (municipalities), MAFWE (State Inspectorate of Forestry & Hunting), MoF (Custom Admin.) | MoEPP (State Inspectorate), MAFWE (State Inspectorate of Forestry & Hunting), LSGUs (municipalities) | MoEPP, LSGUs (Municipalities), MoF, MAFWE | MoEPP (Sector for Public Relation), MAFWE, LSGUs (municipalities), Universities, Inst. for Biology, Forestry & Agriculture) NGOs, Prof. Associations | MoEPP (Macedonian Env. Information Centre), MoF (Custom Adm.), MAFWE Ins. for Biology, Forestry & Agriculture Faculty, LSGUs (municipalities) |
| GMO | MoEPP, MoH, MAFWE | MoEPP, MoH, MAFWE, Scientific commissions | MoEPP, (Central laboratory) MoH ( PHI), MoE, MoF (Custom Admin.), Accredited laboratories Faculty for Agricultural Sciences & Food, | MoEPP, MES, Scientific commissions | MoEPP, MoH, MAFWE, Faculty for agricultural sciences and food | MoEPP, MoH, MoAFWE | MoEPP (State Env. Inspectorate), MoF (Customs Administration), MoH, MAFWE, | MoEPP (State Env. Inspectorate), MoF (Customs Administration), MoH, MAAFWE, | MoEPP, MoH, MAFWE MES, MoF | MoEPP (Sector for Public Relation), MAFWE, LSGUs (municipa.), MFA,NGOs Faculty for Agricultural Sciences & Food, Scientific commissions | MoEPP (Macedonian Env. Information Centre), Facility operators, LSGUs (Municipalities), Faculty for agricultural sciences and food |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chemicals | MoEPP, MoH, MAFWE | MoEPP, MoH, MAFWE, Scientific commis-sions, Association of chemical producers (Macedo-nian chamber of commerce) Faculty for Agricultural science and food / Institute on Agriculture, Agency on Drugs | MoEPP (Central laboratory), MoH (Republic Health Institute) MoF (Cus-tom Admi-nistration), Faculty for agricultural sciences and food, Faculty on Pharmacy, Accredited laboratories | MoEPP, MoH, MAFWE (Agency on Drugs) | MoEPP, MoH, MAFWE Association of chemical producers (Macedo-nian cham-ber of commerce) | MoEPP, MoH, MAFWE (Agency on Drugs) | MoEPP (State In-spectorate for Env.), MAFWE, MoH (Republic Health Institute), MoF (Custom Admin.), Faculty on Pharmacy, Agency on Drugs, Faculty for agricultural sciences and food | MoEPP (State In-spectorate for Environ-ment), MoH MAFWE, Agency on Drugs, MoF (Customs Administra-tion) | MoEPP, MoH, MAFWE, MoF | MoEPP (Sector for Public Relation); MAFWE, Faculty on pharmacy, Faculty for agricultural sciences and food, Scientific commis-sions, NGOs, Farmers associa-tions, MFA | MoEPP (Macedo-nian Env. Information Cen.), MoF (Custom Admin.), Agency on Drugs,MoH (Republic Health Institute), Farmers, LSGUs (Municipali-ties), Faculty for agricultural sciences & food, Faculty on pharmacy |

The above table shows the complexity of the environmental approximation process where the main responsibility lay on the Ministry of Environment and Physical Planning (MoEPP) and its constituent bodies: Administration for Environment, State Environmental Inspectorate, and Office of Spatial Information System. All functions required by the EU Directives can be smoothly and efficiently implemented only with the good communication, cooperation and coordination between the Ministry of Environment and Physical Planning and other Ministries especially the Ministry of Agriculture, Forestry and Water Economy (MAFWE), Ministry of Economy (MoE), Ministry of Transport and Communication (MTC), Ministry of Health (MoH), Ministry of Finance (MoF) and Ministry of Internal Affairs (MoIA).
The governmental institutions are mainly responsible for setting the regulation, preparation of the policy making and planning documents, financial plans and proposing the economic instruments, preparation of the guidance and methodologies, providing the trainings and dissemination of the environmental information. Their special technical bodies are responsible for monitoring, registration, licensing and permitting procedures, public information and consultation, data collection and reporting.

Clear differentiation between the responsibilities regulated according the new environmental legislation as well as other sector legislation (covering issues like energy, industry, transport, agriculture, health, chemicals management, construction matters, etc.) is crucial to avoid overlapping of competences between the Ministry of Environment and Physical Planning and other governmental institution on various issues.

In the coming years the capacity of the Local Self-Government Units (LGSUs) / municipalities need to be strengthened according the Law on Decentralization, and in the new national environmental legislation there are new roles and responsibilities for these units. The municipalities have the responsibilities for preparation of the strategic planning documents on local level (Local Environmental Action Plans, Action Programmes for Air Quality, etc.), monitoring, inspection and enforcement, registration and IPPC–B licensing, data collection and reporting as well as to organizing the public information and consultation. On the municipal level there is at present a lack of the human and financial resources and knowledge needed to respond to the key environmental management functions, and the institutional set-up on local level need to be strengthened soonest possible.

The business community in general (including the big industry and power production facilities as well as small and medium enterprises) as operators have the responsibility to carry out self-monitoring and reporting of emissions, prepare policy documents like Risk Management and Emergency Plans, obtain and maintain IPPC-license and permits for operation, respond to the monitoring and mitigation plans included in the Environmental Impact Assessment Study, provide public information, data collection and report to the responsible institutions regarding collection of environmental information.

Setting the technical standards, accreditation of laboratories, inspection and certification has been the responsibility of the Institute for Standardisation, through the Technical Committees consisting of representatives from the governmental, academic institutions and technical experts, and the Institute for Accreditation. Their role will be more important in the coming period due to the fact that the almost all EU Directives requires setting of various technical standards (e.g. on emissions, data analysing methods, monitoring and data reporting, methodologies, etc.) and for accredited laboratories for monitoring of the state of environment.

The academic institutions have the main responsibility on providing technical assistance to the governmental institutions during the regulation drafting process, setting the technical standards, policy making process, preparation of the guidance and providing the trainings, and during the

public information and consultation process. Some of the laboratories under the University "St. Cyril and Methodius" and the Macedonian Academy of Arts and Science have the equipment, trained personnel and possibilities to perform the environmental monitoring and product quality as well as to perform various research.

The role of the professional associations (e.g. Economic Chamber of Macedonia, Association of Packagers, Association of Operators with Secondary Raw Materials, Associations of Farmers, Macedonian Association for Energy Efficiency (MACEF), Association on Car Dealers, Association on Communal Enterprises, etc.) is to provide the technical inputs to the public information and consultation process, to support the regulation drafting process with advice for the practical implementation of the legislation and during the process of setting the technical standards.

Almost all the selected EU Directives and the Aarhus Convention ask for public information, public participation and consultation during the implementation process. In the current legal framework there are provisions providing the obligations for governmental institutions to organize the public consultation process on different issues (like EIA, IPPC procedures, preparation of the strategic planning documents, etc.), to disseminate the environmental information and to provide public awareness campaigns. All these functions are covered by the Public Relation Office under the Ministry of Environment and Physical Planning. The environmental NGOs representing the public have a very strong role in these consultation processes, but the public participation is still in an early stage. The NGOs are mainly focused on the implementation of the environmental projects of small scale, dealing with public awareness campaigns and public information.

## 2.3 Current Legal Framework

The current national legal framework dealing with environmental issues is presented in Annex II, which also presents information about the international multilateral agreements ratified by the Republic of Macedonia. The national legal framework consists of more than 80 Laws and a big number of Rulebooks, Decrees and other legal instruments.

The status of transposition of the selected EU environmental legislation into the national legal framework was identified based on performed legal gap analysis in all environmental sectors (using Tables of Concordance). The gap analyses were primary based on the following main environmental Laws and the related secondary legislation:

- Law on the Environment (Official Gazette nos. 53/2005 and 81/05) covering mainly the sectors of Horizontal Legislation, Waste Management, Air Quality, Industrial Pollution Control (IPC), GMO and Noise.
- Law on Ambient Air Quality (Official Gazette no. 67/2004) covering the sectors of Air Quality, Horizontal Legislation, Waste Management, Industrial Pollution Control (IPC) and Chemicals;
- Law on Waste Management (Official Gazette nos. 68/2004 and 71/04) covering the sectors of Waste Management, Horizontal Legislation, and Chemicals;
- Law on Nature Protection (Official Gazette no. 67/04) covering the sectors of Nature Protection and GMO;
- Law on Forests (Official Gazette nos. 47/97, 7/00 and 89/04) covering the sectors of Nature Protection & Forestry and GMO;
- Law on Hunting (Official Gazette nos. 20/96, 26/96, 34/97 and 69/04) covering the sectors of Nature Protection and GMO;
- Law on Plant Protection (Official Gazette nos. 5/98 and 6/00) covering the

sectors of Nature Protection, GMO and Chemicals;

- Law on Nature Protection (Official Gazette no. 67/04) covering the Nature Protection Sector;
- Law on Free Access to Public Information (Official Gazette no. 13/06) covering the Horizontal Legislation Sector;
- Law on Drinking Water Supply and Drainage of Urban Waste Water (Official Gazette no. 68/04) covering the Water Quality Sector;
- Law on Poison Production (Official Gazette (of SFRY) no. 18/76) covering the Chemicals Sector;
- Law on Trade in Poisons (Official Gazette (of SFRY) no. 13/91) covering the Chemicals Sector;
- Law on Carriage of Dangerous Goods (Official Gazette (of SFRY) nos. 27/90, 45/90 and 12/93) covering the Chemicals Sector;
- Noise Protection Law (Official Gazette nos. 21/84, 10/90 and 62/93) covering the Noise Sector.

In addition to the above mentioned laws, the gap analyses was also based on the following four environmental Laws being drafted at the time of the analyses:

- Draft Law on Noise (version August 2006);
- Draft Law on Waters (version January 2006);
- Draft Law on GMOs (version February 2005);
- Draft Law on Chemicals (version 2006).

The Law on Noise has subsequently been adopted by the Government in 2007 (Official Gazette no. 79/2007) and the other three draft Laws are also expected to be adopted in the second half of 2007.

The detailed analysis of the current status of transposition of each analysed EU Directive is given in the relevant Sector Approximation Strategy or Directive Specific Implementation Plan. In order to present a summary of the identified current status of transposition of all covered EU Directives, the level of transposition into the national legislation was divided into four levels:

- Transposition not started yet. None or very few of the provisions of the Directive are transposed or legal basis for transposing the provisions do not exist (some adjustments are needed in the law);
- Early stage of transposition. Some of the provisions in the national legislation are found to be fully in line with the Directive's requirements, there are some requirements for amendment of the existing legislation and there are some provisions still not fully transposed, but legal basis exists;
- Advanced transposition. Many provisions of the Directive are transposed into the main legal act and the process of transposing possible annexes has been started through the developing of secondary legislation. Some amendments to the legal act or secondary legislation might still be needed.
- Very advanced transposition. Almost all provisions of the Directive are transposed into the main legal act and the process of transposing any annexes is ongoing through the developing of secondary legislation. A few amendments to the legal act or secondary legislation might still be needed.

The result of the evaluation of the level of transposition of the EU legislation within all environmental sectors is presented in Table 6 below.

Table 6: Status of legal transposition

| Sector | EU covered Directives | Status of transposition into national legislation (Dec. 2006) | | | |
|---|---|---|---|---|---|
| | | Hardly started | Early stage | Well ad-vanced | Very ad-vanced |
| Waste Management | Waste Framework Directive (2006/12/EC) | | | | |
| | Hazardous Waste Directive (91/689/EEC) as amended. | | | | |
| | Landfill Directive (99/31/EC) as amended. | | | | |
| | Packaging and Packaging Waste Directive (94/62/EC) as amended | | | | |

| Sector | EU covered Directives | Status of transposition into national legislation (Dec. 2006) | | | |
|---|---|---|---|---|---|
| | | Hardly started | Early stage | Well ad-vanced | Very ad-vanced |
| | Waste Incineration Directive (2000/76/EC) | | | | |
| | Batteries and Accumulators Directive (91/157/EEC) | | | | |
| | WEEE Directive (2002/96/EC) as amended. | | | | |
| | Labelling of Batteries Directive (93/86/EC) | | | | |
| | Disposal of Waste Oils Directive (75/439/EEC) as amended. | | | | |
| | PCB/PCT Directive (96/59/EC) | | | | |
| | End-of-Life Vehicles Directive (2000/53/EC) as amended. | | | | |
| | RoHS Directive (2002/95/EC) as amended. | | | | |
| | Waste from the Extractive Industries Directive (2006/21/EC) | | | | |
| Air Quality | Ambient Air Quality Framework Directive (96/62/EC) as amended | | | | |
| | Limit Values for $SO_2$, $NO_2$, NOx, PM and Pb in Ambient Air Directive (1999/30/EC) as amended | | | | |
| | Benzene and Carbon Monoxide Directive (2000/69/EC) | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Ozone in Ambient Air Directive 2002/3/EC | | | | |
| | As, Ca, Hg, Ni and PAHs in Ambient Air Directive (2004/107/EC) | | | | |
| | National Emission Ceiling Directive (2001/81/EC) | | | | |
| | Emission Trading Directive (2003/87/EC) as amended. | | | | |
| | Reduction in S Content of Certain Liquid Fuels Directive (1999/32/EC) as amended | | | | |
| | Consumer Information Directive (1999/94/EC) as amended. | | | | |
| | Quality of Petrol and Diesel Fuels Directive (98/70/EC) as amended | | | | |
| Water Quality | Water Framework Directive (2000/60 /EC) as amended. | | | | |
| | Urban Waste Water Treatment Directive (91/271/EEC) as amended | | | | |
| | Drinking Water Directive (98/83/EC) as amended. | | | | |
| | Surface Water for Abstraction Directive (75/440/EEC) as amended | | | | |
| | Nitrates Directive (91/676/EEC) as amended. | | | | |

| Sector | EU covered Directives | Status of transposition into national legislation (Dec. 2006) | | | |
|---|---|---|---|---|---|
| | | Hardly started | Early stage | Well ad-vanced | Very ad-vanced |
| | Bathing Water Directive (2006/7/EC) | | | | |
| | Dangerous Substances to Water Discharges Directive (76/464/EEC) as amended | | | | |
| | Sewage Sludge Directive (86/278/EEC) | | | | |
| | Measurement of Drinking Water Directive (79/869/EC) as amended | | | | |
| | Groundwater Directive (80/68/EEC) as amended | | | | |
| | Mercury Discharges from Chlor-Alkali Industries Directive (82/176/EEC) as amended | | | | |
| | Cadmium Discharges Directive (83/513/EEC) as amended | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Other Mercury Discharges Directive (84/15/EEC) as amended | | | | |
| | Hexachlorocyclohexane (HCH) Discharges Directive (84/491/EEC) as amended | | | | |
| | List One Substances Directive (86/280/EEC) as amended | | | | |
| | Fish Water Directive (78/659/EEC) as amended | | | | |
| | Shellfish Water Directive (79/923/EEC) as amended | | | | |
| Chemicals | Classification, Packaging and Labelling of Dangerous Substances Directive (67/548/EEC) as amended. | | | | |
| | Animal Experiments Directive (86/609/EEC) as amended. | | | | |
| | Asbestos Directive (87/217/EEC) as amended. | | | | |
| | Biocides Directive (98/8/EC) as amended. | | | | |
| | Classification, Packaging and Labelling of Dangerous Preparations Directive (1999/45/EC) | | | | |
| GMO | Deliberate Release of GMOs Directive (2001/18/EC) as amended | | | | |
| | Contained Use of GMMs Directive (90/219/EEC) as amended | | | | |
| HorizontalLegislation | EIA Directive (85/337/EEC) as amended. | | | | |
| | SEA Directive (2001/42/EC) | | | | |
| | Access to Environmental Information Directive (2003/4/EC) | | | | |

| Sector | EU covered Directives | Status of transposition into national legislation (Dec. 2006) | | | |
|---|---|---|---|---|---|
| | | Hardly started | Early stage | Well ad-vanced | Very ad-vanced |
| | Public Participation Directive (2003/35/C) | | | | |
| | Environmental Liability Directive (2004/35/EC) | | | | |
| | IPPC Directive (96/61/EC) as amended. | | | | |
| | Large Combustion Plants Directive (2001/80/EC) | | | | |

| | | | | | |
|---|---|---|---|---|---|
| IPC | Control of Major Accident Hazards (SEVESO) Directive (96/82/EC) as amended | | | | |
| | VOCs from Solvents Directive (1999/13/EC) as amended | | | | |
| | VOCs from Storage and Distribution of Petrol Directive (94/63/EC) as amended | | | | |
| NatureProtection | Conservation of Natural Habitats and of Wild Fauna and Flora Directive (92/43/EEC) as amended | | | | |
| | Conservation of Wild birds Directive (79/409/EEC) as amended. | | | | |
| | Keeping of Wild Animals in ZOO Directive (1999/22/EC) | | | | |
| Noise | Assessment and Management of Environmental Noise Directive (2002/49/EC) | | | | |
| | Motor Vehicles Directive (92/97/EEC) as amended | | | | |
| | Outdoor Equipment Directive (2000/14/EC) | | | | |

As can be seen from the table above, the legal transposition is in a different stage for the various environmental sectors and is for most directives not started or are in the early stage of transposition. Only for a minor portion of the directives (about 25%) are the legal transposition advanced.

Looking at the sectors, it can be seen that it is mainly in the Horizontal Legislation Sector where the legal transposition is a little advanced, whilst the transposition is in the early stage but progressing for the Waste Management Sector, the Air Quality Sector, the IPC Sector, and the Nature Protection Sector. The transposition of the remaining sectors (the Water Quality Sector, the Chemicals Sector, the GMO Sector and the Noise Sector) is still in a rather early stage.

In the Horizontal Sector, the transposition of the Environmental Impact Assessment (EIA) Directive (85/337/EEC) can be considered as very advanced, and the transposition of the Access to Environmental Information Directive (2003/4/EC) is evaluated as well advanced. The transposition of the Strategic Environmental Assessment (SEA) Directive (2001/42/EC), the Public Participation Directive (2003/35/C), and the Environmental Liability Directive (2004/35/EC) is in the early stage of transposition. It should be mentioned that it is rather important that the transposition of this sector gets high priority as the legislation of this sector is horizontal and thereby have effect on most of the other sectors.

The two main directives in the Waste Management Sector (the Waste Framework Directive (2006/12/EC) and the Hazardous Waste Directive (91/689/EEC)) are belonging to the groups of directives where the transposition is very advanced. The transposition of the Batteries and Accumulators Directive (91/157/EEC) is considered well advanced, whilst the Labelling of Batteries Directive (93/86/EC) and the RoHS Directive (2002/95/EC) have hardly been transposed at all. The transposition of the remaining eight analysed directives within the sector is in the early phase. It is very important that the legal transposition of the directives within this sector get full attention, as the implementation of this big and complex sector will have to progress and will require the transposed legislation soonest possible for an efficient

implementation.

Also for several of the more important directives in the Air Quality Sector are the legal transposition very or well advanced. The transposition of the Ambient Air Quality Framework Directive (96/62/EC) are very advanced, whilst three of it's daughter directives, namely the Limit Values for $SO_2$, $NO_2$, NOx, PM and Pb in Ambient Air Directive (1999/30/EC), the Benzene and Carbon Monoxide Directive (2000/69/EC), and the Ozone in Ambient Air Directive (2002/3/EC) are well advanced in the transposition process. For the As, Ca, Hg, Ni and PAHs in Ambient Air Directive (2004/107/EC), National Emission Ceiling Directive (2001/81/EC) and the Emission Trading Directive (2003/87/EC) are the transposition still in a very early phase, whilst for the remaining three analysed directives in this sector the transposition has hardly started yet. It is very important that the legal transposition of the directives within this sector get attention, as the transposed legislation is of great importance for controlling and enforcing the implementation of this big and complex sector.

The main directive in the IPC Sector (the IPPC Directive (96/61/EC)) have been categorised as very advanced in the transposition process, whilst transposition of the Control of Major Accident Hazards (SEVESO) Directive (96/82/EC) is well advanced. The Large Combustion Plants Directive (2001/80/EC) is in the early stage regarding legal transposition, whilst the transposition of the remaining two analysed directives within this sector has hardly started yet. It is extremely important that the legal transposition of the directives of this sector gets full attention, as the transposed legislation is of great importance for controlling and enforcing the implementation of this big and very complex sector.

The two main directives in the Nature Protection Sector (the Conservation of Natural Habitats and of Wild Fauna and Flora Directive (92/43/EEC) and the Conservation of Wild Birds Directive (79/409/EEC)) are very advanced in the transposition process, whilst the transposition of the last of the analysed directives within this sector has hardly started yet. It is very important that the legal transposition of the directives within the Nature Protection Sector get attention, as the transposed legislation is of great importance for controlling and enforcing the implementation of this big and complex sector.

In the Water Quality Sector, only the Drinking Water Directive (98/83/EC) and the Measurement of Drinking Water Directive (79/869/EC) can be considered as being advanced in the transposition process. The transposition of a few other directives (Water Framework Directive (2000/60/EC), Urban Waste Water Treatment Directive (91/271/EEC), the Groundwater Directive (80/68/EEC), List One Substances Directive (86/280/EEC) and the Fish Water Directive (78/659/EEC)) is in an early stage, whilst for the remaining of the analysed directives within this sector the transposition has hardly started. It should be noted that this status on the legal transposition is based on the draft Law on Waters (version January 2006). The directives shaded grey are being repealed within the period 2007 – 2013, however, most of the legal obligations of these directives have been included in the newly (2006) updated Water Framework Directive (2000/60/EC). It is rather critical that the transposition of the directives within this sector is falling behind, as this sector is considered as a very important sector and is rather big and complex to implement. In particular it is of great importance to get the draft Law on Waters finalized and adopted and the required secondary legislation completed. The transposed legislation is of great importance and badly needed to secure an efficient and timely implementation of this sector.

The Classification, Packaging and Labelling of Dangerous Substances Directive (67/548/EEC), the Animal Experiments Directive (86/609/EEC), and the Asbestos Directive (87/217/EEC) in the Chemicals Sector are in the early stage of the transposition process, whilst the transposition of the remaining two analysed directives within this sector has hardly started. It should be noted that the

status on the legal transposition is based on the draft Law on Chemicals (version 2006). Furthermore, a new EU legislative framework policy REACH has lately been adopted and is entering into force on 1st of June 2007, replacing over 40 existing directives and regulations. At the time of the gap analysis, REACH was still in a draft version and the gap analyses were based on the EU legislation in force. However, the main obligations and requirements of the EU legislation in force at that time are basically adopted in REACH and are therefore still applicable. Future legal transposition efforts should of course be focused on the new REACH policy. The draft Law on Chemicals should be completed and adopted soonest possible and the required secondary legislation should be prepared and adopted in the near future to facilitate a timely and proper implementation of this sector.

The transposition of the two directives in the GMO Sector (Deliberate Release of GMO Directive (2001/18/EC) and Contained Use of GMMs Directive (90/219/EEC)) is in the early stage of transposition. It should be noted that the status on the legal transposition is based on the draft Law on GMOs (version February 2005). The draft Law on GMOs should be completed and adopted soonest possible and the required secondary legislation should be prepared and adopted in the near future to facilitate a timely and proper implementation of the sector.

In the Noise Sector the main directive, the Noise Framework Directive (2002/49/EC), is well advanced in the transposing process, whilst the transposition of the Motor Vehicles Directive (92/97/EEC) and the Outdoor Equipment Directive (2000/14/EC) has hardly started yet. It should be noted that the status on the legal transposition is based on the draft Law on Noise (version August 2006). The draft Law on Noise was lately adopted by the Government and the required secondary legislation should therefore be worked out and adopted in the near future to facilitate a timely and proper implementation of this sector.

In general, it is rather important that the legal transposition takes place soonest possible as the transposed EU legislation is needed to support and control the practical implementation of the EU environmental obligations and requirements. In the transposition process it is also important that the writing of the legislation is being adjusted with actual national requirements for the implementation of the EU environmental obligations and requirements. This has been taken into account when developing this strategy.

A brief description regarding the legal transposition of each sector are presented in the summaries of the Sector Approximation Strategies in Annex VI and more detailed description of the legal transposition of each analysed directive can be found in the Sector Approximation Strategies themselves and in particular in the Directive Specific Implementation Plans that were prepared for selected directives.

In addition, it should be mentioned that the following regulations and decisions still have to be adopted into the national legislation:

- Waste Shipment Regulation (EEC) 259/93;
- Ozone-Depleting Substances Regulation (EC) 2037/2000;
- Risk Assessment Regulation (EC) 793/93;
- Import and Export of Dangerous Chemicals Regulation (EC) 304/2003;
- European Pollutant Emission Register (EPER) Decision (2000/479/EC) / European Pollutant Release and Transfer Register (EPRTR) Regulation (EC) 166/2006;
- Eco-Label Award Scheme Regulation (EC) 1980/2000;
- Eco-Management and Audit Scheme (EMAS) Regulation (EC) 761/2001;
- Endangered Species Regulation (EC) 338/97;
- Leghold Traps Regulation (EEC) 3254/91;
- Monitoring of Forests Regulation (EC) 2152/2003.

These regulations and decision just have to be adopted before accession, but due considerations should be taken to enable time for a proper implementation of this mandatory EU legislation.

## 2.4 Current Implementation Status

In the process of developing the Sector Approximation Strategies for all the environmental sectors and the Directive Specific Implementation Plans for selected EU Directives, detailed gap analyses of the practical implementation (using Implementation Analyses (IA) forms) in terms of institutional, administrative, technical and quality assurance gaps were carried out in order to identify how far the Republic of Macedonia is with the implementation of the EU obligations and requirements. The results of the gap analyses and a detailed status of the practical implementation of each EU Directive, Regulation and Decision are presented in the relevant Sector Approximation Strategy or Directive Specific Implementation Plan. A summary of the results of the gap analyses are presented in Table 7, showing the current status of implementation and enforcement of the EU obligations and requirements in all ten environmental sectors. In the table, the requirements from the EU provisions have been compiled into eleven main groups of implementation obligations / requirements as follows:

- Identification of the Competent Authority/ies;
- Developing the policy / planning documents;
- Designation of the zones / agglomerations / protected areas, etc.;
- Establishment of the registration, permitting and licensing systems;
- Establishment of the monitoring mechanisms;
- Set-up of technical standards and quality assurance systems for data validation;
- Establishment of the effective inspection and enforcement systems;
- Establishment of the full cost recovery mechanisms;
- Establishment of a system for public and transboundary information and public consultation;
- Establishment of the data recording system and reporting procedures to EU Commission and public.
- Implementation and / or enforcement of the obligations / requirements has not / hardly started yet;
- Some implementation and / or enforcement of the obligations / requirements have taken place;
- Implementation and / or enforcement of the obligations / requirements is advanced;
- Implementation and / or enforcement have already been carried out.

The following four levels of implementation status are used in Table 7: The evaluation of the appropriate level of implementation was provided by the international and national senior experts based on the results of the gap analyses, site visits, meetings held with different stakeholders, and information found in the national strategic documents. Table 7 provides an easy overview of how advanced each sector is regarding implementation of the EU environmental legislation, which directives within each sector that is far and which are lacking behind with respect to the implementation, and finally for each directive which group of obligations / requirements that are advanced in the implementation process and which are lacking behind.

Table 7: Status of practical implementation (including enforcement)

| Sector | EU covered Directives (as amended) | Main groups of implementation obligations / requirements | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Identifying Competent Authority/ies | Developing policy / planning documents | Designating vulnerable zones / agglomerations / protected areas etc. | Establishing registration / licensing & permitting systems | Set up technical standards & QA systems for data validation | Establishing monitoring mechanisms | Establishing an effective inspection & enforcement systems | Establishing full cost recovery mechanisms | Establishing a system for public information & public consultation | Establishing a system for transboundary information and consultation | Establish data rec systems reporting public & |
| Waste Management | Waste Framework Directive (2006/12/EC) | | | N/A | | | | | | | N/A | |
| | Hazardous Waste Directive (91/689/EEC) | | | N/A | | | | | | | N/A | |
| | Landfill Directive (99/31/EC) | | | N/A | | | | | | | N/A | |
| | Packaging & Packaging Waste Directive (94/62/EC), | | | N/A | | | | | | | N/A | |
| | Waste Incineration Directive (2000/76/EC) | | | N/A | | | | | | | N/A | |
| | Batteries & Accumulators Directive (91/157/EEC) | | | N/A | | | | | | | N/A | |
| | WEEE Directive (2002/96/EC) | | | N/A | | | | | | | N/A | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Labelling of Batteries Directive (93/86/EC) | | | N/A | | | | | | | N/A | | |
| | Waste Oils Directive (75/439/EEC) | | | N/A | | | | | | | N/A | | |
| | PCB / PCT Directive (96/59/EC) | | | N/A | | | | | | | N/A | | |
| | End-of-life Vehicles Directive (2000/53/EC) | | | N/A | | | | | | | | | |
| | RoHS Directive (2002/95/EC) | | | | | | | | | | | | |
| | Waste Shipment Regulation (EEC 259/93) | | | | | | | | | | | | |

| Sector | EU covered Directives (as amended) | Main groups of implementation obligations / requirements | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Identifying Competent Authority/ies | Developing policy / planning documents | Designating vulnerable zones / agglomerations / protected areas etc. | Establishing registration / licensing & permitting systems | Set up technical standards & QA systems for data validation | Establishing monitoring mechanisms | Establishing an effective inspection & enforcement systems | Establishing full cost recovery mechanisms | Establishing a system for public information & public consultation | Establishing a system for transboundary information and consultation | Establishing a data recording systems & reporting to public & EU |
| | Waste from the Extractive Industries Directive (2006/21/EC) | | | | | | | | | | | |
| Air Quality | Ambient Air Quality Framework Directive (96/62/EC) | | | | N/A | | | | N/A | | | |
| | Limit Values for SO2, NO2, NOx, PM & Pb in Ambient Air Directive (99/30/EC) | | | | N/A | | | | N/A | | | |
| | Benzene and Carbon Monoxide Directive (2000/69/EC) | | | | N/A | | | | N/A | | | |
| | Ozone in Ambient Air Directive (2002/3/EC) | | | | N/A | | | | N/A | | | |
| | As, Ca, Hg, Ni & PAH in Ambient Air Directive (2004/107/EC) | | | | N/A | | | | N/A | | | |
| | National Emission Ceiling Directive (2001/81/EC) | | | | N/A | | | | N/A | | | |
| | Emission Trading Directive (2003/87/EC) | | | | | | | | N/A | | | |
| | Reduction in S Content of Certain Fuels Directive (1999/32/EC) | | | | N/A | | | | N/A | | N/A | N/A |
| | Consumer Information Directive (1999/94/EC) | | | | N/A | N/A | | | N/A | | | N/A |
| | Quality of Petrol and Diesel Fuels Directive (98/70/EC) | | | | N/A | | | | N/A | | | |
| Water | Water Framework | | | | | | | | | | | |

| | EU covered Directives (as amended) | Main groups of implementation obligations / requirements | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Identifying Competent Authority/ies | Developing policy / planning documents | Designating vulnerable zones / agglomerations / protected areas etc. | Establishing registration / licensing & permitting systems | Set up technical standards & QA systems for data validation | Establishing monitoring mechanisms | Establishing an effective inspection & enforcement systems | Establishing full cost recovery mechanisms | Establishing a system for public information & public consultation | Establishing a system for transboundary information and consultation | Establis a recordi systems reportir public & |
| Sector | Cadmium Discharges Directive (83/513/EEC) | | | | | | | | | | | |
| | Other Mercury Discharges Directive (84/15/EEC) | | | | | | | | | | | |
| | Hexachlorocyclohexane (HCH) Discharges Directive (84/491/EEC) | | | | | | | | | | | |
| | List One Substances Directive (86/280/EEC) | | | | | | | | | | | |
| | Fish Water Directive (78/659/EEC) | N/A | N/A | | | | | | | | | |
| | Shellfish Water Directive (79/923/EEC) | N/A | N/A | | | | | | | | | |
| Chemicals | Classification, Packaging & Labelling of Dangerous Substances Directive (67/548/EEC) | | N/A | N/A | | | | | N/A | | | |
| | Ozone-Depleting Substances Regulation (EC 2037/2000) | | | N/A | | N/A | | | N/A | N/A | | |
| | Animal Experiments Directive (86/609/EEC) | | N/A | N/A | | | | | N/A | N/A | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Asbestos Directive (87/217/EEC) | | | N/A | | | | | | N/A | | | |
| | Biocides Directive (98/8/EC) | | | N/A | | | | | | N/A | | | |
| GMO | Deliberate Release of GMOs Directive (2001/18/EC) | | | N/A | | | | | N/A | | | | |
| | Contained Use of GMOs Directive (98/81/EEC) | | | N/A | | | | | N/A | | | | |
| Horizontal legislation | Environmental Impact Assessment (EIA) Directive (85/337/EEC) | | | N/A | N/A | | | | N/A | | | | |
| | Strategic Environmental Assessment (SEA) Directive (2001/42/EC) | | | N/A | N/A | | | | N/A | | | | |
| | Access to Environmental Information Directive (2003/4/EC) | N/A | | N/A | N/A | N/A | N/A | N/A | N/A | | | | |
| | Public Participation Directive (2003/35/C) | N/A | | N/A | N/A | N/A | N/A | N/A | N/A | | | | |
| | Environmental Liability Directive (2004/35/EC) | | | N/A | N/A | N/A | | | | | | | |
| PollutionControl | IPPC Directive (96/61/EC) | | | N/A | | | | | N/A | | | | |
| | Large Combustion Plants Directive 2001/80/EC | | | N/A | | | | | N/A | | | | |
| | SEVESO Directive (96/82/EC) | | | (1) | | | | | N/A | | | | |

| Sector | EU covered | Main groups of implementation obligations / requirements |
|---|---|---|

| | Directives (as amended) | Identifying Competent Authority/ies | Developing policy / planning documents | Designating vulnerable zones / agglomerations / protected areas etc. | Establishing registration / licensing & permitting systems | Set up technical standards & QA systems for data validation | Establishing monitoring mechanisms | Establishing an effective inspection & enforcement systems | Establishing full cost recovery mechanisms | Establishing a system for public information & public consultation | Establishing a system for transboundary information and consultation | Establishing a data recording systems & reporting to public & EU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VOCs from Solvents Directive (1999/13/EC) | | | N/A | | | | | N/A | | | |
| | VOCs from Storage & Distribution of Petrol Directive (94/63/EC) | | | N/A | | | | | N/A | | | |
| | EPER Decision (2000/479/EC) / EPRTR Regulation (EC 166/2006) | | | N/A | N/A | | | | N/A | | | |
| | Eco-Label Award Scheme Regulation (EC 1980/2000) | | | N/A | | | | N/A | N/A | | N/A | |
| | EMAS Regulation (EC 761/2001) | | | N/A | | | | N/A | N/A | | N/A | |
| Nature Protection | Habitats Directive (92/43/EEC), | | | | | | | | | | | |
| | Wild Birds Directive (79/409/EEC) | | | | | | | | | | | |
| | Endangered Species Regulation (EC | | | N/A | | | | | | | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 338/97) | | | | | | | | | | | |
| | Monitoring of Forests Regulation (EC 2152/2003) | | | | N/A | | | | | | | |
| | ZOO Directive (1999/22/EC) | | | N/A | N/A | | | | | | | |
| | Leghold Traps Regulation (EEC 3254/91) | | | N/A | N/A | | | | | | | |
| Noise | Noise Framework Directive (2002/49/EC) | | | | | | | | N/A | | N/A | |
| | Motor Vehicles Directive (92/97/EEC) | | | N/A | | | | | N/A | | N/A | |
| | Outdoor Equipment Directive (2000/14/EC) | | | N/A | | | | | N/A | | | |

Legend:

| | |
|---|---|
| Implementation of the task has not been started yet | |
| Low level of implementation of the task | |
| Advance level of implementation of the task | |
| Implementation has been already done | |
| Obligation / requirement is not applicable for the EU Directive | N/A |

As can be seen from the table above, the implementation of the main EU requirements in the Republic of Macedonia is still at a low level and a lot of attention on the implementation and enforcement of the EU legislation will be needed in the coming years to fulfil the obligations and requirements of the said legislation within a reasonable time period (say less than 10 years).
The table also shows that implementation is progressing for various main groups of obligations / requirements for some of the main directives, as presented in the following:

. • Competent Authorities have been identified for the priority directives under the Waste Management Sector, Air Quality Sector, Horizontal Legislation Sector, IPC Sector and Noise Sector, whilst the Competent Authorities still need to be established mainly for directives in the Water Quality Sector, Chemicals Sector, GMO Sector and Nature Protection & Forestry Sectors;

. • Development of Policy and / or planning documents are relatively advanced for the most important directives in the Waste Management Sector, Air Quality Sector, Chemicals Sector, Horizontal Legislation Sector, IPC Sector, and Noise Sector, but are lacking for the main directives in the GMO Sector, Nature Protection & Forestry Sectors and Noise Sector;

. • Agglomerations / vulnerable zones / protected areas, etc. have been designated in accordance with the main directives in the Air Quality Sector and Noise Sector, and are mainly outstanding for the directives in the Water Quality Sector, Waste Management Sector and Nature Protection Sector;

. • Establishing of registration, licensing or permitting systems are most advanced in relation to the requirements of the directives in the IPC Sector, Nature Protection & Forestry Sectors and Noise Sector, and are mostly outstanding for the directives in the Waste Management Sector, Water Quality Sector, Chemicals Sector and GMO Sector;

. • Technical standards and / or Quality Assurance (QA) systems for data validation has mostly been set-up in relation to the directives in the Waste Management Sector, but are still lacking behind for directives in the Air Quality Sector, Water Quality Sector, Chemicals Sector, GMO Sector, Horizontal Legislation Sector, IPC Sector, Nature Protection Sector and Noise Sector;

. • Monitoring mechanisms have mostly been established in accordance with the main directives in the Air Quality Sector and Noise Sector, but are still to be further developed for the directives in the Waste Management Sector, Water Quality Sector, Chemicals Sector, GMO Sector, Horizontal Legislation Sector, IPC Sector and Nature Protection Sector;

. • Effective inspection and enforcement systems has mainly been established in relation to the main directives in the Air Quality Sector, Horizontal Legislation Sector and IPC Sector, but are only in the early phase for the directives in the Waste Management Sector, Water Quality Sector, Chemicals Sector, GMO Sector, the Noise Sector;

. • A full cost recovery system is still to be proper developed in accordance with the directives in the Waste Management Sector, Water Quality Sector and Nature Protection Sector;

. • A system for public information and public consultation has mostly been established in accordance with the main directives in the Air Quality Sector, Horizontal

Legislation Sector and IPC Sector, but are still to be established for directives in the Waste Management Sector, Water Quality Sector, GMO Sector, Nature Protection Sector and Noise Sector;

. • A system for transboundary information and consultation has mostly been established in accordance with the main directives within the Chemicals Sector, Horizontal Legislation Sector and IPC Sector, whilst it still needs to be proper developed as required in the main directives within the Air Quality Sector, Water Quality Sector, GMO Sector, IPC Sector, Nature Protection Sector and Noise Sector;

. • Data recording systems and reporting to public and EU Commission have mostly been established in accordance with the main directives in Air Quality

Sector, Chemicals Sector and IPC Sector, whilst it is in the early phase for the directives in the Waste Management Sector, Water Quality Sector, GMO Sector, Horizontal Legislation Sector, Nature Protection Sector and Noise Sector.

Looking at the sectors, it can be seen that the most advanced sector with respect to implementation of the EU environmental legislation is the Horizontal Legislation Sector, Air Quality Sector and IPC Sector, which all can be considered to be at a fair level of implementation, but still not very advanced. It should be mentioned that the implementation of the Horizontal Legislation Sector is particular important as the directives within this sector are important tools to be used in the implementation of many of the directives in the other environmental sectors. The Air Quality Sector and IPC Sector, which are very closely related, are big and technical complex sectors that require relatively big efforts (technical as well as financial) to implement. Therefore, there is still a long way to go before the EU requirements of these two sectors are fulfilled.

Another group of sectors, consisting of the Waste Management Sector, Chemicals Sector and Noise Sector, are considered to be at a low level of implementation. The Waste Management Sector is a very big sector that requires a lot of technical and financial input to reach the implementation level that the EU legislation requires. It is therefore worrying that the level of implementation of this sector is low and special attention should be given to improve the implementation of this sector. The two other sectors within this group are much less demanding, technical as well as financially, which however does not mean that the implementation of these two sectors should be neglected.

The last group of sectors regarding the implementation of the EU legislation are the less advanced sectors consisting of the Water Quality Sector, Nature Protection & Forestry Sectors and GMO Sector, which all must be said to be at a very low level of implementation. The Water Quality Sector and to a certain degree also the Nature Protection Sector are sectors that requires a lot of technical as well as financial input to reach the implementation level as required by the EU legislation. It is therefore of big concern that the implementation is at such a low level and it is therefore necessary to give the implementation of these two sectors a lot of attention as they for the time being is the limiting factor for the Republic of Macedonia to obtain EU membership in the near future. The last sector (GMO) within this group is a relatively small sector with respect to implementation, but it still needs attention due to the current very low level of implementation, however, without its being critical (bottleneck) at present.

Looking at the Horizontal Legislation Sector alone, the Environmental Impact Assessment (EIA) Directive (85/337/EEC) is relatively advanced with respect to implementation. Also the Strategic Environmental Assessment (SEA) Directive (2001/42/EC), the Access to Environmental Information Directive (2003/4/EC) and the Public Participation Directive (2003/35/C) are advanced in implementation. Only the Environmental Liability Directive (2004/35/EC) has a low level of implementation within this sector. These directives are all important due to their horizontal nature and the implementation of these directives should therefore be given special

attention.

The Ambient Air Quality Framework Directive (96/62/EC) in the Air Quality Sector is relatively advanced in the implementation process. A little less advanced is a group of five directives consisting of the Limit Values for SO2, NO2, NOx, PM & Pb in Ambient Air Directive (99/30/EC), the Benzene and Carbon Monoxide Directive (2000/69/EC), the Ozone in Ambient Air Directive (2002/3/EC), the As, Ca, Hg, Ni and PAH in Ambient Air Directive (2004/107/EC) and the National Emission Ceiling Directive (2001/81/EC). Not very advanced in the implementation process is a another group of four directives consisting of the Emission Trading Directive (2003/87/EC), the Reduction in Sulphur Content of Certain Liquid Fuels Directive (1999/32/EC), the Consumer Information Directive (1999/94/EC) and the Quality of Petrol and Diesel Fuels Directive (98/70/EC). The most important of these directives are the ones most advanced in implementation, however, more attention should be given to the Reduction in Sulphur Content of Certain Liquid Fuels Directive (1999/32/EC) and the Quality of Petrol and Diesel Fuels Directive (98/70/EC).

The implementation of the directives in the Industrial Pollution Control (IPC) Sector can also be divided up in three levels. The first group consisting of the IPPC Directive (96/61/EC) and the Large Combustion Plants Directive 2001/80/EC is relatively advanced with respect to implementation. Not so advanced in the implementation process are the EPER Decision (2000/479/EC) / EPRTR Regulation (EC) 166/2006 and the Eco-Label Regulation 1980/2000, whilst the SEVESO Directive (96/82/EC), the VOCs from Solvents Directive (1999/13/EC), the VOCs from Storage and Distribution of Petrol Directive (94/63/EC) and the EMAS Regulation (EC) 761/2001 is hardly implemented at all. The two main directives within this sector are also the two most advanced with respect to implementation, but also the directives dealing with volatile organic compounds (VOCs) are important to get implemented and these directives (the VOCs from Solvents Directive (1999/13/EC) and the VOCs from Storage and Distribution of Petrol Directive (94/63/EC)) will have to be given more attention.

For about half of the analysed directives in the Waste Management Sector the level of implementation is relatively low. These directives are the Waste Framework Directive (2006/12/EC), the Hazardous Waste Directive (91/689/EEC), the Landfill Directive (99/31/EC), the Batteries and Accumulators Directive (91/157/EEC), the Waste Oils Directive (75/439/EEC) and the PCB/PCT Directive (96/59/EC). Hardly implemented are the Packaging and Packaging Waste Directive (94/62/EC), the Waste Incineration Directive (2000/76/EC), the WEEE Directive (2002/96/EC) and the End-of-life Vehicles Directive (2000/53/EC). For four directives, namely the Labelling of Batteries Directive (93/86/EC), the RoHS Directive (2002/95/EC), the Waste Shipment Regulation (EEC 259/93) and the Waste from the Extractive Industries Directive (2006/21/EC), the implementation has not started yet. It is of course very important that the implementation of the Waste Framework Directive (2006/12/EC) will get full attention (due to its status as framework directive). Likewise it is of high importance that the implementation of the Hazardous Waste Directive (91/689/EEC) and the Landfill Directive (99/31/EC) will get much more attention. Also the implementation of most of the other directives within this sector need to be considerably improved if an EU membership shall be obtained within a reasonable number of years.

The Ozone-Depleting Substances Regulation (EC 2037/2000) in the Chemicals Sector is well advanced with respect to implementation. However, the remaining analysed directives within this sector have not started yet, except for the implementation of the Classification, Packaging and Labelling of Dangerous Substances Directive (67/548/EEC), the implementation of which has just started. The implementation of the obligations and requirements of this sector will have to be adjusted to the new REACH policy just lately adopted into the EU environmental legislation. The implementation of the legislation within this sector is not that demanding as it is in many other

environmental sectors, but it still need some attention not to be left behind and become an obstacle for the EU membership.

The implementation of the Noise Framework Directive (2002/49/EC) in the Noise Sector is still in the early stage, whilst the level of implementation of the Motor Vehicles Directive (92/97/EEC) is low and the implementation of the Outdoor Equipment Directive (2000/14/EC) has hardly started. The implementation of the noise legislation is not that demanding either, but also this sector need some attention regarding implementation to avoid becoming a bottleneck for the EU membership.

The only directive within the Water Quality Sector that is advanced in the implementation process is the Drinking Water Directive (98/83/EC). The Bathing Water Directive (2006/7/EC) has a low level of implementation, whilst the level of implementation of the Water Framework Directive (2000/60/EC), the Urban Waste Water Treatment Directive (91/271/EEC), the Surface Water for Abstraction Directive (75/440/EEC), the Dangerous Substances to Water Discharges Directive (76/464/EEC), the Measurement of Drinking Water Directive (79/869/EEC), the Groundwater Directive (80/68/EEC), and the List One Substances Directive (86/280/EEC) is very low. The implementation of the remaining 8 analysed directives within the sector has not started yet. It is of major concern that the implementation of this sector is left behind, as the implementation of this sector is of utmost importance in relation to the desire of obtaining an EU membership. It is therefore of utmost importance that the legislation of this sector soonest possible will be given full attention. In particular, it is important that the implementation of the Water Framework Directive (2000/60 /EC), the Drinking Water Directive (98/83/EC) and the Urban Waste Water Treatment Directive (91/271/EEC) will get highest priority, but also the implementation of many of the other directives are of great importance. It should be noted that the directives shaded grey are being repealed within the period 2007 – 2013, however, most of the obligations and requirements of these directives have been included in the newly (2006) updated Water Framework Directive (2000/60/EC).

A brief description regarding the implementation and enforcement of each sector are presented in the summaries of the Sector Approximation Strategies in Annex VI and more detailed descriptions of the implementation and enforcement of each analysed directive can be found in the Sector Approximation Strategies themselves and in particular in the Directive Specific Implementation Plans prepared for some selected directives (refer Sub-Chapter 1.5).

## 2.5 Current Investment Status

Generally speaking, the Republic of Macedonia is still in a very early stage of the approximation process at present. Some progress has been made in transposing EU legislation into national law, there have been a number of capacity-building and technical assistance projects in recent years, plans have been made to increase the human resources available for environmental management to enable the implementation of the EU law. Overall there has not yet been a great deal of investment in concrete environmental management infrastructure except in the Water Quality Sector and to a lesser extent the Air Quality Sector.

A useful source of data in determining the amount of aid which the country has been receiving in recent years is the Central Donor Assistance Database, maintained by the Sector for European integration, which contains records of recent donor-funded projects carried out or ongoing in country. The database contains details of 185 projects in the environment sector. Although the start dates of the projects listed go back as far as 1995,

the database was not proper set up until 2003, and it is clearly incomplete in the early years. An analysis has been made of all environmental projects with a start date in calendar years from 2001 to 2006. Projects with a total value of about €160 million are listed for this period, which breaks down as follows:

Table 8: Value of environmental aid projects in the period 2001 - 2006

| Category | Amount (€ million) | | | Remarks |
|---|---|---|---|---|
| | EU | Non-EU and IFI | Total | |
| *Capital investments and equipment procurement* | | | | |
| Water quality and sanitation | 24.5 | 77.0 | 101.5 | Non-EU aid includes loan finance of €37 million. All other figures relate to grant aid |
| Air quality | 1.4 | - | 1.4 | |
| Other | 0.1 | - | 0.1 | |
| *Total capital investments* | *26.0* | *77.0* | *103.0* | Non-EU aid includes loan finance of €37 million. All other figures relate to grant aid |
| *Technical assistance* | | | | |
| Water quality | 2.9 | 15.2 | 18.1 | |
| Waste management | 1.3 | 1.4 | 2.7 | |
| Nature protection | 0.6 | 3.5 | 4.1 | |
| Air quality | - | 0.9 | 0.9 | |
| Substances | - | 0.1 | 0.1 | |
| Non-specific and other | 7.9 | 22.5 | 30.4 | |
| *Total technical assistance* | *12.7* | *43.6* | *56.3* | |
| **TOTAL AID** | **38.7** | **120.6** | **159.3** | |

Three attributes are distinguished in the above table, i.e.:

. • grant or loan funding: all amounts shown are grant aid except for a credit line made available by the EBRD of €37 million for the construction or upgrading of sanitation systems;

. • capital expenditure or (predominantly) technical assistance (in some cases this distinction is not easy to make);

. • EU or other sources.

The EU component is separated out because its evolution in future will be different from that of funding from other sources. Of the total aid, nearly two-thirds was for capital investment or the procurement of equipment, and the great majority of this was spent on water quality and sanitation. An amount of €56 million was spent on technical assistance in the environmental sector over this 6-year period, of which about 12.7 million from the EU. Of this, the largest part was not specific to any single environmental sector, although again the Water Quality Sector was favoured by donors in the case of sectoral projects.

In compiling the list of the actions required for a full approximation, the present situation was taken as the baseline, that is, actions already completed and costs already sustained have been excluded. This means that an estimate of the investment for approximation already carried out is not needed to calculate the further costs of approximation.
The invest position in the various sectors is summarised in the table below.

Table 9: Current investment status for the various environmental sectors

| Sector | Current investment status |
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|---|---|
| Horizontal Legislation | •By its nature, EU horizontal sector legislation is largely procedural, and does not require investment in plant or equipment (with the exception of the Environmental Liability Directive). •There are currently two people in the MoEPP who are trained and available to support EIA procedures and to implement the EIA Directive. There are a further two employees in the Public Relations Office of MoEPP who are directly involved in public participation procedures, but these persons cover all aspects of public consultation and participation, not just those relating to EIA. •Since the adoption of the Law on Environment in 2005, only three EIAs have been conducted. |
| Air Quality | •There has been significant investment in the air sector in the last decade, although this has mainly been in the areas of legal transposition, technical assistance and monitoring systems. •There are about 3 employees who work on air pollution amongst other activities. Until recently there was no work on air quality management as such, and the work concentrated on air quality monitoring. More recently donor-funded projects have begun to prepare the way for a more active air quality management within the Ministry. Monitored air quality data are published on the Internet. The present staff is heavily committed to existing activities, and are not able at present to take on the additional obligations implied by the air sector directives. •There have been a number of major recent projects in the air sector (e.g. Finnish funded Twinning project on Air Quality Improvement), which have upgraded air monitoring systems, set standards for emissions and air quality, improved emissions monitoring, sought to improve quality control in the relevant laboratories, etc. •There is a total of 15 automatic monitoring stations connected to a central data acquisition system, and a calibration laboratory (including 1 mobile station). •There are a number of adequately equipped laboratories at present, but they are in need of properly documented quality control procedures and staff training. |
| Waste Management | •Implementing EU waste legislation will require very major investment. Almost none of this investment has yet been committed. Implementing the EU legislation will mean that the Local Self-Government Units (LSGUs) will be involved in activities such as raising significant capital sums, tendering for construction projects, the provision of a range of waste management services, financial management, negotiating with private sector service-providers, devising effective cost recovery charging systems, etc. Much capacity-building remains to be done to ensure that the LSGUs can carry out these functions and provide sound and responsible financial management which meets recognised international standards. |
| Water Quality | •The water sector is the second most expensive of the nine environmental sectors in terms of implementation costs. •Significant investment has taken place in recent years to upgrade the water sector. Donor funding amounting to approximately €120 million has been allocated for water and sanitation projects. Indeed this represents some 80% of the total donor funding estimated to have been made available for environmental projects in country. Water has been a priority sector for donors. •Some of the investment, particularly in relation to wastewater treatment plants, has been less effective than it might have been, because operators have been unwilling or unable to meet the maintenance costs. •A large amount of further investment will be required to fully approximate the EU water legislation. •The provision of municipal water and sanitation services will be a matter for the City of Skopje and the municipalities. Implementing EU legislation will mean that these LSGUs will or may be involved in the provision of water and sanitation services, raising capital, tendering for construction projects, financial management, negotiating with private sector service-providers, devising effective cost recovery charging systems, etc. Much will need to be done to ensure that the LSGUs have the capacity to carry out these tasks and the sound and responsible financial management skills needed. |

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| Nature Protection | •To date there has been only limited investment in the nature sector. •At present there are only two people within the MoEPP who work (part-time) on nature protection and conservation issues. •In recent years there have been 8 Technical Assistance projects, worth over €8 million, designed at capacity building in the sector, and at the protection of specific species and habitats. •The national network of protected areas includes three national parks, run by the National Parks Administration. These Parks have the personnel required to manage them, and are financially autonomous, their costs being defrayed by revenues raised by the Parks. There is very little funding or active management of the other protected areas. |
| Industrial Pollution Control (IPC) | •This is the most investment-heavy of all the sectors. •The great majority of the required investment still remains to be made. •A small unit within MoEPP comprising three persons has started working on IPPC permitting. Applications have been received from a number of companies. •A number of technical assistance projects have been carried out (refer Sub-Chapter 4.3) which have carried out preparatory steps for the establishment of IPPC permitting, including supporting the preparation of IPPC applications, preparing guidance documents for industry, supporting the preparation of secondary legislation, etc. •The resources required for inspection and quality control systems in laboratories are well short of the required levels. •The investment programmes needed to ensure that companies comply with best available technology have barely started yet. |
| GMO | •Little has as yet been invested in the creation of a regulatory, organisational or procedural system for addressing GMOs. There are no persons in the MoEPP with exclusive responsibility for GMOs. •An initial report reflecting the current status of biotechnology and a strategy for establishing a biosafety system in the country have been drawn up under the auspices of a UNEP/GEF project, but not progress has been made with implementation. |
| Chemicals | •Investment in the EU legislation on chemicals has not yet started in earnest except for the Ozone-Depleting Substances Directive. There is presently an Ozone and POPs Unit within Ministry of Environment and Physical Planning which is preparing and implementing the country's response to ozone-depleting substances funded by the Multilateral Fund of the Montreal Protocol, through UNIDO, and employs 6 people. The Multilateral Fund has also funded a number of initiatives related to ODS, including the drafting of a refrigerant management plan and a project for the phasing out of methyl bromide as a fumigant in the agriculture sector. •The Swedish development cooperation agency SIDA has been considering funding a technical assistance project in this sector for some time. Designed as a twinning project (worth approximately €2 million), the project would have involved cooperation between the Swedish Chemicals Inspectorate and the competent Authorities, and includes many capacity-building activities necessary for the Implementation of legislation on chemicals. However it appears that this project may be in jeopardy now that it has been decided that the Competent Authority will be the Ministry of Health (Drugs Agency). |

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| Noise | •There are no personnel fully dedicated to noise matters within the Ministry of Environment and Physical Planning or the city of Skopje in the manner required. There is only one person within the EIC and in the City of Skopje covering all media, including noise. •The Central Laboratory within Ministry of Environment and Physical Planning has state-of-the-art equipment for measuring incident noise levels, and this equipment is used to make regular measurements of noise levels at various locations in Skopje and elsewhere. There are also several universities and commercial laboratories with noise measuring equipment. •There is a GIS system within Ministry of Environment and Physical Planning whose task it is to provide relevant geographic information for policy purposes. However most of the existing hardware and software in the GIS Service is outdated or needs up-date and up-grade configurations and new software solutions. There has been no maintenance agreement for the software or hardware, for some time. In many cases the hardware cannot be upgraded due to obsolescence. A similar situation applies with regards to software. |

# 3. PRIORITIES FOR TRANSPOSITION

## 3.1 Requirements for Transposition

The environmental approximation process involves three elements: transposition of the EU environmental legislation, implementation of the obligations and requirements of the legal provisions, and effective enforcement. These three elements might seem to be independent on one another, but are in fact on the contra nary very dependent on one another. An effective legal transposition of the EU environmental legislation will require that properly consideration are taken to national implementation and enforcement practices, national conditions, and provide for an realistic and effective implementation and enforcement.

The EU environmental legislation to be transposed consists of regulations, directives, decisions, recommendations and opinions. These are independent legal instruments in the European Community Law, with no connection to national legal instruments. Individual legal acts (with the exception of recommendations and opinions, which have no binding force) must be based on actual provisions of the Treaty. In many cases the European Community Treaty lays down the possible form of legal action and leave the Member State no choice thereof. In other cases, however, no specific type of legal action is stipulated and thereby the choice of form of action is left to the discretion of the Member State concerned. This is intended to allow the Competent Authorities to fulfil the tasks set for them in a proper and appropriate manner. In exercising discretion, however, due account must be taken of the principles of proportionality and subsidiarity.

Regulations have general application, are binding in their entirety and are directly applicable in all Member States. As ‘European Community Laws', regulations must be complied with fully to each Member State to whom they are addressed. Regulations apply directly in all the Member States without requiring a national act to transpose them, on the basis of their publication in the Official Journal of the European Community. Regulations serve to ensure the uniform application of European Community Law in all the Member States. At the same time, they prevent the application of national rules the substance of which is incompatible with their own regulatory purpose. National laws, regulations and administrative provisions are permissible only in so far as they are provided for in regulations or are otherwise necessary for their effective implementation. National implementing provisions may not amend or amplify the scope and effectiveness of regulations.

Directives are binding, as to the result to be achieved, upon each Member State to whom they are addressed. However, the national authorities are left the choice of form and methods to achieve their objectives. In order to ensure that the objectives laid down in directives become applicable to individual citizens, an act of transposition by national legislators is required, whereby national law is adapted to the objectives laid down in directives. Since the Member States are only bound by the objectives laid down in directives, they have some discretion, in transposing them into national law, in taking account of specific national circumstances. In transposing directives, the Member States must select the national forms which are best suited to ensure the effectiveness of EU law. Directives must be transposed in the form of binding national legislation which fulfils the requirements of legal security and legal clarity and establishes an actionable legal position for individuals. Legislation which has been adapted to EC directives may not subsequently be amended contrary to the objectives of those directives.

Decisions are binding in their entirety upon those to whom they are addressed. Decisions serve to regulate actual circumstances vis-à-vis specific entities addressed thereby. Decisions may be directly applicable under the same preconditions as the provisions of directives.

The EU has partial international personality and may therefore, within the sphere of its competence, conclude international treaties with other States or international organisations. International treaties concluded by the EU are binding on the Community and the Member States and are an integral part of EU law.

## 3.2 Strategy to Achieve Full Transposition

When defining the strategy to achieve full transposition, it is important that there is continuity with the present national achievements towards the transposition of the EU environmental legislation into the national legal framework according the priorities given into the National Programme for Adoption of the Acquis (NPAA) on short-term and medium-term periods. It is also important the strategy is taken into account the required support for the planned implementation process.

In general, the existing as well as draft national environmental legislation need to be amended and secondary legislation need to be prepared and adopted to complete the legal transposition. Amendments will enable at first to introduce obligations in the Laws that are not yet fully in line with the EU directives and need according to the national nomenclature to be included in the primary legislation. Definitions, allocation of responsibilities, main principles and general obligations are best fitted in the primary legislation. At second, appropriate legal basis should be included in the national environmental legislation that will enable the adoption of secondary legislation. It is suggested that annexes found in the EU legislation as well as detailed procedures are provided through secondary legislation. Due account should be taken to avoid conflicts or overlaps with other existing legislation.

One option to consider in each case is whether a secondary legal act should remain as Rulebook (approved by the Ministry of Environment of Physical Planning or jointly with other ministries) or should be issued as a Decree adopted by the Government. The advantage of a Decree is the involvement and approval of the Government could make the funding and implementation easier as well as the better coordination with other ministries and integration of environmental concerns into policy making. The Rulebook or Ordinance is the more appropriate legal act for regulating technical issues, but on the other hand the Decree would be more useful for matters that concern the interests and constituencies of multiple ministries.

The Horizontal Legislation Sector has wide implications to the other sectors within the environment. In this respect this sector requires special attention as regards the timing of transposition, and it is important that priority is given to the completion of transposition of the directives within the Horizontal Legislation Sector. One of the short term priorities is the amendment of the Law on Environment, which will firstly introduce obligations in the Law that are not yet fully in line with the directives and need to be included in the primary legislation. Secondly, appropriate legal basis should be included in the Law on Environment that will enable legal basis for the adoption of secondary legislation. On the basis of the National Programme for the Approximation of Legislation, the Environmental Impact Assessment (EIA) Directive (85/337/EEC), Strategic Environmental Assessment (SEA) Directive (2001/42/EC), Access to Environmental Information Directive (2003/4/EC) and Public Participation and Access to Justice

Directive (2003/35/EC) are given a high priority. Transposition of the Environmental Liability Directive (2004/35/EC) is a medium priority as the process needs to further examine the repercussions in the traditional "civil" and "penal" legal framework. The SEA Directive (2001/42/EC) has been given the highest priority for transposition, in accordance with the priorities set out in the National Programme for Adoption of the Acquis Communautaire (NPAA). Full implementation of this Directive requires adoption of a by-law, which also has been envisaged in the Programme for Approximation of the National Legislation and is likewise one of the priority measures under the European Partnership Action Plan.

For achieving full transposition of the directives covered by the Air Quality Sector, amendments in the existing Law on Ambient Air Quality have to be conducted. The strategy for the Air Quality Sector focuses first on amending the current Law on Ambient Air Quality. This is a short term priority and cover also actions related to climate change issues. In this direction an amendment of the Law on Environment is envisaged to introduce provisions dealing with Clean Development Mechanisms. Rulebooks will be issued that will finalise the transposition of the Ambient Air Quality Framework Directive (96/62/EC) and the first and second daughter directives (1999/30/EC and 2000/69/EC). As regards the implementation of the Montreal Protocol, it is foreseen to prepare a Rulebook on Ozone Depleting Substance Management. As regards the EMEP Protocol, the Ministry of Environment and Physical Planning has proclaimed their intention to ratify it. In the short-term priorities are also planned adoption of the National Plan for Ambient Air Protection, Ratification of the Protocols to the Convention for Long Range Transboundary Air Pollution, and adoption of secondary legislation in the form of Rulebooks to deal with monitoring and reporting issues on ambient air quality, the form and content of a national plan for ambient air protection and emission limit values from mobile sources. As regards issues falling under climate change and on the basis of the Law on Environment, secondary legislation is expected to be adopted in the form of a Rulebook to deal with the Methodology For Detailed Content and Manner of Developing the National Plan for Mitigation of Climate Change, and a Rulebook on the Conditions, Manner and Procedure for Developing the National Inventory of Anthropogenic Emissions Against Sources and Sinks of Greenhouse Gasses, and to regulate greenhouse gasses emission trading schemes. As regards the Pollutant Release and Transfer Registers (PRTRs) Protocol, it's ratification is pending (among others) the establishment of a special unit for keeping registers and cadastres, after familiarizing the public and the competent institutions involved in the implementation of the Protocol about their role in the implementation.

The EU Chemical Sector has lately undergone a catalytic change with the adoption of the REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Regulation (EC 1907/2006). In the light of the adoption of REACH it is recommended to adjust the current draft Law on Chemicals to REACH. Changes in the draft Law on Chemicals will be needed in the areas of evaluation, classification and labelling of chemicals, and the reverse burden of proof that lies with the producer will have to be taken into account (refer the Sector Approximation Strategy for Chemical for further information on the REACH). As the Republic of Macedonia is not a primary producer of chemicals but its industry falls in the class of downstream users, the effects of the implementation of REACH should be carefully assessed before adoption of legislation. Furthermore, it is important to provide the relevant institutions the necessary adjustment time period, training and awareness. In the short term priorities falls the adoption of the Law on Chemicals that will provide the basis for the further transposition of the chemicals legislation. In the Law will be accommodated issues that need to be included in the primary legislation.

As there is no current legal framework at present to regulate and transpose the Directive on Deliberate Release of GMOs (2001/18/EC) and the Directive on the Contained Use of GMMs

(90/219/EEC) in the GMO Sector, the first priority is to make amendments to the current draft Law on GMOs and adopt it. This Law will enable partial transposition of the said directives. As a second priority, appropriate legal basis should be included in the Law on GMOs that will enable the adoption of secondary legislation. The preparation of secondary legislation on the appropriate legal basis provided by the Law will be a third priority.

The transposition of the directives in the Industrial Pollution Control (IPC) Sector requires a proper evaluation of the current national situation to take the technical and economic situation of the affected industries into account. This process has started with the IPPC Decree (Official Gazette no. 89/2005) that was adopted and determines the activities of installations that require Integrated Environmental Permit or Adjustment with Adjustment Plan Permit and time table for submission of application for the latter type of permit. The Law on Environment is considered as the appropriate legal instrument to complete transposition with the adoption of secondary legislation. It seems that one legal act can best integrate the obligations of all those directives where connections in procedures are found. Secondary legislation can accommodate more technical and detailed obligations that could also be easily amended. In the short term an amendment of the current Law on Environment is needed to enable adjustments to be made for the IPPC Directive (96/61/EC) and the SEVESO Directive (96/82/EC). Regarding the latter Directive, the process of preparation and adoption of secondary legislation will be main activity where technical and details issues such as the content of internal and external emergency plans, procedures for their approval, limit values and criteria applied to classify a substance as dangerous will be regulated. Furthermore, a Decree on the amount of the compensation to be paid by operators of A-IPPC installations and on the criteria and the manner of determining and calculating the compensation for B-IPPC installations will complete the legal framework dealing with the issuance of integrated environmental permits. Regarding the VOCs from Solvents Directive (1999/13/EC), changes and amendments to the Law on Ambient Air Quality and preparation of Rulebooks will be the main tasks to be carried out.

In the Nature Protection Sector, the transposition of the Habitats Directive (92/43/EEC) is a priority as it sets out a comprehensive network of protected areas. The Wild Birds Directive (79/409/EEC) is interconnected and should also be a priority. For achieving full transposition of these two directives amendments in the existing Law on Nature Protection and Hunting Law have to be conducted. At second, appropriate legal basis should be included in the two respective Laws that will enable the adoption of secondary legislation. The actions to be taken for transposing the Wild Birds Directive (79/409/EEC) will require consultations to be carried out between the two responsible Ministries (the Ministry of Environment and Physical Planning and the Ministry of Agriculture, Forestry and Water Economy). A link between the two laws in order to be coherent must be provided and a thorough legal review will need to be undertaken for both Laws in order to avoid duplications that might jeopardise the legal certainty. As regards the issuance of secondary legislation it is proposed that preparation and adoption will comprise both the above mentioned ministries. Short-term priorities are to amend the Law on Nature Protection and harmonise it with the Law on Misdemeanour in order to introduce direct charges along with the Law on Hunting. In addition, as the Republic of Macedonian has ratified the CITES Convention, a proper legal framework to enable its implementation should be adopted. Currently a Decree on trade of wild species has been drafted but not adopted, as there is need for a better legal basis to be included in the Law on Nature Protection. The adoption of this Decree will enable a better alignment with the provisions of the CITES Convention and enable its proper implementation. Medium-term priorities are the adoption of secondary legislation for the two directives which will enable full transposition as well as an amendment of the Law on Forest, which will enable a proper implementation of the Monitoring of Forest Regulation (EC) 2152/2003.

In the Noise Sector, the decision on the preferred institutional approach for noise approximation

will have to be decided before the final adoption of the Law on Environmental Noise and after consultations with other Ministries. There is a need to close liaise all those responsible actors during the preparation of the Law on Environmental Noise and the subsequent legislation. The legal framework within the Noise Sector should also comprise guidelines for national certification of conformity, for noise emission labelling programmes as well as test procedures. Identification of certified institutions for performing tests for noise certification for type approval is also an essential component for the approximation. Among the important short-term priorities is of course the final adoption of the draft Law on Environmental Noise. In addition, voluntary standards developed either by the International Organisation for Standardisation (ISO) or standards adopted by the European Standardisation Organisation have to be given specific attention as they may be adopted by the EU as the technical basis for directives or regulations. It may be chosen to make reference to standards in the laws, thereby making them legally binding, and both national and international standards can be referred to in the national law. According to the NPAA II, the short term priorities will comprise the adoption of the Law on Environmental Noise and the enactment of secondary legislation that will deal with the transposition of the Assessment and Management of Environmental Noise Directive (2002/49/EC). Secondly, appropriate legal basis should be included in the draft Law on Environmental Noise that will enable the adoption of secondary legislation. The medium term priorities consist of the continuation of adoption of secondary legislation to enable the full transposition of both the Assessment and Management of Environmental Noise Directive (2002/49/EC) and the Outdoor Equipment Directive (2000/14/EC).

Within the short-term priorities for the Waste Management Sector stated in the NPAA is the need to provide for changes and amendments to the Waste Management Law and to enact by-laws. According to the NPAA, twenty-two legal acts of secondary legislation will be prepared in order to ensure full transposition in this sector. Consideration should be given to providing a legal framework allowing for amendments to legislation, and where necessary to environmental permits, in order to ensure easier and swifter implementation into national law of the EU Law obligations and compliance thereafter. In the short term priorities of the NPAA, is also a programme dealing with illegal dumps to be adopted by the Government. In order to implement the Law on Waste Management, the National Waste Management Strategy will be adopted and thereafter the National Waste Management Plan. The foreseen secondary legislation covers a wide range of Rulebooks dealing with waste issues in general, hazardous waste management, waste oil management, PCB/PCTs management, landfills, and waste types for which import or export is needed. Medium term priorities of the NPAA cover actions that will enable transposition of several waste stream directives such as the ones addressing packaging and packaging waste, waste of electrical and electronic equipment, batteries and accumulators, motor vehicles and waste incineration. As regards the transposition of Waste Incineration Directive (2000/76/EC), a decision should be taken on the use of legal basis to be used for transposing air emission limit values and wastewater discharges (the legal basis in the Law on Waste Management for the chosen type of Rulebook should be amended). Amendment of the Law on Waste management will harmonise provisions found in the Law on Misdemeanour in order to introduce direct charges. The implementation of obligations arising from the Basel Convention will be supported by the established Waste Unit in the Ministry of Environment and Physical Planning.

In order to proceed with the transposition of the directives in the Water Quality Sector, the adoption of the draft Law on Waters is essential. This Law should be clearly setting out the legal framework, the principles for water management, and responsibilities of Competent Authorities. In addition this Law can regulate other issues such as water quality objectives, emission control issues and monitoring and reporting obligations. It is recommended that monitoring and reporting obligations are comprised in the main Law on Waters (currently draft) and further details could be inserted in secondary legislation.

A distinction should be drawn between the provisions to be kept in the Law and the provisions to be included in subsidiary legislation (resolutions and decisions) because they contain details or describe procedures. As regards the Drinking Water Directive (98/83/EC) and the Surface Water for Abstraction Directive (75/440/EEC) it is recommended that the Law on Waters is not being used to regulate the production and distribution of water intended for human consumption. Public health legislation (and subsidiary legislation) that is already in place could deal with the transposition of those two directives. More particular, the Drinking Water Directive is according to the Ministry of Health already transposed via the Rulebook of Regulations on the Wholesomeness of Drinking Water. The same legal context applies to the Surface Water for Abstraction Directive (75/440/EC). The priority for transposition is to proceed in amendments of the draft Law (expected to be adopted during the course of 2007). At a second stage, secondary legislation is foreseen to be prepared and adopted in order to complete full transposition of the currently analyzed directives.

A more detailed description of the strategy for the legal transposition of each sector can be found in the respective Sector Approximation Strategies.

## 3.3 Actions Already in Place

A number of actions are already being implemented or will be implemented in the very near future. A brief description of these actions is provided in Table 10 below, sector by sector with the total planned implementation period for these actions. The actions are grouped into four main groups of action:

- •Changes and amendments to existing Laws;
- •Preparation, adoption of changes and amendments to draft legislation;
- •Changes and amendments to existing secondary legislation;
- •Preparation of new secondary legislation.

The actions cover the whole process of drafting, adoption and entering into force of the said legal acts (law or secondary legislation).

| Table 10: Legal transposition actions already in place Sector /Period | Legal Transposition Actions |
|---|---|
| HorizontalLegislation (2006-2008) | Changes and Amendments to existing Laws |
| | Changes and Amendments to the Laws on Environment |
| | Changes and amendments to the Law on Waste Management |
| | Changes and amendments to the Law on Ambient Air Quality |
| | Changes and amendments to the draft Law on Water |

| Sector /Period | Legal Transposition Actions |
|---|---|
| | Changes and amendments to the Law on Free Access to Information. (The MoEPP will use the MoF's Decree for determination of establishing a fee on expenses for providing information (Official Gazette no. 136/06 )) |

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| | Changes and Amendments to existing secondary legislation |
| | Rulebooks on the procedure for environment impact assessing and the content of necessary documents for EIA, as well as the procedure for transboundary impact assessing of the projects implemented in the Republic of Macedonia. |
| | Government Decision on identifying the projects and criteria on the basis of which the need for procedure for environment impact assessment is determined |
| | Rulebook on the content of requests which should be met by the study for assessing the project's impact on the environment |
| | Decree on the fee for providing access to environmental information, as well as on the exemptions from paying the fee |
| | Governmental Decision regarding a List of entities which posses or on which information regarding the environment are possessed, as well as information in possession of every of the given entities |
| | Preparation of new secondary legislation |
| | Decree on the fee for providing access to environmental information, as well as on the exemptions from paying the fee |
| | Governmental Decision regarding a List of entities which posses or on which information regarding the environment are possessed, as well as information in possession of every of the given entities |
| | Rulebook on the manner and procedure for providing access to environmental information |
| Air Quality (2006-2009) | Changes and Amendments to existing Laws |
| | Changes and amendments to the Law on Ambient Air Quality |
| | Preparation of new secondary legislation |
| | Rulebook on the Methodology and manner of Preliminary Assessment And Establishing List Of Zones and Agglomerations Of Ambient Air Quality |
| | Rulebook On Monitoring And Reporting On Ambient Air Quality |
| | Rulebook for monitoring emissions from stationary sources |
| | Rulebook on availability of consumer information on fuel economy and $CO_2$ emissions in respect of the marketing of mew passenger cars |
| | Guidelines on establishing a national methodology and emission inventory in accordance to CORINAIR |
| Chemicals (2006-2007) | Changes and Amendments to existing Laws |
| | Changes and amendments to the Law on Ambient Air Quality |
| | Changes and amendments to the Law on Waste Management |
| | Preparation, adoption of changes and amendments to draft legislation |
| | Amendments of the Draft Law on Chemicals |
| GMO (2006/2007) | Preparation, adoption of changes and amendments to draft legislation |
| | Amendment of the Draft Law on GMOs |

| Sector /Period | Legal Transposition Actions |
|---|---|
| Nature Proct. (2006-2007) | Changes and Amendments to existing Laws |
| | Changes and Amendments of the Law on Nature Protection |
| | Preparation of new secondary legislation |
| | Decree on Trade in Wild Species |
| Noise(2007) | Preparation, adoption of changes and amendments to draft legislation |
| | Amendments to the Draft Law on Noise/New Law on Noise (Official Gazette no.79/2007) |
| Industrial Pollution Control (2006-2008) | Changes and Amendments to existing Laws |
| | Changes and Amendments to the Laws on Environment |
| | Changes and amendments to the Law on Ambient Air Quality |
| | Changes and amendments to the Law on Courts |
| | Changes and Amendments to the Law on General Administrative Procedure |
| | Changes and Amendments to existing secondary legislation |
| | Rulebook on the procedure for issuing A integrated environmental permit |
| | Preparation of new secondary legislation |
| | Guidelines on Best Available Techniques for each sector |
| | Rulebook on emission limit values |
| | Decree on ELVs for Waters |
| | Rulebook on the contents of the security measures report |
| | Rulebook on emission limit values from stationary sources |
| | Rulebook on methods for measuring stationary sources emissions |
| Water Quality (2006-2010) | Preparation, adoption of changes and amendments to draft legislation |
| | Amendments of the Draft Law on Waters |
| | Preparation of new secondary legislation |
| | Decree on the List of pollutants and polluting substances, priority matters and substances, conditions for installing and operation of plants operating with hazardous matters and substances and the manner of their testing prior to their putting into operation |
| | Decree on minimum water quality standards and targets |
| | Rulebook on the methodology for assessment of river basins |
| | Rulebook on the methodology and parameters for measuring and monitoring of quality and quantity of all water bodies except those intended for bathing and drinking |
| | Rulebook on the detalied conditions for urban waste water collection, drainage and treatment, manner and conditions for designing, construction and exploitation of urban waste water treatment systems and plants, as well as technical standards, parameters, emission standards and norms on the quality of pre-treatment, rimoval and treatment od waste water, taking into account the load and method of treatment of urban waste water discharged in zones sensitive to urban waste water discharges |

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| | Rulebook on the content and the form of the permit for discharging waste water and other waste materialls in the waters |
| | Rulebook on the conditions, manner and emmission limit vlaues for waste water discharges after its treatment, taking into account the special requirements for protective zones protection |

| Sector /Period | Legal Transposition Actions |
|---|---|
| | Rulebook on the methodology, manner and parameters for waste water monitoring |
| | Decree on providing public participation and access to information |
| | Government Decree on the contents, manner and procedure for informing the public |
| | Rulebook on dangerous matters and their emission standards |
| | Decree on water classification and categorization of surface and ground water bodies and their purpose |
| | List of polluting matters and substances, priority matters and substances |
| | Decree on conditions for installation and operation of plants operating with hazardous matters and substances, and the manner of their testing prior to their putting in operation |
| | Rulebook on dangerous matters and their emission standards |
| | Decree on water classification and cathegorization of surface and ground water bodies and their purpose |
| | Decree on the characteristics and the criteria for determining the good status of surface waters, the good chemical status and the good ecological potential of waters |
| Waste Management (2006-2009) | Changes and Amendments to existing Laws |
| | Changes and amendments to the Law on Waste Management |
| | Preparation of new secondary legislation |
| | Rulebook on the form and content of the permit application, as well as the form and the content of the permit for landfill operator |
| | Rulebook on the form and the content of the application for obtaining permit for recovery, treatment and / or storing waste; the form and the content of the permit as well as the technical conditions for performing the activity |
| | Rulebook on handling hazardous waste |
| | Rulebook on the criteria and procedures for accepting waste in landfills of all classes; the quantity of biodegradable components in the waste which may be placed on a landfill, preparatory procedures for accepting the waste, general testing and sampling procedures |
| | Rulebook on the method and procedure for operating, tracking and controlling the landfill in the closing down phase and after care |
| | Rulebook on the form and content of the application for establishing landfill |
| | Rulebook on the form and content of the permit application, as well as the form and the content of the permit for landfill operator |
| | Rulebook on emissions from stationary sources |
| | Rulebook on the special conditions and the manner of handling end of life vehicles |

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| | Rulebook on disposal of PCBs/PCTs |
| | Rulebook on handling waste oils |

A more detailed description of the actions already being implemented or soon to be implemented can be found in the respective Sector Approximation Strategies or in the respective Directive Specific Implementation Plans (refer Sub-Chapter 1.5).

## 3.4 Further Action Needed

The further actions needed (beyond the ongoing and already planned actions presented in Sub-Chapter 3.3) to obtain full legal transposition are presented in Table 11 below, sector by sector with the total planned implementation period for these actions. The actions are grouped into four main groups of action:

- Changes and amendments to existing Laws;
- Preparation, adoption of changes and amendments to draft legislation;
- Changes and amendments to exiting secondary legislation;
- Preparation of new secondary legislation.

The actions cover the whole process of drafting, adoption and entering into force of the said legal acts (law or secondary legislation).

| Table 11: Further Actions needed for full legal transposition Sector /Period | Legal Transposition Actions |
|---|---|
| Horizontal Legislation (2008-2010) | Changes and Amendments to existing Laws |
| | Changes and Amendments to the Laws on Environment |
| | Changes and amendments to the Law on Nature |
| | Preparation of new secondary legislation |
| | Government Decision on strategies, plans and programs, including their changes (planning documents), for which there is obligatory procedure for assessing their impact on the environment and man's life and health, and criteria on the bases of which a decision is made to perform strategic assessment of other strategies, plans and programs which could significantly impact the environment and man's life and health |
| | Government Decision on the contents of strategic environment impact assessment report |
| | Rulebook on the procedure for publishing information and public participation in the procedure for SEA (before initiating the procedure for public participation in the procedure for adopting planning document and in drafting the report, as well as the way to conduct the consultations in case of transboundary impacts of the planning document |
| | Rulebook on Plans and Programs by relevant institutions covered by SEA procedure (the consultant proposes this Rulebook to be changed to a Decree) |
| | Rulebook for the criteria for establishing the environmental damage and the exceptions which shall not be considered as liability. |
| | Rulebook for the remediation measures with regard to occurred environmental damage. |
| Air Quality | Changes and Amendments to existing secondary legislation |

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| (2008-2010) | Rulebook on the criteria, methods and procedures on ambient air quality assessment |
| | Rulebook on the quality of liquid fuels |
| | Decree on limit values of levels and types of pollutants in ambient air and alert thresholds, deadline for achieving limit values, margins of tolerance of the limit value, target values and long term goals |
| | Preparation of new secondary legislation |
| | National Plan for appointing the quantity of greenhouse gases available for trading |
| | Rulebook on the criteria for verifying the reports submitted by the operator |
| | Rulebook on establishing competent authorities for implementing the regulations from the National Emission Ceilings Directive (2003/87/EC) |
| | Decree on access to information and public participation |

| Sector /Period | Legal Transposition Actions |
|---|---|
| | Decree on Ratifying the Protocol on Acidification, Eutrophication and Ground Ozone |
| | Rulebook on establishing the emission upper limits on national level |
| | Rulebook on the National Plan for ambient air protection |
| | Decree on ambient air quality limit values, tolerance margins and alarming thresholds |
| | Methodology on monitoring and criteria for selection of measuring points |
| | Rulebook on availability of consumer information on fuel economy and $CO_2$ emissions in respect of the marketing of mew passenger cars |
| Chemicals (2009-2012) | Changes and Amendments to draft Laws |
| | Draft Law on Veterinary Health |
| | Changes and Amendments to existing secondary legislation |
| | Rulebook on asbestos waste management and waste from products that contain asbestos |
| | Preparation of new secondary legislation |
| | Regulation on examination and classification of substances and preparations |
| | Regulation on risk assessment and guidelines for risk assessment |
| | Regulation on packaging, labeling, advertising and placing chemicals on the market depending on their classification |
| | Regulation on reporting and rating procedure for new substances |
| | Rulebook on handling confidential information |
| | Rulebook on hazard symbols and indicators |
| | Rulebook on security guidelines for hazardous substances |
| | Regulation on the contents of information entered in the inventory of substances which were placed on the market up to the day the Law enters force |
| | Rulebook on establishing security lids and physical (tactile) warnings for danger |
| | Regulation on the content of the request for authorization |

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| | Regulation on the content of the declaration and the necessary data on the substance |
| | Rulebook on limit values of new substances for which additional tests are necessary, the type and scope of tests, examination methods and conditions under which information obtained from another declarator for the same purpose can be established by somebody else |
| | Regulation on the contents of the security forms |
| | Rulebook on limit values for permissible levels of emissions and types of pollutants into exhaust gases and vapors emitted into the air from stationary sources in order to ensure ambient air quality in compliance with the established quality limit values |
| | Rulebook on the on the approximation of laws, regulations and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes |
| GMOs(2009-2010) | Preparation of new secondary legislation |
| | Rulebook on scope of risk assessment for contained use |
| | Rulebook on the contents of the notification |
| | Rulebook on methodology, elements and scope of risk assessment when placing products on the market |
| | Rulebook on labeling and packaging of a product |
| | Rulebook on monitoring and reporting |

| Sector /Period | Legal Transposition Actions |
|---|---|
| | Rulebook on scope of risk assessment for contained use |
| | Rulebook on the contents of the notification |
| | Rulebook on the scope and content of the emergency plan |
| Industrial Pollution Control (IPC) (2008) | Changes and Amendments to existing Laws |
| | Changing and Amending the Law on Ambient Air Quality |
| | Changes and Amendments to existing secondary legislation |
| | Decree on the limit values of levels and types of polluting substances in the ambient air and alarm thresholds, deadlines for reaching the limit values, limit values tolerance margins, target values and long term targets |
| | Rulebook on criteria, methods and procedure for assessing ambient air quality |
| | Preparation of new secondary legislation |
| | Rulebook on the contents of internal and external emergency plans, and the method for their approval |
| | Rulebook on hazardous substances, limit values (thresholds) for presence of hazardous substances and criteria or properties which will classify one substance as hazardous |
| | Rulebook on informing the public in case of accident and in connection with the security measures report |
| | Rulebook on management systems and organization of the plant in regard to the major accidents prevention |
| | National Plan for Ambient Air protection |
| | Rulebook on limiting emissions of volatile organic compounds due to the use of solvents in certain activities and installations |

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|---|---|
| Noise(2007-2009) | Changes and Amendments to the secondary legislation |
| | Rulebook on mandatory testing (homologation) of motor vehicles with at least 4 wheels in regard to noise |
| | Preparation of new secondary legislation |
| | Rulebook on the way the information is published; public participation and preparation of report from the opinions expressed at the previously held public discussion |
| | Rulebook on noise indicators and the area of application of additional noise indicators |
| | Rulebook on the preparation and contents of strategic noise maps |
| | Rulebook on the preparation and contents of environmental noise action plans |
| | Rulebook on the method, conditions and procedure for establishing and operating networks; monitoring methodology, conditions, method and procedure for submitting noise monitoring information and data |
| | Rulebook on the permissible level of noise and exhaust system of motor vehicles |
| | Regulation on outdoor equipment |
| Nature Protection (2008-2010) | Changes and Amendments to existing Laws |
| | Changing and amending the Law on Hunting |
| | Preparation of new secondary legislation |
| | Decree on Establishing Ecological Network and Areas of International Significance |
| | List of Strictly Protected And Protected Wild Species |
| | Methodology for Monitoring the Condition Of Nature |
| | Rulebook on measures and activities for protection, method and scope of using protected wild species |

| Sector /Period | Legal Transposition Actions |
|---|---|
| | Rulebook on method and procedure for selectively taking, storing and in other way using certain strictly protected wild species in small populations under strictly supervised conditions |
| | List of Community important species |
| | Decree on Establishing Endangered Species |
| | Decree on establishing a list of birds that may be hunted without disturbing their favourable conservation status |
| | Rulebook on the procedure for issuing a permit and the method for using hunted species |
| | List of bird species which may be hunted and traded with |
| | Rulebook on establishing and protection of types of habitats |
| | Rulebook on the form and the content of the license for keeping and breeding in captivity of indigenous and non-indigenous species |
| | Decree on keeping wild animals in zoos |
| Waste Management (2008-2010) | Changes and Amendments to existing Laws |
| | Changing and amending the Law on Mineral Resources |

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| | Changing and amending the Law on Environment |
| | Preparation of new secondary legislation |
| | Rulebook on the form and the content of the permit for collecting and transporting hazardous waste |
| | Rulebook on the general conditions which need to be met by every landfill |
| | Rulebook on the general technical conditions which must be met by landfills |
| | Decree on packaging and packaging waste |
| | Rulebook on labelling packaging, types of labels and their content |
| | Rulebook on the form, and the content for recovery of used packaging |
| | Rulebook on management of waste batteries and accumulators (it is recommended to be a Decree) |
| | Rulebook on Waste Electrical and electronic equipment (It is recommended to be a Decree) |
| | Rulebook on the minimum technical conditions which need to be met by the installation for incineration, on types of waste that may be incinerated, on environmental protection from such installations, and on conditions for their operation |
| | Rulebook on emissions to water from waste incineration |
| | Rulebook on handling electrical and electronic equipment |
| Water Quality (2008-2010) | Preparation of new secondary legislation |
| | Decree on characteristics and criteria for determining the good status of surface waters, the good chemical status and the good ecological potential of waters |
| | Decree on Water Classification and Categorization Of Surface And Ground Water Bodies and their Purpose |
| | Decree on criteria and characteristics of the Good Quantitative and Chemical Status of Ground Water |
| | Rulebook - Decision on establishing river basins districts boundaries |
| | Rulebook on detailed content of the River Basin Plans |

| Sector /Period | Legal Transposition Actions |
|---|---|
| | Rulebook on the detailed content and the method of developing the Program of Measures and detailed content of the basic and additional measures comprising it |
| | Rulebook on the manner for establishing the cases of temporary discrepancies from the status of the water bodies, measures and procedures that would be undertaken |
| | Rulebook on the form and the content of the Register of protective zones |
| | Rulebook on the conditions, manner and procedure for establishment (determination) of protected areas and cartographic section of protected areas for water bodies intended for human consumption |
| | Rulebook on the detailed content of the economic analysis |

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| | Decision on determining areas that are sensitive to nitrates |
| | Decree on the conditions, method and procedure for establishing protected zones and mapping of protected zones |
| | Rulebook on the content and measures that are to be taken with the operational plan for protection of water from nitrates coming from agricultural sources |
| | Recommendation for good agricultural practice for providing practical instructions for the farmers other persons included in the agricultural sector on the activities that might affect surface and ground water bodies, and promotion of adequate practices for reducing water pollution |
| | Rulebook on methodology and parameters on measuring and monitoring of the water bodies quality and quantity in the areas sensitive to nitrates |
| | Decree on determining protected areas of water bodies sensitive to discharge of communal waste water |
| | Decision on determining the list of water bodies sensitive to discharge of communal waste water and requests regarding the overload of the treatment methods for communal waste water discharged into the water bodies in the sensitive areas |
| | Rulebook on the manner and conditions for use of the sludge, upper values of concentration of heavy metals in soil where sludge is used, values of concentrations of heavy metals in the sludge, maximum quantities of heavy metals used per annum that can be injected in the soil, the type of information that sludge producers should regularly submit to the users, as well as the conditions, manner and procedure for issuing permit for use of sludge |
| | Decree on the characteristics and the criteria for determining the good status of surface waters, the good chemical status and the good ecological potential of waters |
| | Rulebook on the conditions, manner and procedure for data transfer of the monitoring of waters, as well as the form and contents of the form providing information on the monitoring of waters intended for human consumption and bathing waters |
| | Rulebook on the contents and form of the Application for permit |
| | Rulebook on the contents of the permit for discharges in waters |
| | Decree on minimum standards for water quality and environmental targets |
| | Rulebook on the contents of the Programme of Measures |
| | Decree on the manner and the conditions for use of the sludge, the maximum values of the concentrations of the heavy metals in the soil in which the sludge is used, the values of the concentartions of the heavy metals in the sludge, the maximum annual amounts of such heavy metals that can be introduced into the soil, as well as the type of information that sludge producers shall submit to the users on aregular basis, and the manner conditions and the procedure for issuance of a permit for use of sludge |

A more detailed description of the further implementation needed can be found in the respective Sector Approximation Strategies or in the respective Directive Specific Implementation Plans.

# 4. PRIORITIES FOR IMPLEMENTATION

## 4.1 Requirements for Implementation

To start the approximation process with the legal transposition, to continue with practical implementation and to use measures afterwards for effective enforcement looks very logical and straightforward and independent, but these three elements of the approximation process are in fact very dependent on one another. An effective implementation requires a proper legal transposition of the EU environmental legislation (that the actual legal text properly takes into account the obligations relevant to an effective implementation), understanding of national implementation and enforcement practices, national conditions and requirements, and national capabilities (financial as well as knowledge base). An effective enforcement requires that the legislation provides for a realistic and effective enforcement.

The overall policy for implementation of the EU environmental legislation achieving the EU sustainable development has been given in the 6th EU Environment Action Programme called "Environment 2010, Our Future, Our Choice (2001 - 2010)". The Programme envisages the adoption of seven thematic strategies covering air pollution, the marine environment, sustainable use of resources, prevention and recycling of waste, sustainable use of pesticides, soil protection, and urban environment. The Action Programme summarises the goals in this way: "In short, we need to aim for a society where cars do not pollute the atmosphere, waste can be recycled or safely disposed of and energy production does not lead to climate change. Our children must not take in harmful chemicals from their toys or food. Landscapes and wildlife should not be endangered by development". In the 6th EU Environment Action Programme, the following main actions are proposed to be given high priority:

Tackle climate change;
Protect nature and wildlife;
Address environment and health issues;
Preserve natural resources and manage waste.

Important topics stressed in the 6th EU Environment Action Programme are: Existing laws are enforced; 'Polluter pays' principle are applied, i.e. those who cause damage to the environment are held responsible for their actions, and further damage is avoided; Acting on the side of precaution and preventing risks, where possible; Make producers responsible for collecting, treating and recycling their waste products and encourage consumers to select products and services that create less waste; Environmental objectives should be taken into account early on in the development process for all policies, ranging from agriculture to economics;

Cooperate with industries to develop new approaches that help them to reduce their negative impacts on our environment and become more environmentally friendly;

Land-use planning to ensure the environment is properly considered; People need access to reliable information about environmental issues; Promote environmental education and look at ways to raise environmental awareness; Public information about environmental pollution causes a range of human health problems, from allergies and infertility to cancer and premature death.

Specific implementation measures and actions for each of these very important strategic issues have been included in the proposed actions for full technical implementation of the EU environmental legislation (refer Sub-Chapter 4.4).

In addition to the above mentioned EU strategic issues, there are several general preconditions for an effective implementation of the EU legislation, which there should be focus on:

- Reliable data collection systems;
- Effective systems and institutions for monitoring and reporting on state of environment (emissions and environmental quality) and inspection;
- Procedures and tools for raising the environmental awareness of industry and the public in order to secure understanding, co-operation and support for conducting the environmental measures;
- Institutions and procedures facilitating public participation in environmental decision making processes and management;
- Administrative and juridical recourse in relation to violations of environmental laws together with an effective system of fines and penalties, court procedures for serious violations and access to justice;
- Training of staff on governmental and municipal level involved in all affected sectors of society;
- Adequate funding of institutions;
- Integration of environmental approximation into other policy areas;
- New investments and major activities to comply with the acquis and with already developed and adopted environmental strategies and implementation plans.

Also all the above mentioned general preconditions have been included in the proposed actions for full technical implementation of the EU environmental legislation (refer Sub-Chapter 4.4).

## 4.2 Strategy to Achieve Full Implementation

The strategy for the technical implementation is based on the requirements of the EU acquis as well as the national conditions. The following principles should be applied in order to implement the EU environmental legislation in an efficient and smoothly way:

- Be as much as possible in line with the overall EU 6th Environmental Action Programme, 2001 - 2010“, Our Future, Our Choice and it’s seven thematic strategic strategies (refer Sub-Chapter 4.1);
- Secure continuity with present national achievements towards the approximation of the EU environmental acquis;
- Optimize the implementation process, prioritize the directives to be implemented taking into account their level of legal transposition into national legislation, their current status of the implementation, needs for new institutional set up raised from these directives, financial implications that directives will have on the economy of the country and social aspects they cover through the implementation;
- Perform prioritisation between EU Directives / Sectors on national level using an objective methodology;
- Prepare and implement a realistic implementation / approximation plan based on the implementation actions identified in the Sector Approximation Strategies, the prioritized list of EU directives (refer Annex II), the legal transposition and the national conditions and requirements. Optimize the synergy effect of cross-sectoral actions where possible;
- In the timing of the implementation plan, be realistic in terms of the financial

needs, human resources and time for implementation of the particular actions, taking into account both capital investment and running cost requirements (refer Sub-Chapter 5);

. • Secure political and public support for the adoption and real implementation of the specific actions / projects under each environmental sector as well as progress monitoring of the implementation steps;

. • Optimise the benefits of implementing the EU environmental acquis including improvement of public health, environment and nature, international competitiveness for the national business sector, tourism opportunities, etc. (refer Sub-Chapter 6.5);

. • Update National Strategy and in particular the Approximation Plan as required (approximately every 2 - 3 years) using the same process as being applied in developing this National Strategy (including Directive specific Implementation Plans and Sector Approximation Strategies).

In developing this National Strategy, the above mentioned principles were followed to the extent possible.

Regarding the prioritization of implementation of directives for a national implementation plan, there are two types of prioritizations to be considered:

A prioritization of main type of actions within a sector taking into account the logic sequence of actions (seen from an implementation point of view) and considering the most urgent implementation actions (seen from a national point of view).

A prioritization of directives across sectors taking into account the national conditions (legal, institutional, financial / economic and social).

The main type of proposed actions for full technical implementation can be grouped as follows:

| Table 12: Grouping of main types of proposed implementation actions<br>Main type of actions | Sub-type of actions |
|---|---|
| Institutional set-up actions | New employments |
| | Appointment of the competent authorities/responsible persons |
| | Establishment of the systems and support actions |
| Technical assistance actions | Technical assistance for preparation of the policy documents |
| | Technical assistance for preparation of the investment documents |
| | Technical assistance for strengthening the capacities of stakeholders |
| Capital infrastructure and operational actions | Capital infrastructure actions |
| | Actions for operation of the infrastructure |

When prioritizing across sectors it is important to use a methodology that secure objective results. For usage in the prioritization process, the Consultant team developed a methodology that is suitable for the prioritisation of directives, based on the Multi-Criteria Decision Analysis technique (refer Annex II), which after careful evaluation was found to the one that is best fitted for the purpose. The developed prioritization methodology includes of great number (30) of different types of appropriate questions/criteria in order to ensure an objective and proper prioritization between the directives in term of priority for their implementation in the country. It

is highly recommended to use this methodology when updating of the Approximation Plan is required, and again to secure active involvement of all stakeholders in the prioritization exercise. The main result of the prioritization performed under this project is presented in Annex II.

The general implementation strategy is that in the short term (2007-2010) of the approximation process, the implementation actions of each (prioritized) directive to be given the highest priority are:

- Actions related to the institutional set-up;
- Appointment of the Competent Authorities and persons who will deal with the key environmental management functions required by the directives;
- Employment of new personnel if it is needed;
- Initiation and implementation of several technical assistance projects dealing with institutional strengthening of the stakeholders and governmental personnel;
- Preparation of planning documents, methodologies and guidelines necessary for a smoothly implementation;
- Initiation of projects with focus on the preparation of the technical documentation for the capital infrastructure investments (applications for IPA funds).

In the medium term (2011 - 2015), the focus should mainly be on the implementation of the proposed actions of the (prioritized) directives dealing with the initiation and implementation of proposed technical assistance projects covering the preparation of the technical documentation for the capital infrastructure projects, feasibility studies, applications for IPA and other foreign financial aids and establishment of different management systems within the sector.

In the long term (after 2015) focus should primarily be on the implementation of the capital infrastructure projects with the financial support of the international donor community.

Also important in the implementation process is the coordination of similar activities across directives and sectors. Many of the actions in the different sectors and for directives in the same sector address similar issues. The similar actions across directives and sectors have been grouped under the headline: “Cross Cutting Issues” (see also Annex III). It is proposed to focus on cross cutting issues during the medium term, as it creates synergy between implementation of the directives and between the sectors. It further increases the efficiency of actions and reduces the overall costs. Coordination between directives and sectors reduces the risk of fragmentation. Some important cross cutting issues are monitoring and reporting, data management, environmental awareness, public participation plus permitting, inspection and enforcement.

The Ministry of Environment and Physical Planning is strongly recommended to start as soon as possible with initiation of already proposed projects within the priority sectors / priority directives and to negotiate with the donor community the fund raising opportunities taking into account the priorities determined.

## 4.3 Actions Already in Place

The Ministry of Environment and Physical Planning has lately (in December 2006) adopted a new administrative and organizational structure and prepared a recruitment plan for 2007 – 2010 to respond to the EU approximation requirements. It is the intension to employ 123 new civil servants within the said period.

There are also several ongoing projects (mainly donor funded projects) that are dealing with actions related to the implementation of the EU requirements. Likewise are there projects in the

pipeline that will be addressing some of the EU approximation requirements. The actions of these ongoing / planned projects have been grouped in accordance with the above defined three main groups and subgroups of actions (refer Table 12), and the table below presents in which sectors these ongoing or planned actions takes place.

| Table 13: Sectors with ongoing actions or actions in the pipeline Sector | Institutional setup Actions | | | Technical Assistance (TA) Actions | | | Capital Infrastructure & Operational Actions | |
|---|---|---|---|---|---|---|---|---|
| | New Employments | Appointment of competent authorities / responsible persons | Establishment of new management systems and support actions | TA for preparation of policy documents | TA for preparation of investment documents | TA for strengthening of capacities | Capital infrastructure Actions | Actions for operation of infrastructure |
| Air Quality | | | | | | | | |
| Waste Management | | | | | | | | |
| Water Quality | | | | | | | | |
| Horizontal Legislation | | | | | | | | |
| Chemicals | | | | | | | | |
| GMO | | | | | | | | |
| Industrial Pollution Control (IPC) | | | | | | | | |
| Nature Protection & Forestry | | | | | | | | |
| Noise | | | | | | | | |

| Legend: | |
|---|---|
| Ongoing actions for technical implementation / enforcement of EU Directives (2006-2007) | |
| Actions in pipeline for technical implementation /enforcement of EU Directives (under negotiations with donors) | |

As can be seen from the above table, there are five sectors where actions related to the implementation of the EU requirements are being implemented through ongoing projects and two sectors where there are pipeline projects that will cover some of the implementation actions required in the approximation process. The ongoing projects and the actions they are addressing to fulfil the implementation of the EU requirements within each sector are shortly described in the following.

Air Quality Sector

Some of the identified implementation gaps in the Air Quality Sector are being addressed through the ongoing EU funded Finish Twinning project “Air Quality Improvement” and the ongoing CARDS 2004 Project “Environmental Management Strengthening”, which both have components that are dealing with the implementation of the Air Quality Framework Directive (96/62/EC) and National Emission Ceilings Directive (2001/81/EC).

.- Institutional setup actions: Process of accreditation of the laboratory for monitoring and analyses are being implemented in the CARDS 2004 Project. Employment of new personal within the Ministry of Environment and Physical Planning has been initiated.
.- Technical assistance actions:

The preliminary assessment of air quality improvement has been continued within the Finnish Twinning project, and within the CARDS 2004 project the first definitions of zones and agglomerations are being implemented. Preparation of investment documents in relation to upgrading of monitoring stations and set-up of new monitoring stations are likewise in place.

- Capital infrastructure and operational actions:
Within the Finnish Twinning project, purchase of necessary instrumentation for the laboratory for inventory control has started.

A more detailed description of these ongoing actions can be found in the Sector Approximation Strategy for the Air Quality Sector.

Waste Management Sector
In the Waste Management Sector are some of the identified implementation gaps being addressed through employment of additional staff within authorities dealing with the environment and through two ongoing EU funded (CARDS 2006) projects: "Development of Remediation Plans with financial requirements for elimination of industrial hotspots" and "Health Risk Waste Management for the Republic of Macedonia". These projects are mainly dealing with the implementation of the Landfill Directive (99/31/EC) and the Hazardous Waste Directive (91/689/EC).

- Institutional setup actions:
Employment of additional staff in the Ministry of the Environment and Physical Planning is ongoing based on the new proposed restructuring of the Ministry. Also employment or appointment of the new environmental inspectors at the local administration is ongoing but is in a very early stage.

- Technical assistance actions:
The main activity of the industrial hot-spot project is preparation of a Contaminated Land (Hot-spots) Clean-up Plan, whilst the main activity of the waste management project is the preparation of the Medical Waste Management Plan and Feasibility Study.

A more detailed description of these ongoing actions can be found in the Sector Approximation Strategy for the Waste Management Sector.

Industrial Pollution Control (IPC) Sector
In the IPC sector, the main focus is at present given to the implementation of the IPPC Directive (96/61/EC) and the Large Combustion Plants Directive (2001/80/EC). Three Projects / Programmes financially supported by foreign donors have brought significant contribution to the acknowledgments of the obligations and liabilities of the authorities and companies related to IPPC Permits:

. • EU funded (CARDS 2004) Project: "Environmental Management Strengthening";
. • EBRD Programme: "TAM / Business Advisory Program";
. • REC (Country Office of the Republic of Macedonia) Project "Effective decentralization in Republic of Macedonia - Implementation of the Environmental Legislation".

Also the EU funded Finish Twinning project "Air Quality Improvement", mainly implementing actions related to improvement of the air quality, has contributed to the implementation of the

obligations related to IPPC Permits.

- Institutional setup actions: The Administration for Environment has been established under the new institutional set up in the Ministry of Environment and Physical Planning hiring new personnel who will deal with industrial pollution control related issues.

  Macedonian Environmental Information Centre of the Ministry of Environment and Physical Planning is establishing a data base of air polluting substances which, inter alias, contains some emissions from stationary sources (part of which are emitted from IPPC Installations) as well as fugitive emissions of volatile organic compounds from some installations and petrol storage and distribution stations.

- Technical assistance actions:
  The CARDS 2004 Project is providing almost all guidelines needed by Competent Authorities and A-IPPC companies, several trainings, support in establishing a database on A-IPPC and B-IPPC installations and awareness campaigns. The technical support also provides assistance to five pilot companies to prepare "Adjustment with Adjustment Plan" Permit Applications, which was especially beneficial as it shows how the adopted legislation and prepared guidelines work in practice.

  The EBRD Programme is providing training for companies subject to B-IPPC/ "Adjustment with Adjustment Plan" Permits and for consultants interested to be involved in the preparation of the applications. The project provides some financial aid for B-installations to prepare an application.

  The REC project is providing training for the administration of Local Self-Govern-
  ments Units on their obligations and procedures related to B-IPPC permitting.

  Some degree of self-monitoring is performed by the IPPC installations. The ongoing Finnish Twining Project for Improvement of Air Quality, which includes a Component on Air Emission Inventory and Preliminary Environmental Assessment, deals also with development of emissions dispersion modelling, which is an obligatory part of the A-IPPC Permit. Cadastre of polluters, encompassing emissions in all environmental media and areas, is under preparation and at least part of it may be used further as source of data for the European Pollutant Emission Register (EPER).

- Capital infrastructure and operational actions:
  The IPPC installations have already started with technical adaptations of their production facilities towards new IPPC permiting system.

  The upgrade of the laboratory within the Ministry of Environment and Physical Planning and introduction of Quality Assurance / Quality Control procedures as a first step to accreditation has been started in 2007.

A more detailed description of these ongoing actions can be found in the Sector Approximation Strategy for the Industrial Pollution Control (IPC) Sector.

Water Quality sector

In the Water Quality Sector, EU has put the focus on the financial support through the CARDS Programme on capacity development and preparation of investment documents. Emphasis is put on training and development of institutional capacities for absorption of IPA funds. Donor funded projects being implemented with the local communities and the Communal Enterprises encompass construction and upgrading of water supply networks, storage and treatment capacities.

The following projects are currently ongoing within this sector, fitting into the planned action list for full implementation of the EU Acquis Communautaire:

. • CARDS 20003 Project: “Improvement of management of transboundary water resources for Vardar River Basin”;
. • EU funded (CARDS 2006) project: “Feasibility study on waste water collection and preparation of IPA application, Prilep”;
. • JICA funded feasibility study on waste water collection and treatment in Skopje.
. • Greek funded feasibility study on waste water collection and treatment in Gevgelija.

- Institutional setup actions

The CARDS 2003 project are establishing a monitoring programme (introduction of surface water quality monitoring according to Annex V of the Water Framework Directive (2000/60/EC)) to determine water status for Vardar River Basin (but with limited scope and goals).

Improvement of monitoring systems and establishment of missing monitoring networks on all levels (local, regional and national) is an activity constantly revised and worked upon (but systematic approach and legal bases are missing). Identification and implementation of a set of measures to protect the water bodies used, or planned to be used, for abstraction of drinking water is also an ongoing activity. It is based on the current institutional setup and legislation (but again a systematic and comprehensive approach is missing).

Establishment of water quality standards applicable to bathing waters is currently being implemented according to national legislation (but are not fully in compliance with the requirements of the Bathing Water Directive (2006/7/EC)).

- Technical assistance actions

Currently feasibility studies on waste water collection and treatment is being implemented in Prilep, Skopje and Gevgelija. Assistance is also provided in preparation of IPA applications.

Some changes in the overall monitoring approaches and setup are already ongoing as a result of currently ongoing technical cooperation projects in the country. Assessment of the capacities (institutions, laboratories) has also been undertaken recently by various projects.

A study on Bregalnica river basin with emphasis on water protection is being implemented at present. Agglomerations (according to Urban Waste Water Treatment Directive (91/271/EEC)) are being identified and preliminary assessment of the investment needed in the wastewater collection and treatment estimated.

- Capital infrastructure and operational actions

Regarding capital investment, two Waste Water Treatment Plants are being constructed at present, Kumanovo (100.000 p.e.) and Krivogastani (>2.000 p.e.).

A more detailed description of these ongoing actions can be found in the Sector Approximation Strategy for the Water Quality Sector.

Nature Protection Sector

Certain actions, mainly concerning the implementation of some specific requirements of the Habitats Directive (92/43/EEC), are covered by the implementation of the EMERALD project by the Ministry of Environment and Physical Planning.

- Technical assistance actions

In the EMERALD project, 10 sites are being analysed in relation to Areas of Special Conservation Interest (ASCI), which will increase the coverage to 80% of the total national EMERALD network (six sites has up to now been proposed and analysed). This is an important step toward establishment of Natura 2000 network since Areas of Special Conservation Interest and the whole procedure being applied are compatible to

the Special Areas for Conservations define in the Natura 2000.

A more detailed description of these ongoing actions can be found in the Sector Approximation Strategy for the Nature Protection and Forestry Sectors.

GMO Sector

A project on development of national bio-safety frameworks was carried out in 2004 (refer the report on National Biosafety Framework for Republic of Macedonia). It presents part of the global UNEP / GEF project, aimed at assisting the countries in the implementation of the Cartagena Protocol on Biosafety through development and implementation of the National Biosafety Framework. As a follow-up on the project, an application has been submitted to the UNEP / GEF to fund the establishing of a Clearing House Mechanism.

- Technical assistance actions

  The pipeline project is likely to establish a database, and it should be considered whether this could be integrated in the required GMO database (refer Directive Specific Implementation Plan for the Deliberate Release of GMOs Directive (98/81/EEC)).

Chemicals Sector

There are ongoing negotiations between the Ministry of Environment and Physical Planning and the KEMI-Swedish Chemicals Agency for initiation of a technical assistance programme on regional (South East European countries) and national level for a 5 years period.

- Technical assistance actions:

  The main elements of the programme are modelling of a REACH approach, the strengthening of the Competent Authorities, development of a Chemicals Register, preparation of the national inventories of chemicals manufacturers and importers, good laboratory practice trainings, cleaner production roundtables, and support to the drafting of the Law on chemicals.

## 4.4 Further Action Needed

To secure full implementation and enforcement of the EU environment legislation, further actions (beyond the ongoing and already planned) are needed. However, as mentioned in Sub-chapter 1.1 (General Approach Adopted), it is necessary to carry out a prioritization of the implementation of the EU legislation, due to the existence of constraints and limitations in the implementation process to obtain full compliance with all EU obligations and requirements. Such prioritization was carried out by the NSEA working group (refer Annex VII) of some by them selected 36 most important pieces of EU environmental legislation. These 36 pieces of legislation covered all sectors except forestry, but with main emphasis on the Waste Management Sector (8 pieces), IPC Sector (7 pieces) and Air Quality Sector (5 pieces) making up more than half of the selected legislation. This reflects quite well how the implementation of the EU environmental legislation is prioritized at present.

The results of the prioritization (refer Annex II) showed that the piece of legislation with the highest score (the highest priority for implementation) is the Environmental Impact Assessment (EIA) Directive (85/337/EEC). Other high prioritized pieces of legislation (belonging to upper one third of the prioritized list) are the Access to Environmental Directive (2003/4/EC), Public Participation Directive (2003/35/EC), Ambient Air Quality Framework Directive (96/62/EC), Strategic Environmental Assessment (SEA) Directive (2001/42/EC), PCB/PCT Directive (96/59/EC), Hazardous Waste Directive (91/689/EEC), Waste Framework Directive (2006/12/EC, IPPC Directive (96/61/EC), EPER Decision (2000/479/EC), Wild Birds Directive

(79/409/EEC), and Environmental Liability Directive (2004/35/EC). These pieces of legislation are highly rated because they either are horizontal directives, they has relation with more than three sectors, their legal transposition is well advanced, there is a transboundary context, there is no necessity for heavy capital and operating costs related to its implementation, the Republic of Macedonia has already ratified relevant Conventions, there is not so much new personnel required for transposition and implementation, they provide high contribution to sustainable development and / or their implementation will contribute greatly to the improvement of human health and to the enhancing / conserving the quality of environmental resources.

Looking at the sectoral level, these top priority twelve pieces of EU environmental legislation belong to the sectors: Horizontal Legislation Sector (EIA, SEA, Environmental Information, Public Participation, and Environmental Liability Directives), Air Quality Sector (Ambient Air Quality Framework Directive), Waste Management Sector (PCB/PCT, Hazardous Waste, and Waste Framework Directives), IPC Sector (IPPC Directive and EPER Decision), and Nature Protection Sector (Wild Birds Directive).

As can be seen, the Horizontal Legislation Sector is well represented with high ranged directives, which is mostly because of its importance due to its horizontal nature. Also the Waste Management and IPC Sectors are well represented with legislation within this group. Besides the horizontal legislation, the other high ranged pieces of legislation is mainly framework directives and other main legislation from the complex and resource demanding sectors, i.e. legislation / sectors that need particular attention.

The pieces of legislation with medium priority (of the selected 36 most important pieces of legislation) is the SEVESO II Directive (96/82/EC), Endangered Species Regulation (EC 338/97), Water Framework Directive (2000/60/EC), Dangerous Substances Directive (67/548/EEC), Batteries and Accumulators Directive (2006/66/EC), Habitats Directive (92/43/EEC), Limit Values for $SO_2$, $NO_2$, $NO_x$, PM and Pb Directive (1999/30/EC), Quality of Petrol and Diesel Fuels Directive (98/70/EC), VOCs from Storage and Distribution of Petrol Directive (94/63/EC), Ozon Deleting Substances Regulation (EC 2037/2000), Landfill Directive (99/31/EC), and Large Combustion Plants Directive (2001/80/EC).

Looking at the sectoral level for these middle priority twelve pieces of EU legislation, they belong to the sectors: Air Quality Sector (Limit Values for $SO_2$, $NO_2$, $NO_x$, PM and Pb, and Quality of Petrol and Diesel Fuels Directives), Waste Management Sector (Batteries and Accumulators, and Landfill Directives), IPC Sector (SEVESO II, VOCs from Storage and Distribution of Petrol, and Large Combustion Plants Directives), Nature Protection Sector (Endangered Species Regulation, and Habitats Directive) and Water Quality Sector (Water Framework Directive), and Chemicals Sector (Dangerous Substances Directive, and Ozon Depleting Substances Regulation).
Again it is important legislation mainly from the sectors that are complex and resource demanding that has got a relatively high priority. In particular are the IPC Sector well represented with legislation within this group. However, also important legislation from the less demanding Chemicals Sector is represented in this middle priority group. It can also be seen that this middle priority legislation is a mixture of more general and more specific legislation.

The remaining part of the prioritized pieces of legislation (with the lowest score) consist of the Waste Oil Directive (75/439/EC), Deliberate Release of GMOs Directive (2001/18/EC), Contained Use of GMMs Directive (90/219/EEC), National Emission Ceilings Directive (2001/81/EC), Solvents Directive (1999/13/EC), EMAS Regulation (EC 761/2001), Urban Waste Water Treatment Directive (91/271/EEC), Packaging Waste Directive Nitrates Directive (94/62/EC), End-of-life Vehicles Directive (2000/53/EC), Sulphur Content Liquid Fuels Directive (1999/32/EC), and Environmental Noise Directive (2002/49/EC). The main reasons for them

being prioritized in the lower end are either that the process of transposition into national legislation is on the very early stage, they do not have any transboundary context, they transposition requires a great technical assistance in human and financial means, their implementation has not been started yet, there is a low level of technical competences for implementation of the directive, there is a necessity for a large scale of the monitoring equipment, their implementation requires medium level of capital and operation costs, and / or there is no big interest of the international aid to support projects related to the directive's implementation.

Looking at the sectoral level for these low priority twelve pieces of EU legislation (but still belonging to the selected 36 important pieces of legislation), they belong to the sectors: Air Quality Sector (National Emission Ceilings, and Sulphur Content of Fuel Directive), Waste Management Sector (Waste Oils, Packaging Waste, and End-of-life Vehicles Directives), IPC Sector (VOCs from Solvents Directive, and EMAS Regulation), Water Quality Sector (Urban Waste Water Treatment, and Nitrates Directives), GMOs Sector (Deliberate Release of GMOs, and Contained Use of GMMs Directives), and Noise Sector (Environmental Noise Directive).

This legislation is mainly the more specific legislation from the more complex and resource demanding sectors, dealing with particular subjects. In particular is legislation from the Waste Sector well represented within this group. However, also the two smaller sectors, GMO Sector and Noise Sector, are represented within this group with important more general directives.

The prioritized list of EU environmental legislation and sectors (refer Annex II) for implementation can serve to the Ministry of Environment and Physical Planning as a route map for focusing their human resources, the governmental budget and donor assistance on a systematic and consistence way.

As the prioritization was based on the current national circumstances the Consultant recommends that the Ministry of Environment and Physical Planning perform the prioritization on regular base (e.g. with 2 – 3 years interval) in order to recognise if the priority has been changed and to follow any new prioritization.

To give a general overview of the further implementation actions needed to obtain full implementation of the EU environmental legislation, the implementation and enforcement actions have been grouped in accordance with the above defined three main groups and sub-groups of actions (refer Table 12), and the table below presents in which sectors these actions are required. Due to limited available resources, not all activities can be done at the same time. The actions have therefore been divided up in three implementation periods, namely short, medium and long term actions as presented in the below table.

| Table 14: Further implementation actions needed<br>Sector | EU covered Directives (as amended) | Institutional set up Actions | | | Technical Assistance (TA) Actions | | | Capital Infrastructure & Operational Actions | |
|---|---|---|---|---|---|---|---|---|---|
| | | New Employments | Appointment of competent authorities / responsible persons | Establishment of new management systems and support actions | TA for preparation of policy documents | TA for preparation of investment documents | TA for strengthening of capacities | Capital infrastructure actions | Actions for operation of infrastructure |
| Waste Management | Waste Framework Directive (2006/12/EC) | | | | | | | | |
| | Hazardous Waste Directive 91/689/EEC | | | | | | | | |
| | Landfill Directive (99/31/EC | | | | | | | | |
| | Packaging and Packaging Waste Directive (94/62/EC) | | | | | | | | |
| | Waste Incineration Directive (2000/76/EC) | | | | | | | | |
| | Batteries and Accumulators Directive (91/157/EEC) | | | | | | | | |
| | WEEE Directive (2002/96/EC) | | | | | | | | |
| | Labelling of Batteries | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Directive (93/86/EC) | | | | | | | | |
| | Waste Oils Directive (75/439/EEC) | | | | | | | | |
| | PCB/PCT Directive (96/59/EC) | | | | | | | | |
| | End-of-life Vehicles Directive (2000/53/EC) | | | | | | | | |
| | RoHS Directive (2002/95/EC) | | | | | | | | |
| | Waste Shipment Regulation (EEC 259/93) | | | | | | | | |
| | Waste from the Extractive Industries Directive (2006/21/EC) | | | | | | | | |
| Air Quality | Air Framework Directive (96/62/EC) | | | | | | | | |
| | Limit Values for SO2, NO2, NOx, PM & Pb in Ambient Air Directive (99/30/EC) | | | | | | | | |
| | Benzene and Carbon Monoxide Directive (2000/69/EC) | | | | | | | | |
| | Ozone in Ambient Air | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Directive (2002/3/EC) | | | | | | | | |
| | As, Ca, Hg, Ni & PAH in Ambient Air Directive (2004/107/EC) | | | | | | | | |
| | National Emission Ceiling Directive (2001/81/EC) | | | | | | | | |
| | Emission Trading Directive (2003/87/EC) | | | | | | | | |
| | Reduction in S Content of Certain Fuels Directive (1999/32/EC) | | | | | | | | |
| | Consumer Information Directive (1999/94/EC) | | | | | | | | |
| | Quality of Petrol and Diesel Fuels Directive (98/70/EC) | | | | | | | | |

| Sector | EU covered Directives (as amended) | Institutional set up Actions | Technical Assistance (TA) Actions | Capital Infrastructure & Operational Actions |
|---|---|---|---|---|

| | | New Employments | Appointment of competent authorities / responsible persons | Establishment of new management systems and support actions | TA for preparation of policy documents | TA for preparation of investment documents | TA for strengthening of capacities | Capital infrastructure actions | Actions for operation of infrastructure |
|---|---|---|---|---|---|---|---|---|---|
| Water Quality | Water Framework Directive (2000/60 /EC) | | | | | | | | |
| | Urban Waste Water Directive (91/271/EEC) | | | | | | | | |
| | Drinking Water Directive (98/83/EC) | | | | | | | | |
| | Surface Water for Abstraction Directive (75/440/EEC) | | | | | | | | |
| | Nitrates Directive (91/676/EEC) | | | | | | | | |
| | Bathing Water Directive (2006/7/EC | | | | | | | | |
| | Dangerous Substances to Water Directive (76/464/EEC) | | | | | | | | |
| | Sewage Sludge Directive (86/278/EEC) | | | | | | | | |
| | Measurement of Drinking Water Directive (79/869/EEC) | | | | | | | | |
| | Groundwater Directive (80/68/EEC) | | | | | | | | |
| | Mercury Discharges from Chlor-Alkali Industries Directive (82/176/EEC) | | | | | | | | |
| | Cadmium Discharges Directive (83/513/EEC) | | | | | | | | |

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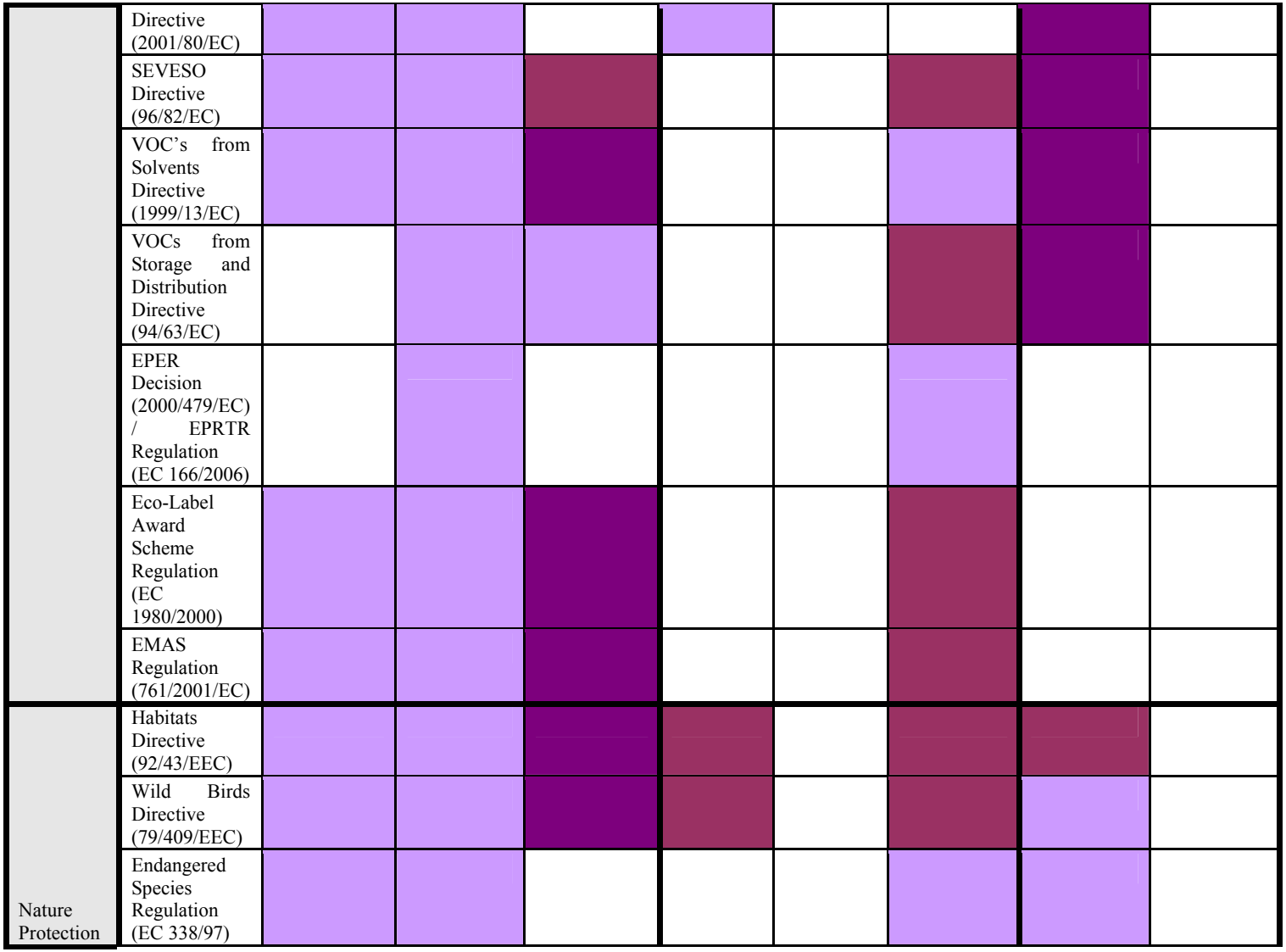
|---|---|---|---|---|---|---|---|---|---|
| | Other Mercury Discharges Directive (84/15/EEC) | | | | | | | | |
| | Hexachlorocyclohexane (HCH) Discharges Directive (84/491/EEC) | | | | | | | | |
| | List One Substances Directive (86/280/EEC) | | | | | | | | |
| | Fish Water Directive (78/659/EEC) | | | | | | | | |
| | Shellfish Water Directive (79/923/EEC) | | | | | | | | |
| Chemicals | Classification, Packaging & Labelling of Dangerous Substances Directive (67/548/EEC) | | | | | | | | |
| | Ozone-Depleting Substances Regulation (EC 2037/2000) | | | | | | | | |
| | Animal Experiments Directive (86/609/EEC) | | | | | | | | |
| | Asbestos Directive (87/217/EEC) | | | | | | | | |
| | Biocides Directive (98/8/EC) | | | | | | | | |
| GMOs | Deliberate Release of GMOs Directive (2001/18/EC) | | | | | | | | |
| | Contained use of GMMs Directive (98/81/EEC) | | | | | | | | |

| Sector | EU covered Directives (as amended) | Institutional set up Actions | Technical Assistance (TA) Actions | Capital Infrastructure & Operational Actions |
|---|---|---|---|---|

| | | New Employments | Appointment of competent authorities / responsible persons | Establishment of new management systems and support actions | TA for preparation of policy documents | TA for preparation of investment documents | TA for strengthening of capacities | Capital infrastructure actions | Actions for operation of infrastructure |
|---|---|---|---|---|---|---|---|---|---|
| Horizontal Legislation | Environmental Impact Assessment (EIA) Directive (85/337/EEC) | | | | | | | | |
| | Strategic Environmental Assessment (SEA) Directive (2001/42/EC) | | | | | | | | |
| | Access to Environmental Information Directive (2003/4/EC) | | | | | | | | |
| | Public Participation Directive (2003/35/C) | | | | | | | | |
| | Environmental Liability Directive (2004/35/EC) | | | | | | | | |
| Industrial Pollution Control (IPC) | IPPC Directive (96/61/EC) | | | | | | | | |
| | Large Combustion Plants | | | | | | | | |


Directive (2001/80/EC)
SEVESO Directive (96/82/EC)
VOC's from Solvents Directive (1999/13/EC)
VOCs from Storage and Distribution Directive (94/63/EC)
EPER Decision (2000/479/EC) / EPRTR Regulation (EC 166/2006)
Eco-Label Award Scheme Regulation (EC 1980/2000)
EMAS Regulation (761/2001/EC)
Habitats Directive (92/43/EEC)
Wild Birds Directive (79/409/EEC)
Endangered Species Regulation (EC 338/97)
Nature Protection

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Monitoring of Forests Regulation (EC 2152/2003) | | | | | | | | |
| | ZOO Directive (1999/22/EC) | | | | | | | | |
| | Leghold Traps Regulation (EEC 3254/91) | | | | | | | | |
| Noise | Noise Framework Directive (2002/49/EC) | | | | | | | | |
| | Motor Vehicles Directive (92/97/EEC) | | | | | | | | |
| | Outdoor Equipment Directive (2000/14/EC) | | | | | | | | |

Legend:

| | |
|---|---|
| Further needed short term actions (implementation period: 2007-2010) | |
| Further needed medium term actions (implementation period: 2011-2015) | |
| Further needed long term actions (implementation period: 2016 and beyond) | |
| No further actions needed / Required actions already included under other EU Directives | |

More complete tables with all planned actions required for full technical implementation and enforcement of the EU environmental legislation are given in the respective Sector Approximation Strategies. These planned sector actions have been grouped into projects in the respective Sector Approximation Strategies with the main aim to make these actions more operational and to assist the Ministry of Environmental and Physical Planning in coordinating and optimizing the implementation of actions of similar character.

The above table shows that there are still a lot of actions to be implemented before a full implementation of the EU environmental requirements is obtained. Further action is needed within all of the environmental sectors, and within each sector there is a need for additional institutional set-up actions, technical assistance actions as well as capital infrastructure and operational actions. The short term activities are mainly institutional set-up actions consisting of new employments, appointment of Competent Authorities and/or responsible persons, and establishment of new management, systems and or supporting actions. The short term actions also contain some technical assistance actions and a few capital infrastructure and operations actions. The medium terms actions are mainly technical assistance actions consisting of preparation of policy documents, investment documents and capacity strengthening, but contains also some institutional set-up actions and a few capital infrastructure and operation actions. The long term actions are mainly consisting of capital infrastructure and operation actions, but consist also of a few institutional set-up actions as well as a few technical assistance actions.

The above shown grouping of actions into short, medium and long term actions is based on the prioritization performed by the NSEA Working Group. It should be noted that the legislation with no actions (no colour) does not necessarily indicate that there is no actions to be carried out for a full implementation of these particular pieces of legislation. For some of these directives, the required actions for a full implementation are combined with actions of other directives and will be implemented jointly.

A more detailed description of the needed actions for a full implementation of each sector is presented in the following.

Waste Management Sector

- Institutional setup actions

  The employment of additional staff on central and local (municipal) level to deal with waste management issues, mainly permitting and registration, data collection and reporting and management with medical waste, is planned for a period of 5 years (2008 - 2012). Appointment of the Competent Authorities and responsible units / persons, as required by the Waste Framework Directive (75/442/EC), Hazardous Waste Directive (91/689/EC) and Packaging Waste Directive (94/62/EC), is a short term action (2007 - 2010).

  Establishment of the new waste management systems under different EU waste related directives in order to manage all waste streams is also short-term actions. This group of actions consists, among others, of establishment of the Regional Waste Management Boards for conducting feasibility studies and designs for municipal waste management, hazardous waste management systems (collection, intermediate storage, recovery and disposal), promotion of the

recycling and set up of systems for management of specific waste streams as waste batteries, end-of-life vehicles and waste oils. Most of the other support actions should be done together with the various stakeholders (industry and business sectors concerned). This is expected to last 5 – 6 years (short and medium term actions) with exception of the permitting and reporting activities which will last permanently.

- Technical assistance actions

In the short term the main focus should be given to the initiation and implementation of the technical assistance projects dealing with preparation of the policy documents covering certain waste types and streams like:

- Plan for the closure of high risk municipal dumps;
- Conditioning plans for municipal waste dumps;
- Plan for hazardous waste management;
- Strategy or plan for reduction of biodegradable waste;
- Plan for dealing with inert waste including landfills for inert waste;
- Policy documents for encouraging waste prevention, reuse and recycling;
- Policy documents for implementation of the measures (systems) for special waste streams: waste oils, waste tyres, waste accumulators, end-of-life vehicles, PCB's, packaging waste, waste electrical and electronic equipment together with the promotion, public campaigns and support actions for implementation of all mentioned systems.

Preparation of all the policy documents is optimized and coordinated with priorities and logical subsequent actions in sense of timing. This is expected to last about 5 years.

Preparation of investment documents is planned to take place over a 9 year period. The preparation of feasibility studies and preparation of IPA applications for the already prepared feasibility studies are main activities. This approach will include development of the regional municipal waste management systems (a total of 8 according to the National Waste Management Plan), system for hazardous waste management, system for medical waste management, system for closure of the high risk and other existing municipal dumps and system for inert waste management, including the landfills for inert waste.

The technical assistance actions for strengthening the capacity of the Ministry of Environmental and Physical Planning, local administration and industry are focused on preparation of several guidance and manuals for inspectors and other staff. Also there are planned many trainings regarding better understanding of the Law on Waste Management and its obligations, objectives and tasks given on the state and local level. This is expected to take place over a period of more than 10 years.

- Capital infrastructure and operational actions

The implementation of the capital infrastructure actions and additional operation actions are long term (till 2020) and a heavy costly process due to the complexity of the sector. On a high priority within the sector are investments on closure of the high risk municipal dumps, constructing of some regional landfills and support systems for municipal waste, implementation of the conditioning plans for the existing municipal dumps, constructing of the landfill for hazardous waste an the support systems (if necessary, based on the results of a feasibility study), construction of the medical waste facility and the support systems, and establishment of the network for management of the packaging and packing waste.

In the medium and long term it is planned to continue with all the investments for above mentioned actions especially for development of the regional waste management systems and the systems for packaging and packaging waste. The actions are planned to be implemented within a 10 years period.

The actions for operation of the infrastructure are planned to be taken care of by the companies mainly dealing with hazardous waste. Most of the actions are related to preparation of waste transport documents, packaging and labelling of the waste and other actions. Also the local self government units will have operation of primary selection of the municipal waste and investments in composting plants. Implementation of these issues will be medium to long term actions, which are expected to be implemented over a 9 year period.

**Air Quality Sector**

- Institutional setup actions

In the short term (2007 - 2010), of main importance is implementation of actions regarding establishment of the Competent Unit (Emissions Inventory Unit) with employment, appointment and training of additional personnel responsible for the implementation of all air related EU directives.

The Air Quality Framework Directive (96/62/EC), the National Emission Ceilings Directive (2001/81/EC) and the Quality of Petrol and Diesel Fuels Directive (98/70/EC) and the Consumer Information Directive (1999/94/EC) ask for appointment for Competent Authority / Persons to deal with implementation of these directives.

The actions related to the As, Cd, Hg, Ni and PAH in Ambient Air Directive (2004/107/EC) are dealing with assessment of these heavy metals and PAHs in air samples, establishment of sampling points and set up of monitoring in certain areas.

- Technical assistance actions

In the short term period (2007 - 2010) is foreseen preparation of policy documents (National Programme for Ambient Air Management and Improvement, National Allocation Programme for Green House Gasses, and National Programme for Emissions Ceilings) and projects concerning the establishment of on-line data collection system for emission inventories, data flow procedures and online reporting as well as implementation of standards regarding fuel quality.

Within the medium term (2011 - 2015), technical assistance is planned for projects and programmes regarding reduction of green house gasses emission. Also investment documents are planned concerning emission modelling and projections in compliance with the National Emission Ceilings Directive (2001/81/EC) and daughter directives under the Ambient Air Quality Framework (96/62/EC) as well as a few actions related to the Emission Trading Directive (2000/87/EC).

- Capital infrastructure actions

The planned actions in the short term (2007 - 2010) are purchase of relevant equipment (upgrade of existing monitoring network with new monitoring stations and specific modules, necessary analysis equipment, and equipment to setup the database and dispersion model) and in the medium (2011 - 2015) and long term (after 2015) are planned actions concerning implementation of the Emission Trading Directive (2000/87/EC).

**Water Quality Sector**

-Institutional setup action In the short term (2007 - 2010), the priority is the establishment of Competent Authority on national level, River Basin Authorities and monitoring institutions and laboratories to deal with requirements under the Water Framework Directive (2000/60/EC), Urban Waste Treatment Directive (91/271/EC), Bathing Water Directive (76/160/EC), Nitrates Directive (91/676/EC) and Drinking Water Directive (98/83/EC), and employment of additional personnel on central and municipal level.

Numerous actions are related to establishment of water management systems and support actions fulfilling the requirements from the Water Framework Directive (2000/60/EC), Urban

Waste Treatment Directive (91/271/EC) and the Nitrates Directive (91/676/EC). These actions are identification of river basins and assignment or river basins to individual river basin districts, assignment of groundwater bodies to river basin district and identification of the quantitative and qualitative status of all groundwater bodies, establishment of monitoring programmes, establishment of a river basin database, integrated waste water database and related GIS facilities, and identification of nitrate vulnerable zones.

- Technical assistance actions

  The actions for preparation of investment documents primarily encompass projects dealing with review of the characteristics of the river basins and districts, human activities and impacts and in-depth economic analysis of water use as well as development of programmes of measures as part of the river basin plans to achieve good water status in accordance with the requirements of the Water Framework Directive (2000/60/EC), together with preparation of Investment and Prioritization Plans and introduction of a comprehensive system for governmental loans facilitating the required investment in water protection and water supply. The actions in the coming 6 – 7 years deals mostly with support in preparations of investment documents (feasibility studies, detailed designs and applications for grants, loans and credits) for water and wastewater systems and waste water treatment plans.

  Capacity building projects are foreseen for institutional strengthening of the newly established River Basin (Districts) Authorities, personnel in institutions appointed to carry out the monitoring of various aspects of water quality and quantity as well as for the accreditation of appointed laboratories on national and local levels. Technical assistance actions are also planned for dissemination of various guidelines, results and plans, development of criteria and standards, public consultations, and awareness raising campaigns. Actions for capacity building are planned throughout the next 20 years with more emphasis on the first 6 – 7 years.

- Capital Infrastructure and operation action

  Long term (till 2022) investments related to the capital infrastructure actions as well as operation actions are required. It is necessary to upgrade water supply and urban waste water collection systems to fulfil the requirements of the Urban Waste Treatment Directive (91/271/EC), separation of the storm water and urban waste water networks, building of new urban waste water and water supply systems to reach full coverage with safe drinking water in accordance with the requirements of the Drinking Water Directive (98/83/EC), and, in particular, to decrease the loss and ‘unaccounted for’ water in the systems.

  Regulation, implementation, enforcement and monitoring as required by the Water Framework Directive (2000/60/EC) will also demand (relatively smaller) investments, like in improvement of quality (and quantity) monitoring services and laboratory capacities, institutional building, and implementation of groundwater assessment and monitoring, which shall be the areas where most of the actions will be concentrated.

**Chemicals sector**

- Institutional setup actions

  Establishment of a unit and appointment of staff responsible for classification, packaging and labelling of dangerous substances is the most important short term institutional action generated from the requirements of the Dangerous Substances (67/548/EEC) Directive (and the new REACH legislation). The already existing personnel under the project-based Office for the Protection of the Ozone Layer need to be fully integrated into the infrastructure of the Ministry of Environments and Physical Planning in order to continue with the implementation of the Ozone Depleting Substances Regulation (EC) 2037/200.

  The Competent Authorities should be designated as a requirement of the other EU Directives

within this sector: Animal Experiments Directive (86/609/EEC), Asbestos Directive (87/217/EEC), and Biocides Directive (98/8/EC). These directives ask also for authorisation / registration systems and data collection systems.

- Technical assistance actions
  For the implementation of the Dangerous Substances Directive (67/548/EEC), technical assistance is needed (in the short term) covering the following activities: assessment of the national chemicals sector, setting the foundation for hazard and risk assessment of chemicals, assessment of the technical training needs, design and establishment of a Chemicals Register, prepare procedures for data collection, data handling and administration of the Register, and assess the existing inspection activities and propose an efficient inspection system.

  Capacity building is foreseen in relation to the Ozone Depleting Substances Regulation (EC) 2037/200 dealing with assessment of the existing data-gathering systems, improvements and/or upgrade of the database developed by the Ozone Depleting Unit, and training of the personnel of the said unit, inspectors and other stakeholders.

- Capital Infrastructure and operation action
  The actions under the capital infrastructure consist of purchasing the equipment for the Chemical Register and database.

**GMO sector**

-Institutional setup actions The actions within this sector are simultaneous covering the Directive on Deliberate Release of GMOs (2001/18/EC) and the Directive on Contained Use of GMMs (90/219/EEC).

The institutional setup actions are short term and include the establishment of institutional and administrative structures (including employment of additional personnel) for carrying out risk assessments with experimental release of GMOs (part B and C) as well as committees for deliberate release of GMOs and for placing products on the market.

- Technical assistance actions
  Technical assistance are proposed to cover preparation of the procedures for notification, establishment of an expert panel for technical support to examine and advise on the notifications and safety measures, specification and design of the GMO Register, the establishment of the procedures for data collection, data filing and administration of the GMO Register, assessment of the present inspection bodies and perform the trainings to all stakeholders. All these actions are foreseen to be implemented in the short term.

- Capital Infrastructure and operation action
  The actions under capital infrastructure consist of purchasing equipment for the GMO Register and database.

Horizontal sector

- Institutional setup actions
  The institutional set-up actions include the extension of the EIA Unit within the Ministry of Environment and Physical Planning with new personnel who will work very closely with the IPPC Unit. The establishment and functioning of the List (panel) of EIA experts and preparation of computer register of experts and practitioners is other actions to be done. A pool of expertise on liability issues is likewise essential to be setup. New personnel are also required by other horizontal related directives not only on central but on local municipal level.

-Technical assistance actions
  Short term technical assistance in capacity building is foreseen to include preparation of a detailed needs assessment of the existing personnel of the Ministry of Environment and Physical Planning dealing with the requirements from the implementation of the EIA Directive

(85/337/EEC) and SEA Directive (2001/42/EC), preparation of the guidelines on methodologies on SEA and EIA procedures, stakeholder consultations, criteria for EIA Annex II projects, guidance documents for developers, identification of plans for which strategic environmental assessment is necessary to be carried out, and preparation of the procedures and modalities of public consultation on national level and with neighbouring countries.

Short term technical assistance in capacity building is also needed for tasks under the Environmental Information Directive (2003/4/EC) and public participation Directive (2003/35/EC) dealing with procedures with submission of environmental information, list of public authorities with environmental data, charging basis, designation of the arbitration body.

In relation to the requirements of the Environmental Liability Directive (2004/35/EC), technical assistance is foreseen in order to strengthen the capacity of the administrative structure with assessment procedure to evaluate whether environmental damage has been taken place and operator is liable, remedial actions needed, procedures with stakeholders on prevention, mitigation and remediation strategies.

Technical assistance is also required to train environmental inspectors and to support their participation in the IMPEL and ECENA networks.

- Capital Infrastructure and operation action
  There are no capital infrastructure actions.

Industrial Pollution Control Sector

- Institutional setup actions
  One of the short term (till 2010) actions under the IPC sector is employment of additional personnel within the Ministry of Environment and Physical Planning and the State Environmental Inspectorate. However, with the newly employed staff it is assumed that the number of staff on the national level will be enough to cover the new requirements for implementation of all the EU directives within the sector.

  Appointment of the Competent Authorities and responsible units/persons are actions required by all EU directives within the IPC Sector and personnel need to be appointed to cover tasks raised from specific directives.

  Establishment of new systems make up a significant part of the actions covering all IPC directives. These actions include activities like establishment of a database on IPPC installations and permits, establishment of a scheme on regular inspection on IPPC installations, Large Combustion Plants and VOC installations, identification of SEVESO II systems, setup of standards and recognition of the accreditation requirements, updating of the Register on organizations certified under EMAS, etc. The majority of actions are planed for the period 2008 - 2012 with exceptions of permitting, public participation, inspection, enforcement, adoption of some standards and reporting, which will last permanently.

- Technical assistance actions
  The technical assistance actions for strengthening the capacity of the Ministry of Environment and Physical Planning, local administration and industry are focused on preparation of guidelines, manuals for inspectors and the staff. Also planned (2006 – 2012) are many trainings regarding better understanding of the IPC issues and stakeholders obligations, objectives and tasks given at the state and the local level. The most specific and comprehensive capacity building actions are related to the implementation of the SEVESO II Directive, encompassing a great number of actors and stakeholders. The Large Combustion Plants Directive (2001/80/EC) asks for preparation of a National Emission Reduction Plan, which is planned to be a short term action.

- Capital Infrastructure and operation action

Investments in infrastructure take a great number of heavy-costly actions. Some belongs to the public infrastructure (upgrade of the laboratories and introduction of Quality Assurance / Quality Control procedures, including the laboratory of the Ministry of Environment and Physical Planning), but the greatest part belongs to technical adaptation of industrial installations liable under the IPPC regulation, SEVESO II requirements on the safety reports and emergency plans, reduction of emissions from Large Combustion Plants and VOCs from installations and terminals on fuels. If end-of-pipe solutions will be chosen, neither local state aid nor donors' financial support may be expected (these adaptations are typical implementation in accordance with the "polluter pays" principle). The introduction of cleaner production and integrated product policies is a beneficial approach by installations towards compliance with the environmental standards. All these actions will last several years and for some of IPC Directives a transposition period will be required as their implementation will last beyond 2016.

**Nature Protection and Forestry Sectors**

- Institutional setup actions

The institutional setup actions within the nature sector have mainly been focused on the establishment of the new dedicated Natura 2000 Unit (as a requirement from the Habitats Directive (92/43/EEC)) within the Ministry of Environment and Physical Planning with new trained professional biologists. New personnel and establishment of Competent Authorities are also needed to respond on the requirements from the Wild Birds Directive (79/409/EEC) and Monitoring of Forests Regulation (EC/2152/2003). The establishment of the Management Authority, Scientific Authority and institutions as Rescue Centres for plant and animal spices is essential according to the requirements of the Endangered Species Regulation (EC/338/97). In the first 1 - 2 years, assessment of institutional needs, reform of the managerial Boards overseeing National Parks and establishment of arrangements for inspection of national parks and other possible Special Areas of Conservation should be carried out.

Several new management systems should be established under the nature protection sector, such as a biodiversity information management system, data collection and reporting systems, a network of Special Areas of Conservation and the strict conservation measures for spices required by Annex IV under the Habitats Directive (92/43/EEC), establish a network of Special Protected Areas and a system of strict protection for all species of birds under the Wild Birds Directive (79/409/EEC). All these actions are medium and long term and it is expected that they can last beyond 2016.

- Technical assistance actions

The technical assistance projects for development of planning documents are mainly focuses on the identification and development of Management Plans for possible Natura 2000 sites, which is a medium term action (2010 - 2016), action plans for implemention of spices conservation measures as a short term action under the Habitats Directive (92/43/EEC), and development of Management Plans for possible Special Protected Areas as a medium term action under the Wild Birds Directive (79/409/EEC).

Capacity building projects are needed through the whole approximation period for all directives within this sector, mainly dealing with training of new and existing staff at central and local level and inspectors for conducting control and enforcement measures, public information and education about the nature topics, and launching the public awareness campaigns.

- Capital Infrastructure and operation action

The capital investments actions are focused on the purchasing of private land with important habitats or species to create new Natura 2000 cites, which is proposed to be done as medium term action (2013 - 2016), field work needed for analysis of protected area network, GIS gap

analysis and mapping of species and habitats, which also is medium and long term actions (2009 - 2016) needed under the Habitats Directive (92/43/EEC). Other actions include the establishment of a database for habitats, spices, forestry monitoring network and trade with threatened species, which is a short term action, the undertaken of spices conservation work and regular forest monitoring which are medium term actions, and develop Rescue Centre and other zoo infrastructure, which are short term actions.

**Noise sector**

- Institutional setup actions

  The most important action for the implementation of the three selected EU noise related directives is establishment of administrative noise sections within the Environmental Information Centre in the Ministry of Environmental and Physical Planning, in the Ministry of Economy and in the Environmental Department in City of Skopje and other municipalities with more than 100,000 inhabitants. This is a short term action accompanied with the employment and training of the responsible personnel.

- Technical assistance actions

  Institutional strengthening is needed to be implemented in the short term period covering establishment of computation methods for strategic noise mapping, choosing a representative pilot areas with noise from roads, railways and industrial activity sites, preparation of the computerized strategic noise maps for these pilot sites and developing action plans for them. Other short term actions are foreseen dealing with computerized strategic noise maps for selected road and rail traffic and for industrial activity sites. The actions include trainings of the personnel and public awareness as well.

- Capital Infrastructure and operation action

  The important actions related to capital infrastructure investments in the noise sector are purchase and maintenance of a database, GIS and software licences and hardware in the administrative units dealing with noise related issues. These are short term and medium term actions (2007 - 2011).

# 5. PRIORITIES FOR INVESTMENT

## 5.1 Requirements for Investment

Some of the terms used in the costing are defined in Annex IV together with a presentation of the characteristics of the costing exercise, and the methodology used to estimate costs.

Costs are a multidimensional attribute. They can effectively be classified by: -
whether for legal transposition or implementation,
- capital, operating, etc.,
-type of expenditure, e.g. salaries, capacity building, training, equipment, etc.,
-the directive or environmental sector which give rise to it,
-the party responsible for the action, and
-the source from which the cost(s) might be financed.

The total estimated cost of transposing the EU environmental acquis into national law and fully implementing and enforcing it are shown in the table below.

| Table 15: Total costs of the EU environmental approximation | Capital / one-off costs (€ million) | Operating / recurrent costs (€ million p.a.) |
|---|---|---|
| Legal transposition | 13 | - |
| Implementation and enforcement | 2,279 | 206.5 |
| TOTAL | 2,292 | 206.5 |

These costs are in constant 2006 prices.

The estimated total capital / one-off costs of approximately €2.3 billion are equivalent to over €1,000 for every person in the country. The operating / recurrent costs of €206.5 million p.a. are equivalent to a further €100 per capita per annum. Compared with the Gross Domestic Product (GDP), the total capital cost alone is equivalent to 37% of one year's GDP.

These costs will obviously pose an enormous challenge to the Republic of Macedonia. Although it is assumed that membership of the EU will generate economic benefits for the country, and although many of the measures to be taken will generate economic benefits independent of the country's entry into the EU, these costs represent a very substantial burden for the country. The costs as presented above will of course not occur in full immediately. The capital / one-off expenditure will be spread over a number of years (see Sub-chapter IV) and the operating / recurrent years will not rise to the value shown above until after a number of years have elapsed. It can also be seen that the costs of the legal transposition are very small in relation to the total costs (considerably less than 1% of the total).

Sub-dividing the costs into the ten sectors by which the acquis is classified gives the following breakdown (with combined costs of the Nature Protection & Forestry Sectors):

| Table 16: Total costs of the EU environmental approximation by sector | Capital / one-off costs (€ million) | Operating / recurrent costs (€ million p.a.) |
|---|---|---|

| | | |
|---|---|---|
| IPC Sector | 1,167 | 84.2 |
| Water Quality Sector | 725 | 45.7 |
| Waste Management Sector | 359 | 43.0 |
| Nature Protection Sector and Forestry Sector | 20 | 11.0 |
| Air Quality Sector | 8 | 3.4 |
| Chemicals Sector | 5 | 14.4 |
| Horizontal Legislation Sector | 3 | 3.6 |
| Noise Sector | 3 | 0.2 |
| GMO Sector | 2 | 1.0 |
| TOTAL | 2,292 | 206.5 |

The sectors are arranged in sequence of decreasing capital / one-off costs. It should be noted that:

. • By far the most costly sector is the Industrial Pollution Control (IPC) Sector, which accounts for over one-half of the total capital / one-off costs and 40% of the total operating costs. It is important that the IPC sector is a cross-cutting sector. It includes all the major measures taken by industry to reduce its environmental impact, including those to reduce emissions to air and water, to abate noise, etc. Two-thirds of the costs included under the IPC Sector actually relate to the abatement of air pollution.

. • The capital / one-off costs for the three most cost-heavy sectors (IPC, Water Quality and Waste Management) account for over 98 % of the total. These are the sectors which call for large programmes of capital investment, either by industry (IPC) or in municipal infrastructure.

. • For the reasons outlined above, care should be taken in comparing the above sectoral breakdown of costs with those quoted for other countries. Some countries for example attribute the costs of implementing the Large Combustion Plant Directive (2001/80/EC) to the Air Quality Sector, while in the above table these costs are attributed to the IPC Sector.

In terms of type of expenditure, the costs can be broken down as follows: The overwhelming proportion of the capital / one-off costs (95%) are required for capital investment, mainly municipal / regional water and waste management infrastructure, equipment for pollution abatement and risk reduction and waste collection / recycling facilities.

| Table 17: Total costs of the EU environmental approximation by type of expenditure Expenditure category | Capital / one-off costs (€ million) | Operating / recurrent costs (€ million p.a.) |
|---|---|---|
| Legal transposition - personnel related | 2 | |
| Legal transposition - technical assistance | 11 | |
| Implementation - personnel related | 7 | 30 |
| Implementation - technical assistance | 101 | |
| Implementation - capital investment and other measures, equipment, etc. | 2,171 | 177 |
| TOTAL | 2,292 | 207 |

The amount required for technical assistance is quite significant at €122 million. Although this amount is only a small proportion of the total costs it is nevertheless important as the Republic of Macedonia will depend on most of this being financed by the international donor community, a source which is limited in size.

The salary costs (€30 million p.a.) correspond to a total of some 1,235 new jobs which will be created directly as a result of the EU environmental approximation. These jobs break-down as follows between employing organisations.

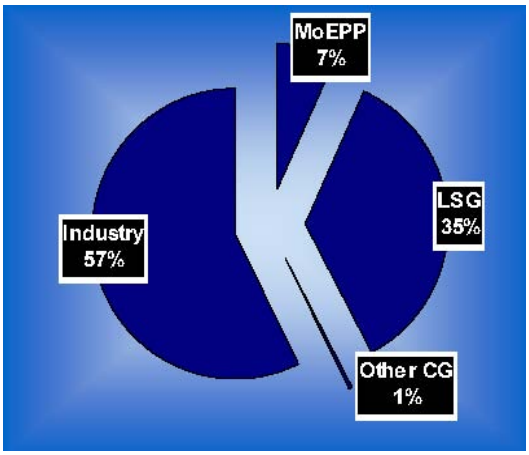
| Table 18: New employment as a result of the EU environmental approximation Organisation or category/sector | Number of new jobs | Remarks |
|---|---|---|
| Ministry of Environment and Physical Planning | 587 | Includes 400 persons as park rangers and other persons for the management of protected areas |
| Other central government ministries | 473 | Persons on regional landfills, and within the City of Skopje and the municipalities themselves |
| Local Self-Government Units | 145 | |
| Industry | 30 | Includes some publicly-owned companies, as no distinction has been made between publicly and privately owned companies |
| TOTAL | 1,235 | |

The above table is probably a substantial understatement of the total new jobs attributable directly to the adoption of EU legislation. For many of the measures costed which will require human resources, for example for maintenance operations, as drivers, landfill operatives etc., the costs associated with such human resources were included as general operating costs rather than specifically as salary costs.

The breakdown of costs according to the institution, economic or social sector responsible for the specific actions is given in the following table.

| Table 19: Total costs of the EU environmental approximation by institution or sector responsible for the action Responsible party | Capital/one off costs (€ million) | Operating/ recurrent costs (€ million p.a.) |
|---|---|---|
| Ministry of Environment and Physical Planning | 155 | 20 |
| Ministry of Health | 7 | 4 |
| Ministry of Agriculture, Forestry and Water Economy | 5 | 0.2 |
| Other central government institutions | 5 | 2 |
| Local Self-Government Units | 807 | 67 |
| Industry | 1,303 | 120 |
| Households | | 3 |
| TOTAL | 2,282 | 216 |

Figure 4: Distribution of total costs of the EU environmental approximation by institution




This very interesting table and figure shows that by far the heaviest costs (over 92% of the total capital / one-off costs) will fall in the first place on industry and on local self-government units.

These high costs relate, in the case of industry, to the costs incurred by companies subject to IPPC for the large-scale clean-up effort it will have to mount to install best available technology in terms of emissions to water, air and soil, energy efficiency, waste and recycling, to meet emissions standards for volatile organic compounds (VOCs), etc. In the case of the local self-government units (City of Skopje and the municipalities), these costs relate largely to the new infrastructure they will have to construct or the old infrastructure which will have to be upgraded and / or extended to make it EU-compliant. These additional municipal costs will mainly relate to the upgraded services for waste, water supply and sanitation.

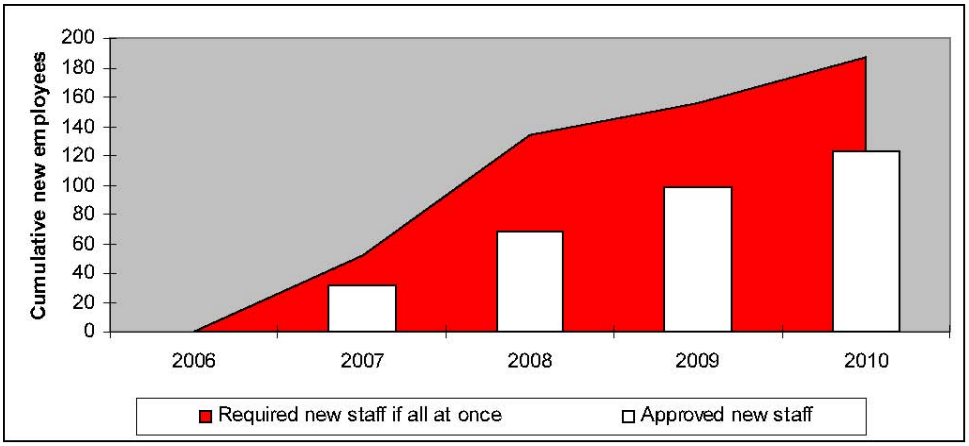
## 5.2 Strategy to Complete Investment

In the development of the Directive Specific Implementation Plans (DSIPs), the assumption was generally made that the transposition and implementation of each directive would commence pretty much immediately, and that the process would continue at a reasonable pace until complete. In the case of very investment-heavy directives such as the IPPC Directive (96/61/EC), the Urban Waste Water Directive (91/271/EEC) and the Landfill Directive (99/31/EC) a reasonable phasing over time of the investments was assumed, but in other cases the assumption corresponded to a 'soon as possible' scenario. In an ideal world in which resources are unlimited, everything could be started at once and follow the timetable spelled out in relative years in the action lists and costing sheets presented in the Directive Specific Implementation Plans (and in the Sector Approximation Strategies). However, it does not take long to realise that this would be impossible because the required resources would not be available in the early years. While the timetable of each separate directive was reasonable while viewed in the context of that directive only, when taken all together they represent an impossible task for the Republic of Macedonia because they would place an unabsorbable financial burden on the country. Resources available for environmental protection are limited, and the different directives, in so far as they require additional resources for implementation, are competing amongst each for these scarce resources. The timetable therefore needs to be extended in such a way as to reduce the annual financial burden.

Take employment for example. The following figure shows the additional staff requirements up

to 2010 if implementation of all directives started immediately against the (already ambitious) additional staff at the Ministry of Environment and Physical Planning which has been agreed by government to deal with approximation (refer Table 20).

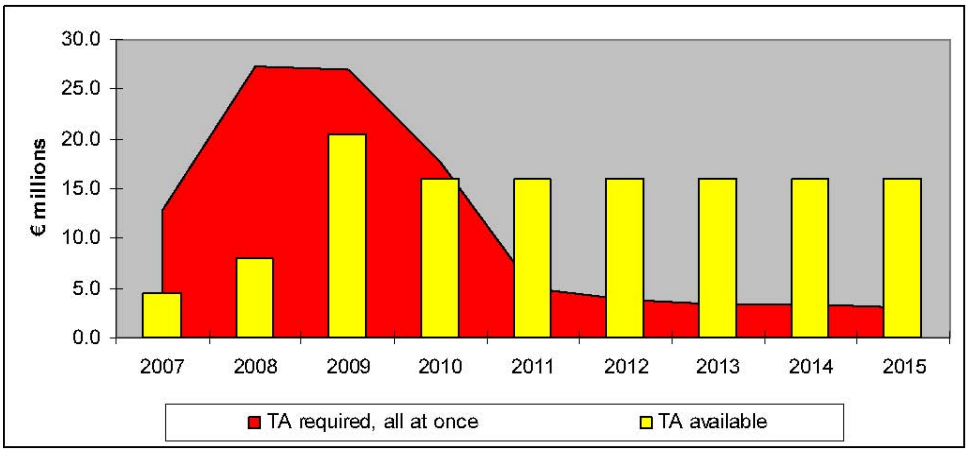
Figure 5: Additional staff requirements of the MoEPP up to 2010




As can be seen on the above figure, the required new staff is considerably higher than the approved new staff if the implementation of all directives starts immediately.

A similar situation applies for the technical assistance. The figure below compares the technical assistance which would be required if everything started immediately with the technical assistance which is likely to be forthcoming.

Figure 6: Technical assistance (TA) requirements up to 2015




On the above figure, the mismatch can be seen between the funds required for technical assistance and the funding available (refer Table 23) if implementation of all directives started immediately, the shortage of available funding in the early years being exacerbated by the likely hiatus in funds becoming available under the IPA funding (replacing the CARDS funding).
As was stated earlier, in order to ensure that environmental approximation will be affordable it

will be necessary to defer implementation of some of the directives. But in order to do this in a logical way, two questions arise:

A) How to decide whether a proposed strategy is affordable or not? B) What procedure should be adopted for deferring some directives?

These issues are considered separately below.

A) How to decide whether a proposed strategy is affordable or not?
Cost is not a one-dimensional parameter. There is not a single threshold cost for which it can be said that, if the actual strategy cost exceeds this value, the strategy is unaffordable and if it is less than this value it is affordable. Different types of cost will fall on different segments of society (Government ministries and other central government bodies, local self-government units, different types of polluting or resource-consuming industry and commerce, medical institutions, households, importers, etc.), and these costs will represent different challenges to these actors depending on their financial carrying capacity. In some cases they will be able to pass on or recoup these costs to or from others. The way in which the cost burden works its way through the economy is complex, many of the measures will have indirect beneficial effects quite apart from the environmental improvement they bring, for example by forcing industry to modernize and become more competitive, by improving public health and therefore reducing the economic impact of sickness on industry and its burden on the health care sector, by making the Republic of Macedonia a more attractive tourist destination, etc. It is therefore necessary to think more specifically in terms of particular economic bottlenecks which will determine affordability.

The following four cost bottlenecks are proposed to be considered in determination of affordability:

1. 1. Personnel increase in the Ministry of Environment and Physical Planning;
2. 2. Overall increase in state budget;
3. 3. Funding required for technical assistance projects;
4. 4. Overall cost (cash flow of all expenditures).

These four cost bottlenecks are discussed separately below.

-1. Personnel increases at Ministry of Environment and Physical Planning The EU environmental approximation will have staffing implications for a number of central government departments, as well as for local self-government units (City of Skopje and municipalities) and for private companies. However, in the following the focus is on the human resources at the Ministry of Environment and Physical Planning because this is the ministry which will have by far the greatest expansion need.

Under the second National Programme for the Adoption of the Acquis Communautaire (NPAA II), estimates were recently made of the increased staff requirements up to 2010 needed to adopt the EU environmental legislation. The figures for the Ministry of Environment and Physical Planning (MoEPP) are: The Government has accepted these numbers and is committed to the staff increase given. It would seem reasonable to assume that staff levels could thereafter continue to increase at a rate of 5% p.a. up to 2015, the assumed year of accession. We therefore have:

| Table 20: Approved increase in human resources at MoEPP up to 2010 for environmental approximation | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|
| Employees at year beginning | | 110 | 141 | 178 | 208 |

| | | | | | |
|---|---|---|---|---|---|
| New employees during year | | 31 | 37 | 30 | 25 |
| Cumulative new employees at year end | | 31 | 68 | 98 | 123 |
| Employees at year end | 110 | 141 | 178 | 208 | 233 |

| Table 21: Further increase in human resources at MoEPP from 2011 to 2015 for environmental approximation (assumed staff growth rate of 5% p.a.) | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| Employees at year beginning | 233 | 245 | 257 | 270 | 283 |
| New employees during year | 12 | 12 | 13 | 13 | 14 |
| Cumulative new employees at year end | 135 | 147 | 160 | 173 | 187 |
| Employees at year end | 245 | 257 | 270 | 283 | 297 |

The Government recognises that accession to the EU will involve an increase in the resources allocated to the environmental sector. Major increases in personnel and budgets in the Ministry of Environment and Physical Planning (and smaller increases in other ministries) have already been agreed for the years to 2010. It would be reasonable to assume that the proposed strategy should not make greater demands for personnel than already agreed up to 2010, and that the total staffing should not grow at more than, say, 5% per year thereafter up to 2015, the assumed date of accession.

-2. Overall increase in state budget Demonstrating major progress in transposing and implementing the environmental acquis is one imperative facing the Government in the coming years. But there is a tension between this and other government objectives, for example of maintaining macro-economic stability, including keeping a tight rein on Government spending to ensure that the budget deficit remains within acceptable bounds, of containing public indebtedness, etc. It is assumed that the government will wish to restrict the growth in environmental spending. It has not been attempted to specify an acceptable increase in the state budget, but it is just reported the estimated increase in the central government budget if the Republic of Macedonia seeks to accede to the EU by 2015.

-3. Funding required for technical assistance projects Implementation of the environmental acquis implies a huge effort in terms of taking on the human resources and preparing them to implement, administer and enforce this sophisticated and voluminous body of legislation. Many of the new personnel will have little knowledge or experience of the environment at all, let alone European environmental legislation. Capacity building projects in which EU consultants work closely with civil servants and local government employees in preparing the ground and the set-up procedures associated with the creation of new departments to administer EU law will be of crucial importance. Technical assistance is expensive, and given that it is most important in the early years, the Republic of Macedonia will have to be largely dependent on the international donor community to fund these projects. In the following, an estimate is made of the magnitude of aid likely to be available to the country over the coming years. This needs to be done in connection with the financing strategy for environmental approximation. One input into this process is the amount of aid which the country has been receiving in recent years (refer Sub-Chapter 2.5). In projecting the amount of grant aid which might be available in the coming years, a distinction is made between EU funding and funding from other sources.

The assumption is made that non-EU grant funding for the environment will continue at its present average level until the time of accession, when it will reduce to nil. There will probably be a tendency for aid to taper off before the time of accession, but if this is the case, it is assumed that the proportion going to the environment will be increased so that the absolute amount remains constant. The amount involved would therefore be approximately €7 million per annum.

Since the beginning of 2007, the only instrument by which the EU can grant pre-accession assistance is the Instrument for Pre-accession Assistance (IPA). It is not known precisely how much funding will be available for technical assistance for the environment from this source, but indicative allocations have been published for the years to 2010.

The IPA is made up of 5 'components', i.e.:

. •Component I - Transition assistance and institution building;
. •Component II - Cross-border cooperation;
. • Component III - Regional development, particularly roads and municipal infrastructure including water and sanitation projects;
. •Component IV - Human resources development;
. •Component V - Rural Development.

Components I, III and IV are the most relevant for the environmental acquis. The indicative amounts available for the Republic of Macedonia up to 2010 are as follows:

| Table 22: Indicative IPA allocations for the Republic of Macedonia for the period 2008 to 2010 (figure for 2007 is confirmed) | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|
| Component I | 41.6 | 39.9 | 38.1 | 36.3 |
| Component III | 7.4 | 12.3 | 20.8 | 29.4 |
| Component IV | 3.2 | 6.0 | 7.1 | 8.4 |
| TOTAL (5 components) | 58.5 | 70.2 | 81.8 | 92.3 |

Funds for technical assistance for capacity building will be made available from components I and IV. It is assumed that 20% of the total of component I plus component IV could be made available for environmental projects, given the fact that the environmental chapter is acknowledged to be one of the most costly to implement of the entire acquis. This corresponds to an amount of about €9 million per annum from 2008 to 2015.

The IPA is a new EU instrument, and not all the necessary modalities of operation have yet been finalised. This may lead to a funding hiatus in the interim period between the winding up of the CARDS programme and the startup of IPA. However this should not result in an ultimate loss of funding, since amounts unallocated due to late start-up will be carried forward. The funding of existing CARDS projects will continue through into 2008. It is assumed that the IPA funding will start to flow in 2009, and will include some arrears.

The total available as grant funding for technical assistance (TA) projects for the environment would therefore be:

| Table 23: | Amount available in € millions |
|---|---|

| Estimated grand funding for TA projects for the environment | | | | |
|---|---|---|---|---|
| Year | CARDS | IPA | Non-EU sources | Total |
| 2007 | 1 | | 3.5 | 4.5 |
| 2008 | 1 | | 7 | 8 |
| 2009 | | 13.5 | 7 | 20.5 |
| 2010 | | 9 | 7 | 16 |
| 2011 | | 9 | 7 | 16 |
| 2012 | | 9 | 7 | 16 |
| 2013 | | 9 | 7 | 16 |
| 2014 | | 9 | 7 | 16 |
| 2015 | | 9 | 7 | 16 |
| TOTAL | 2 | 67.5 | 59.5 | 129 |

As can be seen from the above table, the maximum amount available of €129 million therefore exceeds the estimated technical assistance required (€112 million, refer Table 34). It remains to be seen how the match looks over time (see section 6.4).

-4. Overall cost Finally, an overall limit will be applied on total cost. It was widely accepted that recent EU accessions could not be expected to bear environmental costs much in excess of 3% of their GDP, that higher expenditure would place unsustainable pressures on the vulnerable national economy. It is therefore proposed that a test of the affordability of a strategy is that total future additional environmental expenditure (capital plus operating) should not exceed 3% of (real) GDP.

B) What procedure should be adopted for deferring some directives?

The task is therefore to postpone implementation of some of the actions so that cost bottlenecks are avoided. In adjusting the timing of actions it was decided that one self-imposed constraint would apply, and that is that only between-directive timings would be adjusted, i.e. that the temporal integrity within directives would be maintained. This is in order to not make the exercise too complex.

We are not completely free to adjust the timings in such a way as to iron out the cost bottlenecks. There are certain other constraints, as follows:

. • In principle, EU environmental legislation is supposed to be transposed onto the local statutes and implemented by the date of accession. In practice the EU has shown itself willing in the past to negotiate transitional periods (refer Annex IV) for acceding countries, i.e. delays in the required date of implementation, for some EU directives. However the EU does apply fairly strict criteria in negotiating transitional periods. For example they can only apply to cost-heavy directives, they cannot apply to framework directives, all EU legislation must have been transposed by the date of accession and the EU is reluctant to postpone implementation of biodiversity-protecting legislation.

. • The final National Strategy and Approximation Plan adopted should respect the priorities applying to the Republic of Macedonia as identified by the NSEA Working Group for

prioritization established under the project using the developed prioritization methodology (refer Sub-Chapter 4.4).

There is no simple and practical algorithm for determining the timings which fit automatically, other than trial and error, and this is quite time consuming. What was therefore done was as follows:

. • A table was used for this exercise (see Annex IV). The rows of the table correspond to the various EU directives and other items for which actions and costs have been calculated.

. • The first column records the priority rank allocated at the prioritisation exercise. A rank of 1 means the directive was scored as having the highest priority of the 36 directives considered, and a rank of 36 refers to the lowest priority. Note that this column remains blank for some directives that were out of the prioritization scope.

. • The second column indicates whether a transitional period for each directive is likely to be negotiable. This is based on statements made by the European Commission, reflected in some of the criteria mentioned above, and on precedents set in negotiations for earlier enlargement rounds.

. • Where a transitional period is negotiable, then third column shows the maximum transitional period that the Republic of Macedonia might adopt in negotiations with the EU.

. • The fourth column shows the 'relative year' when the directive is considered to be implemented (year 0 is the first year). A '2', for example means that on the timing assumed in the costing sheet, the directive will take 3 years to be implemented to an acceptable level. This does not necessarily mean that all actions will be completed in this time (for example in the case of the Ambient Air Quality Framework Directive (96/62/EC) it is the point where the necessary action plans have been formulated, but have not necessarily been implemented. In the case of the Landfill Directive it is the point where the waste management infrastructure has been put in place and is functioning, but not necessarily where all contaminated land has been remediated).

• The maximum possible deferment period, i.e. the maximum number of years by which commencement of implementation can be deferred, can now be calculated mechanically:

max. deferment period = 9 - (no. of years required for implementation) + (max. transitional period)

. • It was further assumed that the maximum deferment period would never be greater than 6 years. This is the number shown in column 5a.

. • Finally an actual proposed deferment period was selected not greater than the maximum deferment period, but which also reflects the priority assigned and

any other relevant matters, such as the logical interrelationships between directives, activity presently ongoing, etc.

The table shown in Annex IV therefore constitutes a an implementation timetable.

## 5.3 Further Investments Needed

It was agreed with the Core NSEA Working Group that the objective of the approximation process is that the Republic of Macedonia will join the EU no later than 2015. However, it should be noted that if this objective shall be met, it will be necessary to seek substantial transitional periods, which on a historical basis appear optimistic. It is possible that the EU will not accede to all the requests in this regard. At the end of the day these negotiations have a substantial political content and the outcome is not susceptible of prediction.

The transitional periods which will have to be negotiated by the Republic of Macedonia as a minimum are therefore as follows:

| Table 24: Estimated transitional periods for certain directives Sector | Directive | Transitional period (years) |
|---|---|---|
| Waste Management | Landfill Directive (99/31/EC) as amended | 3 |
| | Packaging Waste Directive (94/62/EC) as amended | 4 |
| | Waste Electrical and Electronic Equipment (WEEE) Directive (2002/96/EC) as amended | 3 |
| | End-of-Life Vehicles Directive (2000/53/EC) as amended | 2 |
| | Waste Shipments Regulation ((EEC) 259/93) as amended | 1 |
| | Management of Waste from the Extractive Industries Directive (2006/21/EC) | 5 |
| Water Quality | Urban Waste Water Directive (91/271/EEC) as amended | 3 |
| | Nitrates Directive (91/676/EEC) as amended | 2 |
| | Drinking Water Directive (98/83/EC) as amended | 7 |
| IPC | Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC) as amended | 2 |
| | Large Combustion Plants Directive (2001/80/EC) | 4 |
| | SEVESO II Directive (96/82) as amended | 1 |
| | Volatile Organic compounds (VOCs) from Solvents Directive (1999/13/EC) as amended | 4 |
| | VOCs from Storage and Distribution of Petrol Directive (94/63/EC) as amended | 2 |

Evaluation of costs over time, affordability

Based on the investment strategy outlined in Sub-chapter 5.2, the evolution of costs in terms of the four 'resource bottlenecks' identified are in the following evaluated to determine the affordability of the timetable proposed. By way of a reminder, these four bottlenecks were:

1. 1. Personnel increase in the Ministry of Environment and Physical Planning;
2. 2. Overall increase in state budget;
3. 3. Funding required for technical assistance projects;
4. 4. Overall cost (cash flow of all expenditures).

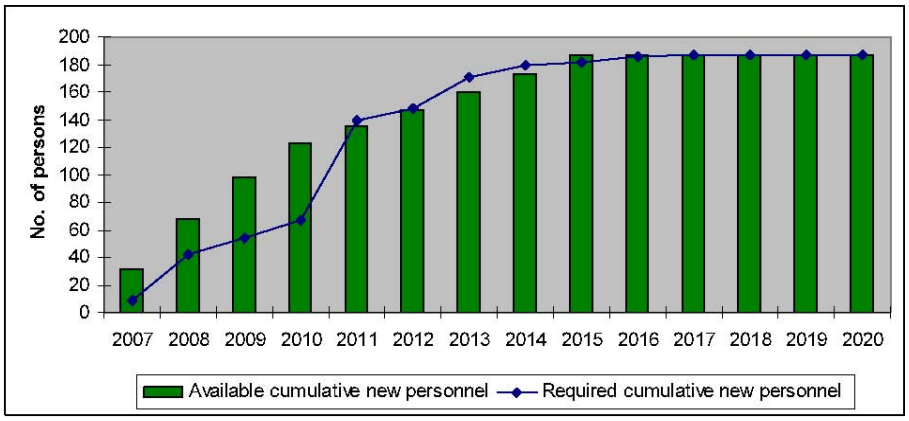
These four cost bottlenecks are evaluated separately below.

1. Personnel increase in the Ministry of Environment and Physical Planning

The table and graph below compare the number of new personnel assumed to be available until 2020 based on the assumptions mentioned in Sub-Chapter 5.2 (i.e. in accordance with government commitments until 2010, then growth at 5% p.a. until 2015), with the number required according to the proposed scheme.The data indicative cumulative new personnel.

| Table 25: Comparison of available and required number of MoEPP personnel Year | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Available persons | 31 | 68 | 98 | 123 | 135 | 147 | 160 | 173 | 187 | 187 | 187 | 187 | 187 | 187 |
| Required persons | 9 | 42 | 55 | 68 | 140 | 149 | 170 | 179 | 181 | 186 | 187 | 187 | 187 | 187 |

Figure 7: Comparison of available and required number of MoEPP personnel




It can be seen that there is an astonishingly good match between required and available personnel, with the number of required personnel remaining more or less within the number available throughout. Indeed there is even some leeway in the early years (to 2010) which leaves scope for the additional temporary manpower needed for legal transposition (to the extent that there is interchangeability between these functions).

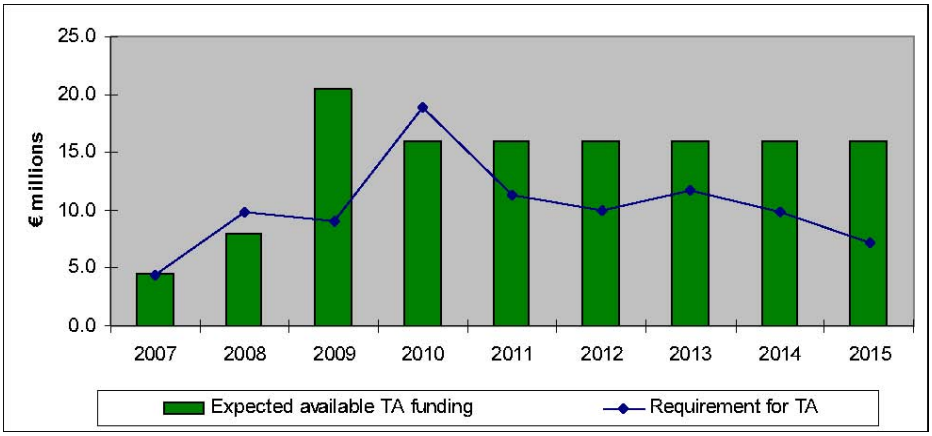
It should be remembered that new personnel do not necessarily mean new costs. Some of these could be transferred from departments which are becoming smaller, or which are presently overmanned.

2. Funding required for technical assistance projects The table and graph below compare the total funding estimated to be available for technical assistance (TA) projects in the future up to the date of accession based on the assumptions mentioned in Sub-chapter 5.2 with the cost of technical assistance required until 2020 based on the proposed scheme.

| Table 26: Comparison of estimated available and | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| required funding for TA project Year | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Available funding | 4.5 | 8.0 | 20.5 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | | | | | |
| Required funding | 4.4 | 9.9 | 9.1 | 18.9 | 11.3 | 9.9 | 11.6 | 9.8 | 7.1 | 4.1 | 6.8 | 2.7 | 2.0 | 1.9 |

Figure 8: Comparison of estimated available and required funding for TA projects




Again the costs of the technical assistance required up until the accession date lie comfortably within the envelope of the funding likely to be available for this purpose (in most years and overall). A difficulty is that there continues to be a need for technical assistance albeit at a declining rate until right up to 2028 (figures to 2020 only shown in table). It is unlikely that grant funding for technical assistance will be available to an EU member, as the Republic of Macedonia is assumed to be after 2015. This means that the country will have to meet these costs in full itself by that time. This issue will be discussed further in Sub-chapter 6.4.

3. Overall increase in state budget

An increase in the annual state budget will be needed to contribute towards the costs of implementing the environmental acquis. The amounts concerned have been calculated in section 6.4 (see Table 37).

On the assumptions made, the charge on the state budget will increase up to the date of accession and beyond at the following rate:

| Table 27: Rate of increase on state budget Year | Rate of Increase |
|---|---|
| 2007 | €1.6 million |
| 2009 | €4.7 million |
| 2011 | €13.1 million |
| 2013 | €18.5 million |
| 2015 | €23.2 million |
| ultimately reaching | €43.6 million |

The above assumes that all the new personnel needed will be recruited from outside of the civil service. To the extent that the new posts can be filled by redeploying staff from other (redundant) positions within the civil service, the above amounts could be smaller.

No attempt has been made to decide whether this additional burden is 'affordable' or not. It is a consequence of the target of achieving accession by 2015.

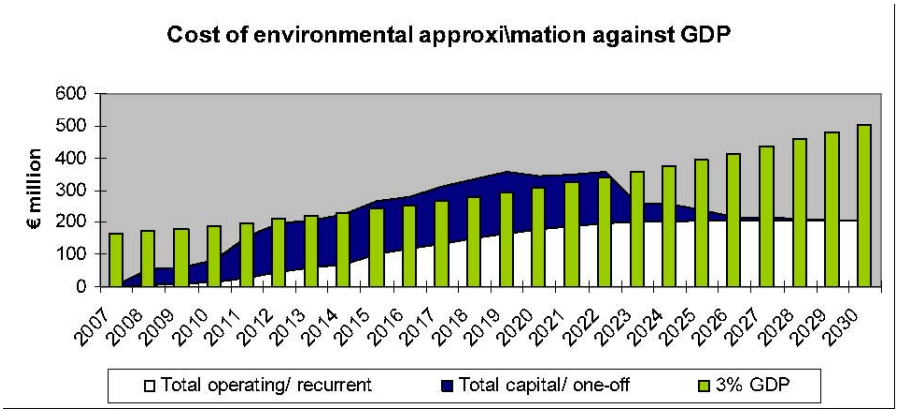
4. Total costs in terms of cash flow of all expenditures

   The table and graph below present an estimate of the total cost of the approximation exercise for the Republic of Macedonia over the years on the basis of the assumed timetable. The costs are expressed as the total cash flow of one-off and recurrent costs. Costs of 2.5% to 3% of GDP are generally regarded as being at the top end of the affordable, particularly for countries with only modest GDP per capita. For comparison purposes these costs are plotted against a histogram representing 3% of GDP, obtained by projecting the GDP of the Republic of Macedonia for 2006 forward at constant 2006 prices assuming the (optimistic) growth rate of 5% p.a.

| Table 28: Comparison of estimated total approximation cost and 3% of GDP Year | Operating/ recurrent costs (€ million) | Capital/ one-off costs (€ million) | Total 'cash flow' cost (€ million) | For comparison: 3% of projected GDP (€ million) |
|---|---|---|---|---|
| 2007 | 0 | 6 | 6 | 164 |
| 2008 | 4 | 50 | 54 | 172 |
| 2009 | 9 | 50 | 59 | 181 |
| 2010 | 13 | 70 | 83 | 190 |
| 2011 | 28 | 128 | 157 | 199 |
| 2012 | 46 | 149 | 195 | 209 |
| 2013 | 59 | 148 | 207 | 220 |
| 2014 | 71 | 155 | 225 | 230 |
| 2015 | 101 | 166 | 267 | 242 |
| 2016 | 117 | 164 | 281 | 254 |
| 2017 | 133 | 176 | 310 | 267 |
| 2018 | 150 | 186 | 335 | 280 |
| 2019 | 167 | 190 | 357 | 294 |
| 2020 | 178 | 165 | 343 | 309 |
| 2021 | 188 | 162 | 350 | 324 |
| 2022 | 198 | 159 | 356 | 341 |
| 2023 | 201 | 58 | 258 | 358 |
| 2024 | 203 | 55 | 258 | 375 |
| 2025 | 206 | 32 | 237 | 394 |

| | | | | |
|---|---|---|---|---|
| 2026 | 206 | 10 | 216 | 414 |
| 2027 | 206 | 10 | 216 | 435 |
| 2028 | 207 | 3 | 210 | 456 |
| 2029 | 207 | 0 | 207 | 479 |
| 2030 | 207 | 0 | 207 | 503 |
| TOTAL | | 2292 | 5394 | |

Figure 9: Comparison of estimated available and required funding for technical assistance project




It can be seen that this rate of implementation means that the total cost will be in excess of 3% of an (optimistic) GDP for the period 2015 to 2023. This is a severe burden for the Republic of Macedonia. Since most of the costs are the high costs (both capital and operating) associated with the installation and construction of industrial pollution abatement plant and municipal water supply, sanitation and waste management infrastructure, there is scope for reducing this strain by spreading out by a few more years the clean-up and procurement programme under the relevant cost-heavy directives: the Urban Waste Water Directive (91/271/EEC), IPPC Directive (96/61/EC), the Large Combustion Plants Directive (2001/80/EC), and the Landfill Directive (99/31/EC) in particular. As can be seen there should be scope for doing this without interrupting the preparations of the administration of the Republic of Macedonia, both at state and municipal levels, for full and effective membership of the EU.

# 6. NATIONAL APPROXIMATION PLAN

## 6.1 Overall National Approximation Plan

With the submission of the application for membership by the Republic of Macedonia on 22nd of March 2004 and the signing on 9th of April 2001 and coming into force on 1st of April 2004 of the Stabilisation and Association Agreement with the European Communities and their Member States, the Republic of Macedonia has strongly reconfirmed the already clearly expressed political commitment to the EU membership. Therefore the European Council on 17th of December 2005 decided to grant the Republic of Macedonia candidate status for membership of EU.

The National Strategy for European Integration, adopted on 6th of September 2004, and the National Programme for the Adoption of the Acquis Communautaire (NPAA), dated April 2007, also provides a strong confirmation of the ability and dedication of all relevant institutions and civil servants to response to the requirements of the EU integration process.

One of the main conditions for EU membership is the integration and implementation of the EU legislation, the so called approximation process, which consist of three main components: legal transposition, implementation, and enforcement. In the Republic of Macedonia, several approximation projects funded either by the EU or other donors have been carried out in the past or are presently ongoing or under way.

The overall national approximation plan to obtain full environmental approximation, taking into account the past and on-going approximation projects, is presented in the following. It consists of legal transposition and implementation (including enforcement) actions within all the environmental sectors, which will provide for some adjustments/amendments in the draft law as well as the preparation of secondary legislation and for an efficient implementation and enforcement of the EU requirements within the environmental chapter.

In the strategic considerations it has been evaluated that the earliest realistic year of accession of the Republic of Macedonia into the EU will be 2015, and has divided the accession time into two periods: 2007-2010 (short term) and 2011-2015 (medium term). Further, it is proposed that some of the capital infrastructure actions and actions for operation of the infrastructure for "heavy cost directives" are carried out in a transition period after the day of entry into the EU (long term) to secure that the implementation the acquis is realistic in terms of affordability.

It is highly recommended that a close cooperation between the business community especially the big industry capacities in the energy sector, chemical production, metallurgy and metal processing sectors and the MOEPP is established in the process of the negotiation with the EU on the transitional periods for some EU "heavy directives". The clear picture about the capacities, emissions and new investments planned is essential in order to make realistic plan for transitional periods needed for the Republic of Macedonia after the accession date.

The milestones of the overall plan for full approximation of the environmental chapter of the EU acquis are given in Table 28 below.

| Table 29: Milestones of overall approximation plan | Overall Approximation Plan | Start (year) | End (year) |
|---|---|---|---|

| Sector | | | |
|---|---|---|---|
| Horizontal Legislation | Legal Transposition | 2007 | 2010 |
| | Implementation and Enforcement | 2007 | 2012 |
| Air Quality | Legal Transposition | 2007 | 2008 |
| | Implementation and Enforcement | 2007 | 2022 |
| Waste Management | Legal Transposition | 2007 | 2010 |
| | Implementation and Enforcement | 2007 | 2022 |
| Water Quality | Legal Transposition | 2007 | 2010 |
| | Implementation and Enforcement | 2008 | 2022 |
| Nature Protection and Forestry | Legal Transposition | 2007 | 2010 |
| | Implementation and Enforcement | 2008 | 2018 |
| IPC and Risk Management | Legal Transposition | 2007 | 2008 |
| | Implementation and Enforcement | 2008 | 2020 |
| GMO | Legal Transposition | 2007 | 2010 |
| | Implementation and Enforcement | 2013 | 2015 |
| Chemicals | Legal Transposition | 2007 | 2012 |
| | Implementation and Enforcement | 2010 | 2015 |
| Noise | Legal Transposition | 2007 | 2009 |
| | Implementation and Enforcement | 2011 | 2015 |

As the table shows, the Horizontal Legislation Sector is supposed to be fully approximated by 2012, whilst the GMO Sector, the Chemicals Sector and the Noise Sector, which all are relatively small sectors in terms of approximation requirements, are fully approximated by 2015, the proposed year of accession. The approximation of the more complex, demanding and costly sectors are supposed to be completed in the period 2018 – 2022 starting with the Nature Protection and Forestry Sectors, followed by the IPC and Risk Management Sector, and ending with the following three sectors: Waste Management Sector, Water Quality Sector and Air Quality Sector.

The legal transposition of the environmental sectors is expected to be completed during the period 2008 - 2012 for all environmental sectors, starting with the Air Quality Sector and the IPC and Risk Management Sector and followed by the Noise Sector. All remaining sectors are supposed to be fully transposed in 2010 except for the Chemicals Sector which will be fully transposed in 2012.

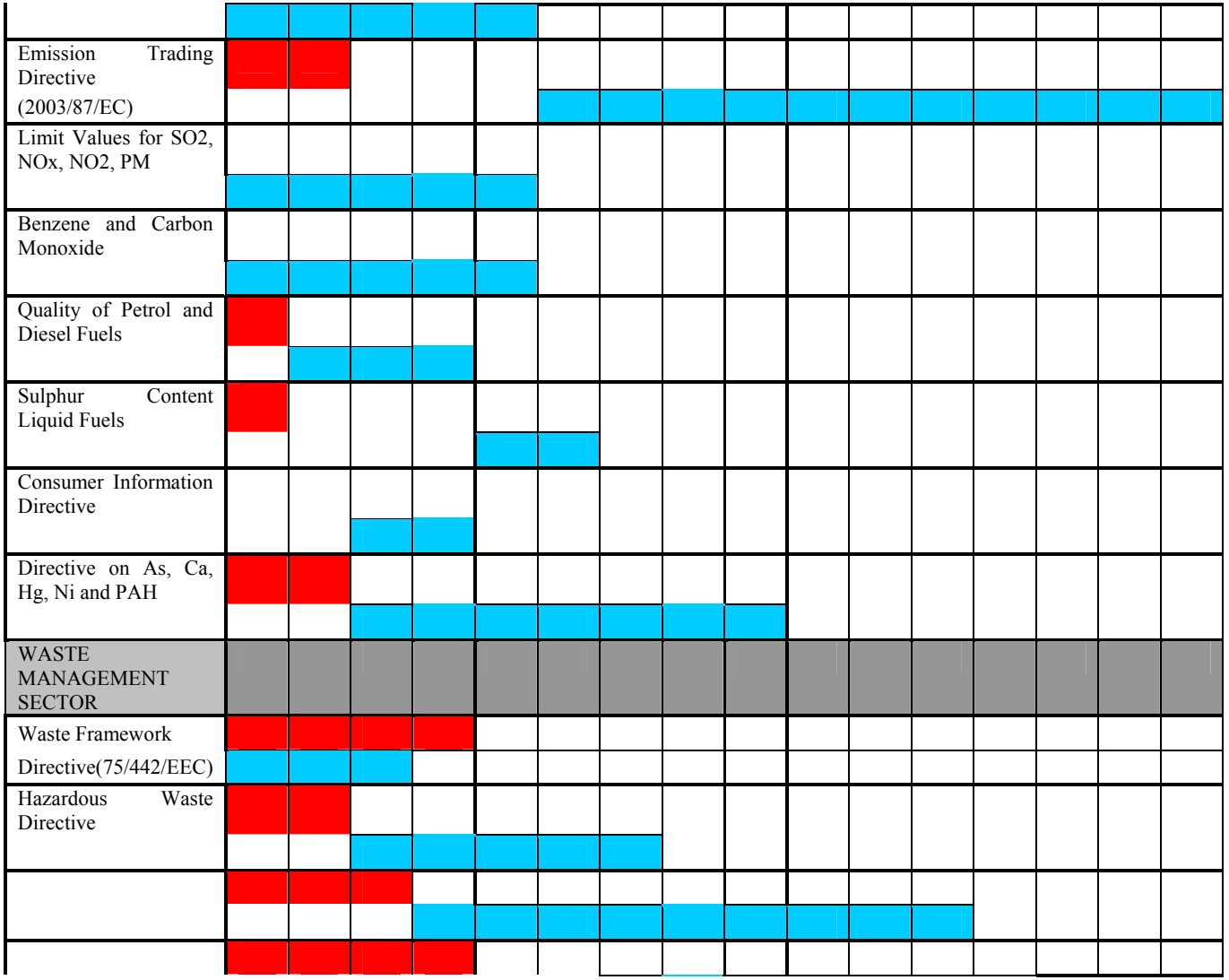
The fully implementation (including enforcement measures) of the EU environmental legislation is expected to happen over the eleven year period 2012 – 2022. The first sector to be fully implemented is the Horizontal Legislation Sector (in 2012), due to its importance for and impact on all the other sectors. The three small sectors in relation to implementation (GMO Sector, Chemicals Sector and Noise Sector) are expected to be implemented during the period 2010 – 2015, i.e. will be fully implemented at the year of accession. The reason for the relative late start up of the implementation of these three sectors are that in the period up to 2010 focus should be on getting the implementation of the remaining more complex and demanding sectors started up. The implementation of the latter complex and demanding sectors will take place from now on up

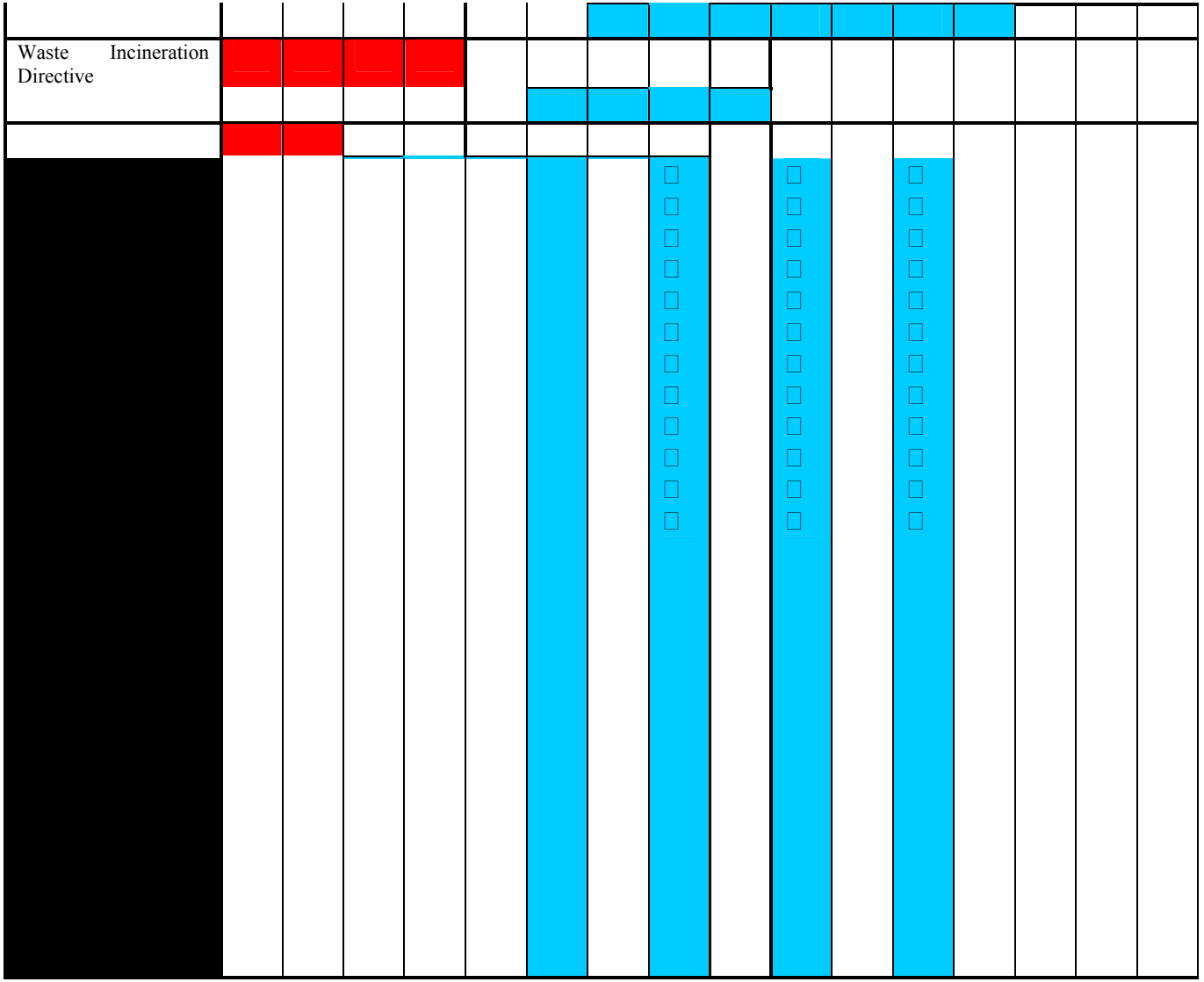
to 2022.

## 6.2 Summary of Actions by Sector

A summary of actions by directive for a full approximation of each environmental sector is presented in the respective Sector Approximation Strategies. In the table below are presented for each sector the timing of the legal transposition of the EU environmental legislation and its implementation and enforcement for all the directives included in the development of this National Plan for Environmental Approximation.

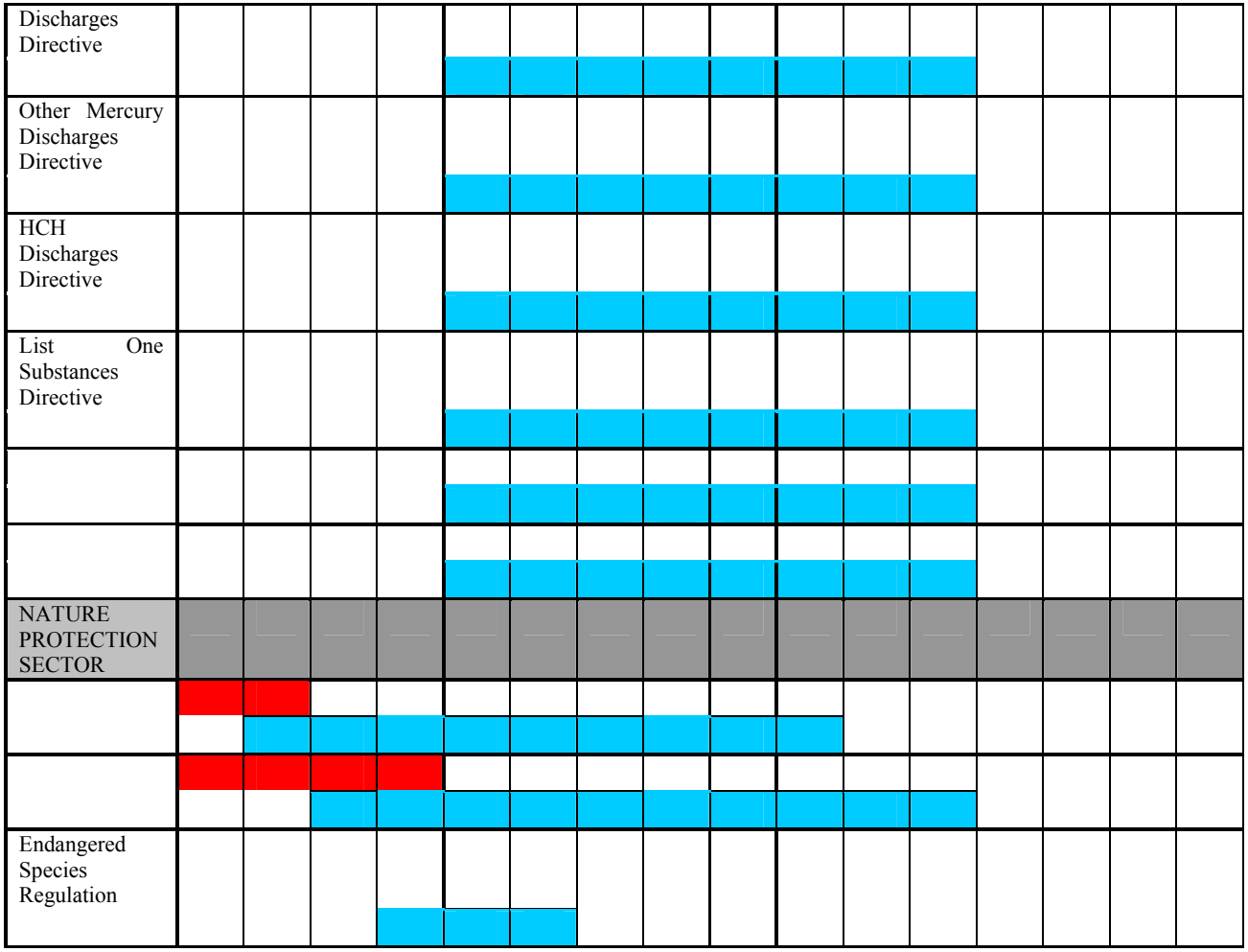
| Table 30: Approximation plan for full legal transposition and technical implementation DIRECTIVE / REGULATION | short-term | | | | medium-term | | | | | long-term | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| HORIZONTAL LEGISLATION SECTOR | | | | | | | | | | | | | | | | |
| EIA Directive (85/337/EEC | | | | | | | | | | | | | | | | |
| Environmental Information Directive | | | | | | | | | | | | | | | | |
| Public Participation Directive | | | | | | | | | | | | | | | | |
| Environmental Liability Directive | | | | | | | | | | | | | | | | |
| AIR QUALITY SECTOR | | | | | | | | | | | | | | | | |
| Ambient Air Quality Framework Directive (96/62/EC) | | | | | | | | | | | | | | | | |
| National Emission Ceilings Directive | | | | | | | | | | | | | | | | |
| Ozone in Ambient Air Directive | | | | | | | | | | | | | | | | |

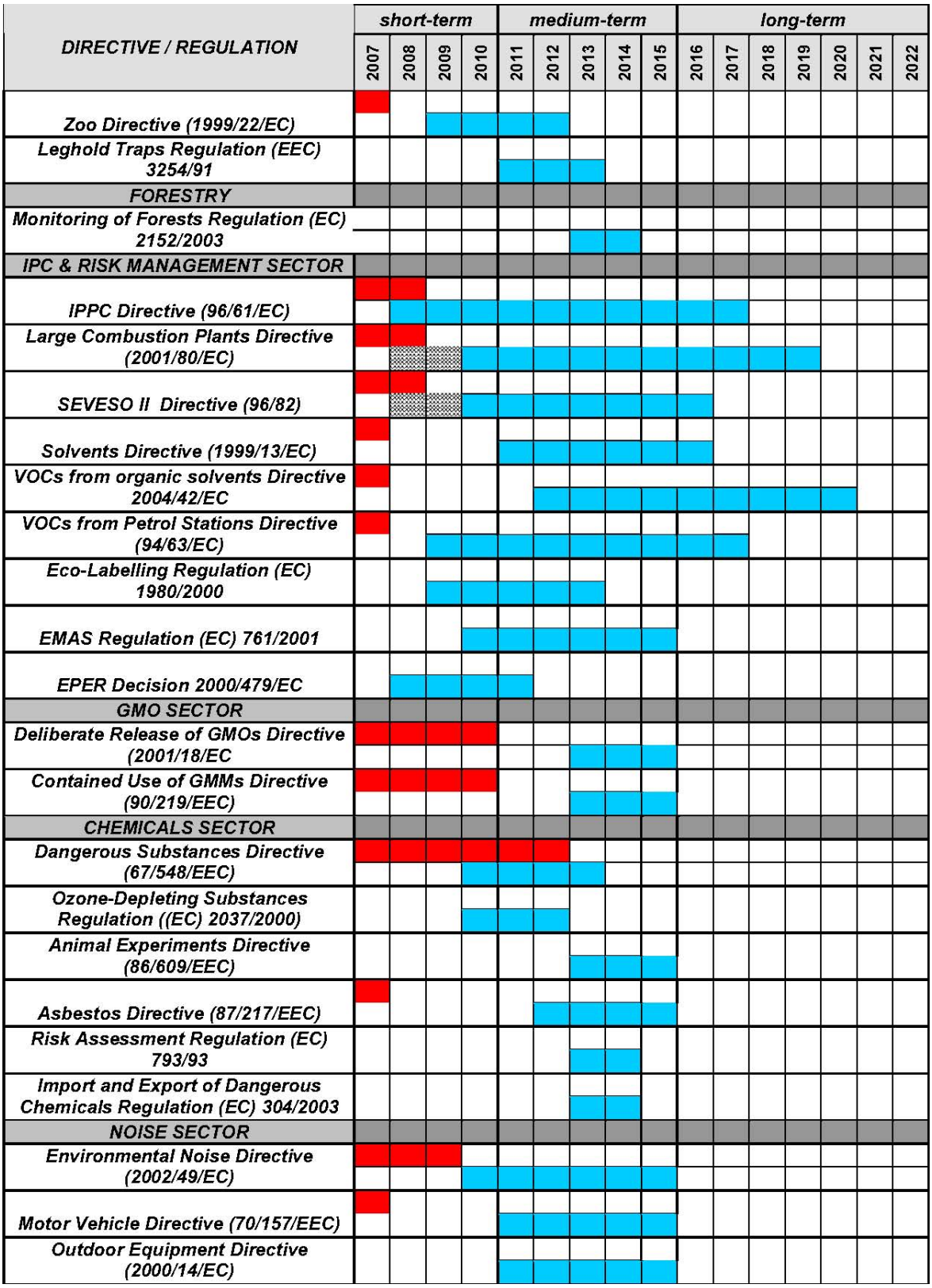

Emission Trading Directive (2003/87/EC)
Limit Values for SO2, NOx, NO2, PM
Benzene and Carbon Monoxide
Quality of Petrol and Diesel Fuels
Sulphur Content Liquid Fuels
Consumer Information Directive
Directive on As, Ca, Hg, Ni and PAH
WASTE MANAGEMENT SECTOR
Waste Framework Directive(75/442/EEC)
Hazardous Waste Directive


Waste Incineration Directive

| DIRECTIVE / REGULATION | short-term | | | | medium-term | | | | | long-term | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| PCB/PCT Directive (96/59/EC) | | | | | | | | | | | | | | | | |
| End-of-Life Vehicles Directive | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Waste Shipments Regulation ((EEC) | | | | | | | | | | | | | | | | |
| Management of Waste from the Extrac | | | | | | | | | | | | | | | | |
| WATER QUALITY SECTOR | | | | | | | | | | | | | | | | |
| Water Framework Directive | | | | | | | | | | | | | | | | |


(2000/60/EC)
Urban Waste Water Directive
Drinking Water Directive (98/83/EC)
Surface Water for Abstraction
Dangerous Substances to Water
Sewage Sludge Directive
Measurement of Drinking Water
Mercury Discharges from Chlor-Alkali
Cadmium


Discharges Directive
Other Mercury Discharges Directive
HCH Discharges Directive
List One Substances Directive
NATURE PROTECTION SECTOR
Endangered Species Regulation


DIRECTIVE / REGULATION
short-term
medium-term
long-term
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Zoo Directive (1999/22/EC)
Leghold Traps Regulation (EEC) 3254/91
FORESTRY
Monitoring of Forests Regulation (EC) 2152/2003
IPC & RISK MANAGEMENT SECTOR
IPPC Directive (96/61/EC)
Large Combustion Plants Directive (2001/80/EC)
SEVESO II Directive (96/82)
Solvents Directive (1999/13/EC)
VOCs from organic solvents Directive 2004/42/EC
VOCs from Petrol Stations Directive (94/63/EC)
Eco-Labelling Regulation (EC) 1980/2000
EMAS Regulation (EC) 761/2001
EPER Decision 2000/479/EC
GMO SECTOR
Deliberate Release of GMOs Directive (2001/18/EC
Contained Use of GMMs Directive (90/219/EEC)
CHEMICALS SECTOR
Dangerous Substances Directive (67/548/EEC)
Ozone-Depleting Substances Regulation ((EC) 2037/2000)
Animal Experiments Directive (86/609/EEC)
Asbestos Directive (87/217/EEC)
Risk Assessment Regulation (EC) 793/93
Import and Export of Dangerous Chemicals Regulation (EC) 304/2003
NOISE SECTOR
Environmental Noise Directive (2002/49/EC)
Motor Vehicle Directive (70/157/EEC)
Outdoor Equipment Directive (2000/14/EC)

Legend:

| | |
|---|---|
| *Timeframe for proposed actions for full legal transposition* | |
| *Timeframe for proposed actions for full technical implementation* | |
| *Recommended period for implementation of the start-up activities in parallel with IPPC Directive* | |

A more detailed approximation plan for the implementation of the proposed actions for full legal transposition and full technical implementation of the EU legislation is presented in Annex V.

## 6.3 Summary of Costs for Actions

Transposing, implementing and enforcing the environmental acquis in the Republic of Macedonia will cost an estimated €2.3 billion in capital and one-off costs plus operating/recurrent costs which will ultimately rise to some €200 million per annum.

The estimated total capital / one-off costs are equivalent to over €1,000 for every person in the country. The operating/ recurrent costs of €206.5 million p.a. are equivalent to a further €100 per capita per annum. The total capital cost alone is equivalent to 37% of the country's current GDP.

The absorption of these increased costs for environmental services and environmental protection will pose a significant challenge for the country. The costs will fall directly on industry, local self government units, the Ministry of Environment and Physical Planning and other central government departments, but these costs will set off a chain of secondary financial impacts which will make themselves felt throughout the economy, including higher taxes, higher charges for water supply and sanitation and waste management, higher prices for some products (e.g. electricity, tyres, batteries, lubricants, cars and other products which are polluting in terms of their life-cycle).

These costs will build up over a period of about 20 years; the rate of build-up is depending on the year when the Republic of Macedonia aims to join the EC and the transitional periods which the country succeeds in negotiating with the EC for the cost-heavy directives during the pre-accession negotiations. In discussions with the beneficiary of this project it was decided that the assumed date of accession should be taken as 2015. The economic and financing implications of this assumption have been worked through in some detail in this report. Even on the basis of reasonably optimistic assumptions about the transitional periods negotiable, this means that the country will need to be spending over 3% of GDP for the period 2015 to 2023.

To put costs in perspective, however, various studies have suggested that the direct economic benefits in terms of improved human health and therefore reduction in medical costs and work absenteeism, ability to attract tourists, etc., probably exceed these costs. Furthermore many of the costs imposed on industry, although primarily environmental, are part of the process needed to modernise and regenerate the industry and make it able to compete in the modern world.

## 6.4 Financing Strategy

In the following is formulated a strategy which defines how the estimated costs can be financed. All costs are considered, not just capital costs.

The type of financing appropriate to meet a given cost depends on:

- •The actor responsible for the action in regard to which the cost arises;
- •The type of action / expenditure;
- •Whether the cost is a one-off or recurrent cost;
- •Whether the cost arises before or after accession.

The strategy for financing costs is considered separately in the following for the costs falling in the first place on the central administration, on local self-government units and on industry. The financing strategy concentrates on the years up to and including 2015. Not only are the costs and the likely sources and amounts of funding much more uncertain beyond 2015, but it is not yet necessary to do financial planning for that period anyway.

Costs falling in the first place on the central administration

The main cost categories for the central administration are:

- •Personnel-related costs required for legal transposition;
- •Salaries and salary-related costs in the implementation phase;
- • Technical assistance;
- •Other one-off and recurrent costs.

These items are considered in turn below.

- Personnel-related costs required for legal transposition

  These costs comprise the salaries of personnel additional to present staff taken on temporarily to assist with the legal transposition, together with the related costs of accommodating them, equipping them, and administering them, as well as reporting costs.

  The total amount of these costs is €2.3 million, extending over the period 2007 2012. Their distribution over time on the assumed timetable will be as follows:

Table 31: Personnel-related costs for legal transposition, central administration, by year

| Year | Total cost (€ millions) |
|---|---|
| 2007 | 1.3 |
| 2008 | 0.6 |
| 2009 | 0.3 |
| 2010 | 0.1 |
| 2011 | < 0.1 |
| 2012 | < 0.1 |
| Total | 2.3 |

These costs will all have to be found from the state budget. It should be noted, however, that although these are new costs, they will not necessarily be additional costs. It may be possible to provide for some of these salaries and support costs by redeploying personnel (temporarily) from other government departments. Furthermore it may be possible to convert some of these personnel into permanent employees as the need arises following transposition.

- Personnel and personnel-related costs in the implementation phase

  Unlike the personnel referred to in the preceding category, these will be permanent employees. The costs involved will be the recurrent salary costs (including indirect salary-related costs) and one-off training and equipment costs.

The total amount of these costs and their distribution will be:

Table 32: Personnel-related costs, central administration, in implementation phase

| | One-off costs (€ million) | Recurrent costs (€ million p.a.) |
|---|---|---|
| 2007 | <0.1 | 0.2 |
| 2008 | 0.5 | 1.1 |
| 2009 | 0.6 | 1.8 |
| 2010 | 0.8 | 2.3 |
| 2011 | 0.9 | 5.9 |
| 2012 | 0.8 | 6.3 |
| 2013 | 0.6 | 7.2 |
| 2014 | 0.5 | 7.5 |
| 2015 | 0.2 | 10.1 |
| 2016 | 0.2 | rising to 17.8 |
| Total | 5.1 | |

As before, all the one-off costs and most of the recurrent costs (salaries) will generally have to come from the state budget. However, some of the salary costs can be recouped from other sources:

. • It is assumed that one-half of the costs of IPPC permitting can be recouped through the fees charged for permits;

. • It is assumed that the Natura 2000 sites can cover one-half of their operating costs from activities they carry out.

Allowing for these sources of financing, the salary-related costs for the central administration are:

| Table 33: Sources of financing for salary-related costs, central administration, by year Year | One-off costs (€ million) | Financed from | Recurrent costs € million p.a.) (salaries, | Financed from | | |
|---|---|---|---|---|---|---|
| | | Public budget (€ million) | | Revenues of Natura 2000 sites (€ million p.a.) | IPPC permit fees (€ million p.a.) | Public budget (€ million p.a.) |
| 2007 | <0.1 | <0.1 | 0.2 | | 0.1 | 0.1 |
| 2008 | 0.5 | 0.5 | 1.1 | | 0.1 | 1.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2009 | 0.6 | 0.6 | 1.8 | | 0.1 | 1.7 |
| 2010 | 0.8 | 0.8 | 2.3 | | 0.1 | 2.2 |
| 2011 | 0.9 | 0.9 | 5.9 | | 0.1 | 5.8 |
| 2012 | 0.8 | 0.8 | 6.3 | | 0.1 | 6.2 |
| 2013 | 0.6 | 0.6 | 7.2 | | 0.1 | 7.1 |
| 2014 | 0.5 | 0.5 | 7.5 | | 0.1 | 7.4 |
| 2015 | 0.2 | 0.2 | 10.1 | 1.3 | 0.1 | 8.7 |
| 2016 | 0.2 | 0.2 | rising to 17.8 | rising to 5.0 | 0.1 | rising to12.7 |
| TOTAL | 5.1 | 5.1 | | | | |

- Technical assistance

In this section is discussed all technical assistance, i.e. including technical assistance going to local self-government units, not just that to central government, as in financing terms there is no difference.

The Republic of Macedonia should be looking to get all its technical assistance requirements up to the time of accession funded by grant aid from the EU and other multilateral and bilateral donors. The total expected cost of technical assistance were already looked at in Sub-chapter 5.1, and ascertained that it fell within the envelope of the likely available funding, and indeed from 2011 on it undershoots the amounts likely to be available. The technical assistance estimated to be needed to 2015 is €92 million, whereas the amount estimated to be likely to be available is €129 million (refer Table 23), so that during this period there is a 'surplus' of some €37 million. However it should be noted that the term 'technical assistance needed' refers purely to the consultancy input, whereas actual technical assistance projects often contain hardware, software or apparatus which complement the pure 'people-ware'. The surplus referred to above, if it indeed materialises, can therefore be used to fund such items of hardware and equipment.

On the assumptions and timetable assumed there will be a continuing need for technical assistance after accession, albeit at a lower level than in the run-up to EU entry. Most grant aid will have stopped by then, however (third parties do not normally give grant aid to EU members!). It is assumed that by that time national capacity will be sufficiently matured that these needs can be met by local consultants. It is also assumed that this could be provided at considerably less cost (one-half) than by an international project, so have reduced the cost accordingly. These considerations give:

| Table 34: Sources of finance for technical assistance, by year Year | Costs of necessary TA (€ million) | Financed from | |
|---|---|---|---|
| | | Components I and IV of IPA or grants from other donors (€ million) | Public budget (€ million) |

| | | | |
|---|---|---|---|
| 2007 | 4.4 | 4.4 | |
| 2008 | 9.9 | 9.9 | |
| 2009 | 9.1 | 9.1 | |
| 2010 | 18.9 | 18.9 | |
| 2011 | 11.3 | 11.3 | |
| 2012 | 9.9 | 9.9 | |
| 2013 | 11.6 | 11.6 | |
| 2014 | 9.8 | 9.8 | |
| 2015 | 7.1 | 7.1 | |
| 2016 | 20.5 | - | 20.5 |
| Total | 112.5 | 92.0 | 20.5 |

* Note: This differs from the 'available funding' shown in Tables 23 and 26. The latter was obtained by assuming past levels of funding will be obtained on a year-by-year basis. Some flexibility has been assumed between years to allow the finance to match requirements. What is important is that total requirements over the period fall within the funding envelope available.

- Other one-off and recurrent costs

These include two types of expenditure:

. • Expenditure on equipment and activities which help government to implement and enforce the law: upgrading laboratories, purchase of instrumentation, hardware and software (e.g. database management and GIS), public information and consultation campaigns, etc.

. • Technical activities where the government is the service provider of last resort in providing environmental management services, clearing up historical contamination or ensuring compliance with the law or international treaties:

| Table 35: Analysis of other one-off costs, central administration Item | Capital cost (€ million) | Remark |
|---|---|---|
| Land purchase for Natura 2000 | 1.0 | It is assumed that this cost will be met by the EU as Community co-financing (e.g. Article 8 of the Habitats Directive) |
| CITES Facility At Skopje Zoo | 0.5 | |
| Storage and destruction of PCB/PCT | 1.6 | |
| Forest monitoring | 0.45 | About one-third of these costs will qualify for financial support from the Community |
| Medical waste | 1.9 | |
| Facility for hazardous waste | 2.65 | |
| Contaminated land | 70 | These costs occur after 2015 |

The total costs of these two types of expenditure falling on central government are as follows.

| Table 36: Total other one-off and recurrent costs of central administration, by phase Period | Capital/ one-off costs (€ million) | Operating/ recurrent costs (€ million) |
|---|---|---|
| Up to and including 2015 | 12.1 | rising to 4.7 |
| 2016 and beyond | 71.1 | 0 |
| Total | 83.2 | 4.7 |

As far as the expenditure on equipment and on activities to implement and enforce the law is concerned, these are all types of expenditure which can be and are included in technical assistance projects, as described in the preceding subsection Technical assistance. As far as the expenditures on technical activities where the government is the service provider are concerned, some of these are also typically the types of activity which could be included in a technical assistance project: the establishment of a CITES facility, facilities for the storage and destruction of PCB/PCT, forest monitoring and medical waste facilities could be funded from the technical assistance surplus referred to above.

Unlike municipal waste, which is assumed to be managed by local authorities or associations of local authorities or their appointees, hazardous waste which is not exported for incineration is assumed to be managed centrally by the Ministry of Environment of Physical Planning or a public agency which reports to Ministry of Environmental Physical Planning. (This is just an assumption. The operation of a hazardous waste facility could also be carried out by a licensed private operator.)
The costs of operating the facility therefore fall in the first place on Ministry of Environment and Physical Planning, but the full costs will be charged back to the hazardous waste generators in the form of fees or charges for the service. But the capital expenditure will still need financing. There are various possibilities here:

. • Grant funding from component III of the Instrument for Pre-accession Assistance (IPA);
. • Loan from International Funding Institutions (IFI), such as European Bank for Reconstruction and Development (EBRD), World Bank;
. • Loan from bilateral development bank such as Kreditanstalt für Wiederaufbau (KfW);
. • Loan from commercial bank;
. • Private capital.

These are discussed further later on in this Sub-chapter.

As far as the remediation of contaminated land is concerned, this is a costly and complex problem, one that many ‘old’ member states (EU-15) are still wrestling with, and this is not a priority that can be tackled before 2015.

The financing plan for this category of cost arising up to and including 2015 will therefore be as follows:

Table 37: Sources of finance for other one-off and recurrent cost of the central administration, by year

| Year | Total cost | | Components I & IV of IPA or grants from other donors (€ million) | | Special EU contrib. | | Hazardous waste producers | | State budget | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Cap. | Oper. | Cap. | Oper. | Cap. | Oper. | Cap. | Oper. | Cap. | Oper. |
| 2007 | 1.40 | 0.00 | 1.4 | - | | - | - | - | - | 0.00 |
| 2008 | 0.05 | 0.11 | 0.05 | - | | - | - | - | - | 0.11 |
| 2009 | 2.07 | 0.87 | 2.07 | - | | - | - | - | - | 0.87 |
| 2010 | 1.49 | 0.94 | 1.49 | - | | - | - | - | - | 0.94 |
| 2011 | 0.63 | 1.36 | 0.63 | - | | - | - | - | - | 1.36 |
| 2012 | 3.03 | 4.23 | 1.93 | - | | - | 1.10 | 0.28 | - | 3.95 |
| 2013 | 2.04 | 4.46 | 0.94 | - | | - | 1.10 | 0.28 | - | 4.18 |
| 2014 | 0.74 | 4.56 | 0.59 | - | 0.15 | 0.02 | - | 0.28 | - | 4.26 |
| 2015 | 0.68 | 4.72 | 0.43 | - | 0.25 | 0.02 | - | 0.28 | - | 4.42 |
| 2016 | 71.15 | 4.72 | 35.40 | - | 0.75 | 0.02 | - | 0.28 | 35 | 4.42 |

The total amount of grant funding up to 2015 is assumed to be €9.5 million, well within the 'surplus' referred to earlier in this Sub-chapter.

Total increase in state budget

The total increase in the state budget required for the environment for all central government ministries and other agencies is shown in the table below.

| Table 38: Total increase in state budget, by year Year | Salaries (€ million p.a.) | Other (€ million p.a.) | Total increase in state budget (€ million p.a.) |
|---|---|---|---|
| 2007 | 0.2 | 1.4 | 1.6 |
| 2008 | 1.1 | 1.7 | 2.8 |
| 2009 | 1.8 | 2.9 | 4.7 |
| 2010 | 2.3 | 3.2 | 5.5 |
| 2011 | 5.9 | 7.2 | 13.1 |
| 2012 | 6.3 | 10.2 | 16.5 |
| 2013 | 7.2 | 11.3 | 18.5 |
| 2014 | 7.5 | 11.7 | 19.2 |
| 2015 | 10.1 | 13.1 | 23.2 |
| 2016 | rising to 17.8 | 25.8 | rising to 43.6 |

Costs falling in the first place on the local self-government units

The main cost categories for the local self-government units are:

. • construction and operation of municipal infrastructure: water supply, sanitation

and waste management facilities, including infrastructure shared by several municipalities, as well as the salaries of those dedicated to municipal infrastructure,

. • technical assistance, and

- other one-off and recurrent costs, e.g. preparation of external safety reports, public information campaigns, other personnel necessary for functions other than water, sanitation and waste management services etc.

The financing of technical assistance has already been dealt with earlier in this Sub-chapter, so will not be dealt with again. The other two categories will be dealt with in turn below.

Construction and operation of municipal infrastructure

This is by far the most costly component of the additional duties falling on Local Self-Government Units. It covers:

. • Capital and operating costs of constructing, upgrading or expanding water supply system;

. • Capital and operating costs of constructing, upgrading or expanding sewage collection system;

. • Capital and operating costs of constructing, upgrading or expanding sewage transport system;

. • Capital and operating costs of constructing or upgrading (municipal) wastewater treatment plants (not industrial waste water treatment plants, which come under IPPC);

. • Capital and operating costs of new regional sanitary landfills;

. • Cost of 'conditioning plan' measures for temporarily extending lifetime of existing municipal dumps;

. • Cost of closure of existing municipal dumps;

. • Capital and operating costs of upgrading waste collection and transport systems;

. • Capital and operating costs of transfer stations (if appropriate);

. • Costs of personnel in regional waste management boards and in Local Self-Government Units dedicated to managing municipal water supply, sanitation and waste.

This project, with a total capital cost of nearly €800 million and operating costs which will rise to €64 million p.a., will not be finally completed, on the assumptions made, until the end of 2028. The costs must be met in full, by virtue of the 'polluter pays' and 'user pays' principles enshrined in European environmental laws, by the users of the services.

These costs, calculated at 2006 price levels, are equivalent to a capital sum of €400 and an annual cost of €32 per head of the population[2].

In order that the costs of the improved services are covered by the charges collected from the users of the services, a lot will have to happen:

. • Water, sanitation and waste charges will obviously have to rise. The calculation of the cost-covering tariff will be a technical matter on which guidance will have to be developed. Procedures will have to be changed so that politicians do not have a veto over rises in charges. The methodology for calculating charges will have to make provisions for smooth arrangements in the transitional period while the country is moving towards a higher standard of infrastructure;

. • The service providers whoever they are (communal enterprises, regional waste management boards, private companies) will have to ensure that proper and separate records are kept for each service so that they know what the costs are and can make informed decisions about alternative methods of service provision;

. • Awareness amongst the population will have to be built to ensure that they understand why charges are rising, what the benefits are;

. • Proper provision will have to be made to ensure that there are acceptable arrangements made for poorer families where affordability is an issue;
. • Charge collection rates will have to be raised to approach 100%.

The actions needed are described in more detail in the Directive Specific Implementation Plans and Sector Approximation Strategies of the Waste Management Sector and Water Quality Sector.

Although these municipal services will be paid for in full by the users / polluters, this is not the end of the story, because there is still a problem of how the capital will be financed. Users / polluters will pay the cost of servicing the capital, but they will of course not actually stump up the capital themselves.

The table below shows the distribution of the capital expenditure over time. For completeness the table also shows operating costs, although these are not an issue in relation to capital financing.

These costs will of course not be borne only by households. Part of the costs is attributable to industry, commerce and institutes such as hospitals, schools, etc.

| Table 39: Costs of municipal infrastructure (water, sanitation, waste) in coming years. Year | Capital costs (€ million) | Operating/recurrent costs (€ million p.a.) |
|---|---|---|
| 2010 | 10 | 1 |
| 2011 | 32 | 5 |
| 2012 | 51 | 10 |
| 2013 | 48 | 14 |
| 2014 | 51 | 19 |
| 2015 | 56 | 24 |
| 2016 | 544 | 65 |

| | | |
|---|---|---|
| TOTAL | 792 | |

Of the total of €792 million, €248 million (around 30%) will, on the assumptions made, be invested prior to accession.

Where will this €248 million come from? The main options are:

. • The EU Instrument for Pre-accession Assistance (IPA);

. • Grant funding from bilateral and multilateral donors;

. • Loans from international financing institutions (IFIs) such as the World Bank, the European Bank of Reconstruction and Development (EBRD) and the European Investment Bank (EIB), as well as bilateral development banks such as Kreditanstalt für Wiederaufbau (KfW);

. • Loans from commercial banks;

. • Private sector investment.

These alternatives are considered below.

- Instrument for Pre-accession Assistance (IPA)

The IPA is the new financial instrument for all pre-accession activities funded by the European Commission as of 1 January 2007. Under the IPA multi-annual indicative financial framework, indicative estimates have been published of the amounts which might be available to Republic of Macedonia and other eligible countries. The relevant figures for the Republic of Macedonia are shown in Table 21.

Component III is the component appropriate for municipal infrastructure. It is comparable with the Former Instrument for Structural Policies for Pre-Accession, provides assistance for infrastructure projects in the EU priority fields of environment and transport. In 2007 and 2008 IPA is weighted towards the transport sector, but thereafter environment is likely to take a roughly equal share. IPA only provides co-funding: in principle, up to 75% of the total investment cost of a suitable project, but in practice IPA is unlikely to cover much more than 50% of the total investment cost. The balance of the project financing will need to come from other sources.

The EU has made no formal statement about the size of the Republic of Macedonia's allocation from IPA after 2010, but it is expected to continue to grow as accession approaches, and component III is expected to account for an increasing proportion of IPA. If we assume a growth rate of 10%

p.a. compound to 2015 for component III, which giver the following scheme.

Table 40: Hypothetical evolution of IPA component III for Republic of Macedonia until 2015

| Year | Possible IPA component III for Republic of Macedonia (€ millions) |
|---|---|
| 2007 | 7.4 |
| 2008 | 12.3 |
| 2009 | 20.8 |
| 2010 | 29.4 |
| 2011 | 32.3 |
| 2012 | 35.6 |
| 2013 | 39.1 |
| 2014 | 43.0 |

| | |
|---|---|
| 2015 | 47.3 |
| Total | 267.2 |

Remembering that component III is effectively a successor to ISPA, the above total seems commensurate on a per capita basis with what Romania received from ISPA in total leading up to accession (€2 billion), so it seems a reasonable working hypothesis. It is assumed that these quantities, at least from 2010, will be split 50:50 between environment and transport.

- Grant funding from bilateral and multilateral donors

Assuming that bilateral and multilateral donors continue to provide grant aid at the same average rate as they have in recent years, then we could assume that grants of an average of €7 million per year from 2008 until 2015 could be available from this source (refer Table 23). It should be noted that the water sector appears to be one which is particularly popular with the international donor community.

- Loansfrom International Funding Institutions

The International Funding Institutions (IFIs) are development banks such as the World Bank, the European Bank for Reconstruction and Development (EBRD) and the European Investment Bank (EIB) which offer loans at a relatively low rate of interest for investments (amongst others) intended to establish or improve environmental facilities or infrastructure. In general, applications for financing to an IFI will need to have the official approval and a supporting guarantee from the government. An exception to this general rule is the EBRD, which may, but does not necessarily, require a sovereign guarantee. However, the interest rates charged by the EBRD tend to be higher than those typically offered by other international (or bilateral) financing institutions (for example LIBOR + 2 to 4%, say 6 to 8% at the time of writing). The World Bank will only lend to a government body but the EBRD and the EIB will also lend to private companies. Most of the international financing institutions will only lend to companies or to corporate entities having clearly defined objectives, management and decision-making structure, which are operated along commercial lines. Also, some institutions have a minimum size of loan. For example, the EBRD will only directly finance loans of US $ 5 million or greater. These constraints tend to limit the scope for IFI participation in financing capital investments to projects of a fairly substantial size. In addition, significant resources and time are usually needed to develop and negotiate an IFI loan.

The World Bank recently finalised its Country Partnership Strategy 2007 - 2010 for the Republic of Macedonia. The total funding envelope for 2007 - 2010 will be $230 million. Of this, perhaps 10% will go to municipal development. The World Bank is not however enthusiastic about investing at present in waste water treatment in the Republic of Macedonia (doubts about sustainability due to high operating costs).

Other IFIs do not necessarily have a fixed envelope, and are more interested in whether a particular application fits their current profile, and meets ‘bankability criteria’.

A number of West European countries, the USA, Japan and Canada provide financial assistance to central and eastern European countries through bilateral financing institutions. These differ in their areas of interest and modus operandi but, in general, operate along similar lines and with similar constraints to the IFIs.

The largest bilateral financing institution operating in Europe is the German Bank for Reconstruction (Kreditanstalt für Wiederaufbau – KfW). This is currently lending at very soft rates (around 2%) to accession countries for environmental projects.

- Loansfrom commercial banks

Local authorities may be able to obtain loans from commercial banks, but the terms are likely to

be much less favourable than from international and bilateral funding institutions. The banking sector in the Republic of Macedonia is presently hampered by a relatively uncompetitive banking climate, low banking efficiency and difficulties in assessing the credit risks of potential borrowers.

- Private capital

The private sector can play a role in financing the development of municipal infrastructure in the country. There are many different arrangements by which the private sector could participate, for example private contractors could operate a municipal wastewater treatment plant as a concession or on a BOT (build - operate - transfer) contract. Such constructions will require a number of developments before they can be envisaged in the Republic of Macedonia, including reform of accounting in municipalities and communal enterprises, clear evidence that the state is willing to enforce the new laws and that municipalities are willing to allow the real costs of service provision to be charged to users and polluters and the emergence of credible operators of the new facilities.

There are many examples of constructions of this kind in Central and Eastern Europe, not only in countries which have recently acceded to the EU, but also, for example in Croatia (waste water collection and treatment in Zagreb). The great advantage of such a basis is that the public sector can avoid the problem of having to raise the finance itself. The present financial environment in the Republic of Macedonia, for example, currently makes it very difficult for municipalities to raise loans, and severe restrictions apply. While the financial regime will anyway have to become more liberal for the Local Self-Governmental Units which demonstrate sound financial management, a regime where they do not have to raise capital they will be attractive for many municipalities. Great attention has to be paid to getting the details of contracts right, however.

Not all municipal infrastructure projects will be attractive to private contractors. In the water sector it may be that only the city of Skopje is large enough to attract private sector interest. On the other hand, provision of regional waste management facilities may well be interesting for private contractors.

Possible financing basis for the period to 2015

On the basis of the above, the municipalities would be able to meet their capital investment needs along the lines given in the following table.

| Table 41: Possible strategy for financing needs for municipal infrastructure in the water, sanitation and waste management sectors up to 2015 | Capital requirement | IPA grants [1] | Bi- and multilateral grants [2] | EBRD loan (or other IFI) | PPP (for example BOT) |
|---|---|---|---|---|---|
| 2010 | 10 | 5 | 5 | | - |
| 2011 | 32 | 16 | 11 | 5 | - |
| 2012 | 51 | 25.5 | 8 | 5 | 12.5 |

| | | | | | |
|---|---|---|---|---|---|
| 2013 | 48 | 21.7 | 8 | 6.3 | 12 |
| 2014 | 51 | 21.5 | 8 | 9 | 12.5 |
| 2015 | 56 | 23.6 | 8 | 10.4 | 14 |
| Total | 248 | 113.3 | 48 | 35.7 | 51 |

1 Some carry-forward of allocations for 2010-2012 is assumed.

2 Carry-forward of part of allocations for 2010 to 2012 is assumed.

This is based on the assumptions described above plus a contribution of 25% by the private sector to the financing needs of the project.

A very significant proportion of the capital investment will be funded with grant aid, which will keep the costs contained in those years. The government will have to decide how this fact should be reflected equitably in the charges paid by service-users.

Financing from 2016
In 2015 on our assumption Republic of Macedonia will join the EU. This will mean an end to IPA eligibility and also an end to most aid from third party bilateral and multilateral donors, while the country will have completed less than one-third of its municipal investment programme.

From this time, however, Republic of Macedonia, as a less wealthy EU member, will be able to access the cohesion and regional development funds. Going on precedent this can be expected to provide substantial (co-)funding for completion of the municipal infrastructure investment programme. The other part of the funding will be provided by IFIs and to some extent also, the public budget (capital account). In Romania in January 2007, for example, the ISPA (Instrument for Structural Policies for Pre-Accession) support was automatically converted into Cohesion Funds, the entire envelope increasing by a factor of 3 to 4. This will create a challenge to the authorities to set up and strengthen the appropriate coordination and administrative structures to increase the absorption capacity.

Other one-off and recurrent costs The remaining costs relate to a miscellany of activities for which the municipalities will be liable under European legislation: these include their obligations under horizontal directives, notably the Strategic Environmental Assessment (SEA) Directive (2001/427EC) and the Access to Environmental Information Directive (2003/4/EC), measures to upgrade or close zoos to comply with the Zoos Directive (1999/22/EC), and requirements to draw up external emergency plans under the Seveso II legislation.

The total costs are shown in the table below.

| Table 42: Other one-off and recurrent costs (not municipal infrastructure or TA) incurred by | Capital/ one-off costs (€ million) | Operating/ recurrent costs (€ million) | Remarks |
|---|---|---|---|

| LSGUs, by year Year | | | |
|---|---|---|---|
| 2009 | 1.3 | 0.8 | These amounts are all to be funded from the LSGU general budgets, except the capital item of €1.3 million for upgrading Skopje Zoo, where the zoo should hope to get an offset from increased ticket sales |
| 2010 | 0.2 | 1.0 | |
| 2011 | 0.07 | 1.94 | |
| 2012 | 0.07 | 1.94 | |
| 2013 | 0.05 | 1.94 | |
| 2014 | 0.2 | 1.94 | |
| 2015 | 0.11 | 1.94 | |
| 2016 | 0.56 | 1.94 | |
| Total | 2.6 | | |

Costs falling directly on industry
The total costs falling to industry are shown in the table below.

| Table 43: Total costs falling to industry, by year Year | Capital/ one-off costs (€ million) | Operating/ recurrent costs (€ million) |
|---|---|---|
| 2008 | 39 | 3 |
| 2009 | 39 | 7 |
| 2010 | 39 | 10 |
| 2011 | 84 | 18 |
| 2012 | 84 | 25 |
| 2013 | 88 | 34 |
| 2014 | 92 | 43 |
| 2015 | 102 | 53 |
| 2016 | 738 | 121 |
| Total | 1304 | |

The term 'industry' is used very loosely here, and applies to all actors which are not central or local government or households. It includes, for example, project developers who are subject to environmental impact assessment (EIA), all establishments which carry out vivisection, not just pharmaceutical companies, but also hospitals and teaching institutions. Indeed the term is used to include the power utilities, even though these are still in the public sector.

These costs are of three main type, i.e.:

. • Costs of abating its own emissions or hazards in order to comply with EU standards;

. • Costs of setting up systems for the collection and disposal of special waste streams (tyres, spent oils, waste electric and electronic equipment, packaging waste, etc.) where producer responsibility has been invoked;

. • Other miscellaneous costs related to smaller obligations which have been imposed on industry.

The polluter pays principle requires that all these costs be met by industry itself. There is no question of industry receiving any aid from outside sources.

A big issue for a company facing such costs is whether it will be able to pass on these costs to its customers through higher sales prices. This will depend on the nature of the market. For example in a competitive international market where there is little brand differentiation it may be very difficult to pass on the extra costs in prices. On the other hand where all producers/importers are forced to take a certain measure in the country or in the case of monopolistic producers such as the power utilities there should not be a problem. A 'back-of-an-envelope' calculation suggests that power stations in the Republic of Macedonia would have to raise the price of a kW-hr of produced electricity by over 1.1 euro cent / kW-hr to cover the costs required by the Large Combustion Plants Directive (2001/80/EC).

Where an action involves heavy capital investment, the company concerned basically has the following options:

. • Transfer from own capital reserves (where the company is cash-rich);
. • Capital injection from (foreign) parent company;
. • Investment by some other (foreign) company in the context of a restructuring of the organisation and ownership and a modernisation of the operation;
. • Issue of bonds or shares;
. • Loan from IFI (see below). This is more likely to be viable where the capital expenditure will generate an income stream, for example in the case of electricity where a feasible plan can be put up for increasing electricity tariffs to cover the full cost (operating plus capital). Note however that the World Bank does not lend to private companies;
. • Loan from a private bank.

On the face of it these investment requirements will represent a very formidable hurdle to national industrial companies, many of which have invested little for many years, and are obsolete. However environmental approximation and best available techniques is not really the culprit in this regard. The question is whether the national companies are willing to accept the challenge to try to modernise their industries and make them competitive. In many cases this would mean going for best available techniques because this is what the market provides anyway. In other words it is not always possible to separate the base production technology from the best available abatement technique.

The suggested sources of funding to meet the costs up to 2015 are summarised in Table 44 below. Looking at the cost-heavy categories, by the end of 2015 total accumulated investment in municipal infrastructure will have reached €248 million, about 30% of the total necessary investment. The total accumulated investment by industry in abatement equipment and emissions reduction will have reached €567 million, about 43% of the total necessary investment.

| Table 44: Sources of finance for capital/one-off expenditure, to 2015 (€ millions) | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Total capital costs | 7.1 | 50.1 | 52.4 | 70.5 | 128.9 | 148.8 | 150.3 | 154.2 | 166.1 | |
| Sources of finance | | | | | | | | | | |
| - State budget | 1.3 | 1.1 | 0.9 | 0.9 | 0.9 | 0.8 | 0.6 | 0.5 | 0.2 | |
| Grant funding, TA projects | | | | | | | | | | |
| - CARDS | 1.0 | 1.0 | | | | | | | | Residue of CARDS funds committed before its closure |
| - IPA components I and IV | | | 11.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 7.5 | |
| - Non-EU grant funding | 4.8 | 9.0 | - | 11.4 | 2.9 | 2.8 | 3.5 | 1.4 | - | Bilateral and multilateral funding for TA projects |
| Instruments for financing municipal infrastructure (costs of this water supply, sanitation and waste management infrastructure will be met by users/polluters. Instruments apply to how capital is financed) | | | | | | | | | | |
| -IPA component III | | | | 5.0 | 16.0 | 25.5 | 21.7 | 21.5 | 23.6 | Includes some carryforward of allocations from earlier years |
| -Special EU contribution | | | | | | | | 0.1 | 0.3 | |
| -Bi- & multilateral grants | | | | 5.0 | 11.0 | 8.0 | 8.0 | 8.0 | 8.0 | For capital projects e.g. water & sanitation |
| -EBRD loan (or other IFI) | | | | | 5.0 | 5.0 | 6.3 | 9.0 | 10.4 | |
| -PPP (e.g. BOT) | | | | | | 12.5 | 12.0 | 12.5 | 14.0 | |
| -Municipal budget | | | 1.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | Expenditure in 2009 of €1.3 million relates to upgrading of Skopje Zoo. To be financed by additional revenue generated by the zoo |
| -Hazardous waste producers | | | | | | 1.1 | 1.1 | | | |
| -Normal company financing | | 39.0 | 39.0 | 39.0 | 84.0 | 84.0 | 88.0 | 92.0 | 102.0 | Own capital reserves, parent company, FDI, loan from IFI or commercial bank, capital issue, etc. |
| Total finance available | 7.1 | 50.1 | 52.4 | 70.5 | 128.9 | 148.8 | 150.3 | 154.2 | 166.1 | |

There is little need or benefit in trying to quantify the sources of finance after 2015, as the uncertainties become considerable and the strategy to be employed will depend on how the industrial and financial climate evolves in the country, for example liberalisation of the financial sector, creditworthiness of the Local Self-Government Units, early experiences with involvement of the private sector in providing municipal services, etc. After 2015, when the Republic of

Macedonia is assumed to join the EU, it will cease to be eligible for the IPA, and almost all bilateral and multilateral grants from the donor community will be discontinued. On the other hand the country will be able to benefit from co-funding from the EU cohesion and regional funds, intended to benefit less affluent regions in the Community. Going by the precedents of Bulgaria and Romania, the country is likely to benefit from grant co-funding of up to 50% from these sources to assist it in catching up with the construction of water supply, sanitation and waste management infrastructure, and these funds may exceed the IPA funds in magnitude.

The sources of funding for the annual and recurrent costs are summarised in Table 45 below.

| Table 45: Sources of funding for operating and recurrent expenditure, to 2015 (€ millions per annum) | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| Total annual costs | 0.2 | 4.2 | 10.5 | 15.2 | 32.2 | 47.4 | 61.6 | 76.0 | 93.7 | |
| Sources of finance | | | | | | | | | | |
| - State budget | 0.1 | 1.1 | 2.6 | 3.1 | 7.2 | 10.1 | 11.3 | 11.7 | 13.1 | |
| -IPPC permit fees | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | |
| -Revenues from Natura 2000 sites | | | | | | | | | 1.3 | |
| -Waste producers (households and institutions) | | | | 1.0 | 5.0 | 10.3 | 14.3 | 19.3 | 24.3 | |
| -LGWU budgets | | | 0.8 | 1.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | |
| -Companies: additions to prices or reductions in profits | | 3.0 | 7.0 | 10.0 | 18.0 | 25.0 | 34.0 | 43.0 | 53.0 | |
| Total funding available | 0.2 | 4.2 | 10.5 | 15.2 | 32.2 | 47.4 | 61.6 | 76.0 | 93.7 | |

## 6.5 Benefits of Compliance

Costs are immediate/short term while benefits are more long term.

Benefits can according the report: “The benefits of compliance with the environmental acquis for the candidate countries” from July 2001 be:

. • Better public health as exposure to pollution is reduced and, as a result, the number of respiratory diseases and premature deaths decreases;

. • Less damage to forests, buildings, fields and fisheries through a reduction of acid rain and other forms of pollution;

. • Promotion of tourism as a result of a cleaner environment (forests, rivers);

. • Reduced risk of water-related illnesses and improved taste of water as a result of better water quality;

. • Increased economic efficiency and higher productivity as a result of modern technology and lower production and maintenance costs through cleaner water;

. • Lower consumption of primary material as a result of a more efficient use and higher levels of reuse and recycling;

. • Better protection of natural ecosystems for future generations.

The main benefits include:

. • Health benefits: direct benefits to public health, e.g. reduction of diseases.

• Resource benefits: benefits to parts of the environment used commercially, e.g. forestry and fisheries.

. • Ecosystem benefits: benefits to the natural environment with no commercial interest.

. • Benefits that are not directly related to the environment, such as increased economic efficiency and higher productivity for companies as a result of modern technology.

To achieve the full benefits of the implementation of the environmental acquis, it is important that the approximation activities is integrated into other policy areas and that environmental objectives is taken into account early on in the development process for other policy areas.

Health

A main target of the environmental acquis is to avoid the range of human health problems that environmental pollution causes, from allergies and infertility to cancer and premature death. In the table below the sectors that mainly addresses health is outlined, and for other sectors that has main directives focusing on improvement of human health, these are indicated.

| Table 46: Sector / directives with direct / indirect impact on health Sectors and Directives with main focus on health | Sectors and Directives important for health | Sectors and Directives with indirect and / or impact on health on the long term |
|---|---|---|
| Air Quality Sector | Environmental Impact Assessment Directive | Nature Protection Sector |
| Noise Sector | Strategic Environmental Assessment Directive | Climate Change Sector |
| Waste Management Sector | Integrated Pollution Prevention and Control Directive | Water Framework Directive |
| Chemicals Sector | Nitrates Directive | Public Participation Directive |
| Genetically Modified Organisms Sector | Urban Waste Water Treatment Directive | Access to Information Directive |
| Drinking water directive | | |
| Biocides Directive | | |
| Large Combustion Plants Directive | | |
| Volatile Organic Compounds from Petrol Storage Directive | | |

Efficiency and competitiveness in industry and agriculture

Pollution from agriculture and industry is to a great extend a result of inefficient use of resources. Requirements on the agriculture and industry to minimise their impacts on the environments will result in a more efficient use of resources and in general a more efficient organisation of the production. These economic benefits for the individual enterprise will in most instances in the long term be greater than the costs, if the enterprise has the capacity to realise these benefits as a part of addressing the environmental requirements set by the authorities.

The main directives addressing the way that the production is organised in the industry and agriculture are:

- Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC);
- Environmental Impact Assessment (EIA) Directive (85/337/EEC);
- Nitrates Directive (91/676/EEC);
- Urban Waste Water Treatment Directive (91/271/EC) (food industry);

To realise the potential competitive advantages for the enterprises, the permitting and controlling function of public authorities has to be supplemented with a role as catalyst, where the inspection encourages, stimulates and co-operates with the industry to change it to more environmentally friendly and natural resource saving production methods. This will require that the authorities have an in-depth knowledge of the production of the industries.

Environmental quality and biodiversity

The direct economic benefits are connected with business sectors dependent on biodiversity like tourism (incl. recreational fishing), forestry and commercial fishing.

The main directives addressing environmental quality and biodiversity are:

- Water Framework Directive (2000/60/EC);
- Conservation of Natural Habitats and Wild Fauna and Flora Directive (92/43/EEC);
- Conservation of Wild Birds Directive 79/409/EEC);
- Urban Waste Water Treatment Directive (91/271/EC);
- Nitrates Directive (91/676/EEC);
- Biocides Directive (98/8/EC);
- Environmental Impact Assessment (EIA) Directive (85/337/EEC);
- Strategic Environmental Assessment (SEA) Directive (2001/42/EC).

Monetary value of the benefits of compliance with the environmental acquis

A study was finalized in July 2001 ("The benefits of compliance with the environmental acquis for the candidate countries") with the aim to assess the range and scale of benefits accruing to the candidate countries from their implementation of the EU environmental acquis.

The study provided a monetary value for certain benefits, where data is available. Not all but only some benefits where data and methodology for calculating the benefit were taken into account. The study covered the countries with status as candidate countries at the time of study (Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovenia, Slovak Republic, and Turkey).

The annual benefits were calculated to between 12 and 69 billion EUR. This corresponds to between 80 and 410 EUR pr. capita pr. year. More than 50% of the total value of these resulted from improved air quality as a result of the implementation of the directives from the Air Quality Sector and Industrial Pollution Control (IPC) Sector influencing air quality.

Many benefits of EU directives were not fully covered when assessing the monetary values. This included the protection of sensitive ecosystems and biodiversity and the fact that some environmental investments lead to benefits not directly related to the environment: Environmental investments can improve economic efficiency and boost productivity, for example by facilitating the take-up of modern technology, by lowering production and maintenance costs for companies through better water quality and by providing savings in the form of more efficient resource and waste management.

A main principle of the EU acquis is the "Precautionary Principle", preventing risks where possible and generally acting on the side of precaution. The benefits resulting from

the use of this principle, e.g. by avoiding health problems because the use a specific risky chemical substance is not allowed, cannot be quantified and included in the benefits, also resulting in a underestimation of the benefits.

## 6.6 Key Issues and Uncertainties

The main key issues related to the implementation of this strategy are described in the following.

Political understanding and support

Many other issues are higher on the political agenda than environment in the Republic of Macedonia, e.g. problems relating to ethnical differences, corruption, EU integration, agricultural policy, crime, and economic problems. This leaves little space for discussing how to improve the status of environment and benefits of EU approximation in this respect. To improve the environmental awareness, it is important to support environmental awareness activities for industry, public media and schools.

Optimize national benefits

A key issue is to optimize national benefits of the process and investments in implementing the EU environmental acquis, especially the economic benefits in the private sector that can be gained when implementing the acquis. It is therefore important that the inspectors is capable to encourage, stimulate and co-operate with the industry and agriculture to change their way of production to more environmentally friendly and natural resource saving production methods.

Involve stakeholders

It is a challenge to positively involve the stakeholders (investors, industry, agriculture, public, professional associations and environmental NGOs, etc.) and get support in the process of implementing the EU acquis, but through environmental awareness campaigns and by encourage and stimulate the stakeholders it should be possible to get them positively involved.

Capacities of Local Self Government Units

Local Self Government Units have according the national legislation an important role in environmental issues, and they are in the process of building their capacities in the environmental and planning sector. It is very important to focus on addressing their obligations in line with the existing law and the EU environmental acquis and on how they shall fulfil these obligations.

Spatial and urban planning

It is necessary to integrate environmental considerations into spatial and urban planning as it will result in the prevention of pollution at source, e.g. the noise and air pollution exposure of the population by separation of housing and traffic and facilitation of public transport.

Integrate environmental considerations into other policy areas

To integrate environmental approximation activities into other policy areas using the obligations of the Strategic Environmental Assessment Directive are also a key issue. An example is one of the main objectives of the National Transport Strategy: “Protect our environment and improve health by building and investing in public transport and other types of efficient and sustainable transport which minimize emissions and consumption of resources and energy”.

Monitoring, data management and access to environmental information

To optimize decisions on measures for improvement of the environment, relevant and reliable data and information about the environmental situation needs to be available. Access to reliable and adequate information about environmental issues is a key issue for decision making and public participation. Monitoring programes designed based upon the information needed are therefore required to decide about measures to reduce pollution. Likewise is data management that secure access to data by all involved and by all interested parties.

Benefit from donor projects

The benefits from donor project depend on how well they are integrated into the work of the beneficiary institutions. There is still a limited capacity in the Ministry of Environment and Physical Planning and the Local Self Government Units to absorb donor assistance. Technical assistance projects shall only be given at the time they can be proper integrated into the work of the beneficiaries, and it is should be a must that the staff of the beneficiaries participates in the implementation of the technical assistance projects, and "on the job training" shall be a prioritized part of these projects.

Some of the uncertainties related to this strategy are commented in the following.

Political support

It is uncertain if the present level of political support to EU membership and the environment will increase or decrease. The level of political support will influence on the allocation of funding for and the number of employees in the environmental sector and influence the willingness of other stakeholders to participate in the improvement of the environmental condition.

Availability of staff with the needed competences

To attract the right candidates for the positions in the MoEPP plus other expert positions needed and secure that they do not leave after a few years is a challenge and an uncertainty. It will probably not be possible for the authorities to offer salaries for their staff which can compete with salaries in the private sector. It is therefore important to offer good working conditions to be able to attract skilled staff and avoid that they leave their positions in a few years.

Level of donor support

The economic capacity of the Republic of Macedonia to implement the environmental acquis is limited, and the economic analysis made, based on an accession in year 2015, shows that it is difficult to keep the annual approximation cost under 3 % of the Gross Domestic Product (GDP), which is considered as the upper level of affordability. The required donor support is therefore essential to facilitate the approximation process within the set timeframe. Regular meetings with the donor community should be held to coordinate the donor assistance. These meetings can be coordinated by either MoEPP or the EU representation in Macedonia.

Date of entry into EU

At the moment the date of the Republic of Macedonia's entry into the EU has not been agreed upon and neither is it clear if transition periods for all the heavy cost directives will be possible and how long these transition periods will be.

# ANNEX I: NATIONAL POLICIES AND LEGISLATION

## ANNEX 1.A: LIST OF MAIN POLICY DOCUMENTS

-National Strategy for Sustainable Development with Action Plan (to be adopted 2008). The aim of this strategy is to continue the EU approximation process using a sustainable approach;
-Second National Programme for Adoption of the Acquis Communautaire (NPAA II, 2007), which are incorporating the comments provided by the European Commission on the draft Programme for Adoption of the Acquis and comprises an action plan for harmonization of the national legislation with the EU legislation, the necessary dynamics of institutional strengthening for implementation of the legislation, as well as the necessary resources for realization.
-National Transportation Strategy (2007). This strategy is covering the issues on infrastructure impact and environmental concerns on land use, biodiversity, noise, air pollution, impact on assets material values, impact on cultural heritage, landscape, etc.;
-The second National Environmental Action Plan (NEAP II, 2006). The NEAP II defines the environmental problems and the measures and activities required within the environment for a six years period, thus establishing a flexible framework for achievement of the main goals: continuation of the process of approximation with the EU environmental policy;
-The National Strategy for European Integration of the Republic of Macedonia (2004), which is setting the fundamental aims, policies and priorities in the process of EU integration and EU membership for the Republic of Macedonia, including the environmental protection as one of the 33 chapters assessed according the Copenhagen criterias for membership.
-Environmental Monitoring Strategy (2004). The Government is in the process of streamlining the tasks of the Ministry of Environment and Physical Planning in the field of environmental monitoring (including the design of a monitoring system that would comply with the EU requirements regarding monitoring and reporting of all environmental media);
-Environmental Awareness Strategy (2005). The Government is in the process of strengthening the communication strategy as well as the awareness strategies and the implementation of these strategies;
-Environmental Communication Strategy (2005). The main Governmental policy is to improve the level of efficiency and enhance the MoEPP's performance, strengthen the Ministry of Environments and Physical Planning's position vis-à-vis other ministries, improve communication between stakeholders in the field of environmental management, and facilitate the process of EU integration within the environmental chapter;
-Strategy and Action Plan for the Implementation of the Aarhus Convention (2005). The governmental policy for this strategy is to perform detailed analysis on the implementation convention status, guidelines and recommendations for exceeding the problems on convention implementation and to recommend the action plan to carry out the proposed measures and directions;
-National Capacity Needs Self-Assessment for Global Environmental Management (2005). The main strategy of this document is to strengthen the institutional and individual systematic capacities for performing the conventions from Rio: Framework Convention on Climate Change, Convention on Biodiversity, and Convention on Combating Desertification. This strategy is to enable sustainable capacity building, directions to perform, mechanisms and procedures to follow, and assessment of environmental progress;
-Environmental Data Management Strategy (2005). The Environmental Data Strategy provides a

step-by-step plan for the implementation of a standardized architecture for software and data structures that can accommodate data from multiple regulatory programmes, such as air pollution control, water pollution control, soil and noise control and hazardous waste management, and can provide integrated (crossprogram) access to data. The Environmental Data Strategy addresses the human factor challenge of how to avoid frictions between the involved parties and build cooperation while at the same time motivating the users;

-National Waste Management Plan (NWMP, 2005), which has not been adopted yet. An accepted approach to a national strategy in waste management exists, which is BPEO (Best Practicable Environmental Option) rather than BATNEEC (Best Available Technology Not Entailing Excessive Costs). The strategic planning for a waste management hierarchy, timescales and responsibilities are also provided.

-Vision 2008 (2004), which is a comprehensive policy programme presenting the vision of the Republic of Macedonia towards the accession to the EU, aiming at a healthy and clean environment. Vision 2008 implies a clear agenda of activities where the horizontal legislation have the significant place;

-National Strategy for Clean Development Mechanism (2007), which covers period of 2008-2012 of the Kyoto Protocol with the main goal to facilitate transfer of investment and technologies through Clean Development Mechanism for implementation of projects that reduces Green House Gasses emissions. The identification of priority areas for implementation of these projects, institutional set-up of the designated National Authority and capacity building of the private and public sector to participate in these projects are the main objectives of this strategy;

-The Strategy for Biological Diversity Protection and the Action Plan (2004) defines in general the overall vision and the goals of biological diversity protection and represents an integrated framework based upon a series of strategic components and approaches. The Action Plan identifies specific actions to be implemented in order to achieve the goals in the context of the local conditions in the country;

-Strategy for Sustainable Development of Forestry in the Republic of Macedonia (2006);

-Strategy on Energy Efficiency until 2020 (2004) is giving the main direction for the utilization of the energy on a sustainable way;

-Spatial Plan of the Republic of Macedonia (2004) is a long-term integrated strategic document and a planning document for the rational and human development of the society. It presents the basis for the overall development of the country and has the strategic goal to realize a higher degree of functional integration in the country as well as to provide conditions for considerably larger infrastructural and economic integration with neighbouring and other European countries in the process of globalization of economic flows;

-National Environmental Health Action Plan (NEHAP, 1999) is the governmental policy toward the environment and health of the people. The applied policies for the health aspect in relation to the environment are enabling stable environmental development and effective prevention and control on the health;

-National Strategy for Protection and Rescue for Republic of Macedonia (still in the very early phase).

ANNEX I.B: RELEVANT NATIONAL LEGISLATION

| Env. Sector | Primary National Legislation | Secondary National Legislation |
|---|---|---|

| | | |
|---|---|---|
| Waste Sector | •Law on Waste Management (Official Gazette no.68/2004; no.71/04); •Law on the Environment, (Official Gazette no.53/2005); •Law on Ambient Air Quality (Official Gazette no. 67/2004); •National Environmental Action Plan II; •Law on the Organisation of the Organs of the State Administration (Official Gazette no.58/2000); •Law on Transport of hazardous substances (Official Gazette of SFRJ No. 27/90 and 45/90 and Official Gazette of RM No. 12/93). •Law on Local Self Government (Official Gazette no.5/2002); •Law on Public Enterprise (Official Gazette no. 38/1996; 40/2003; 49/06; 22/2007), •Law on Physical and Urban Planning (Official Gazette no.51/2005); •Law on Constructions (Official Gazette no.51/2005); •Law on Concessions (Official Gazette no. 25/2002 and 24/2003) and •Law on Public Procurement (Official Gazette no. 19/2004 and 109/2005); •Law on Public Procurement (Official Gazette no. 19/04 and 109/2005); Conventions/Protocols ratified: •Ratified Basel Convention (Official Gazette no. 49/1997) and amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Amendment to Annex I, Annex VIII and Annex IX. Amendments were ratified by means of the Law on Ratification (Official Gazette no. 49/2004) | •Rulebook on list of waste (Official Gazette no.100/05); •Rulebook on functioning of methods and conditions of the integrated waste disposal network (Official Gazette no.07-5765/2005); •Rulebook on the form and the content of the permit for collecting and transporting urban and other types of non-hazardous waste, as well as the minimum economic technical activity of collecting and transporting urban and other types of non-hazardous waste (Official Gazette no.08/2006); •Rulebook on the format and the content of the Journal for records keeping on the waste handling, the format and the content of the forms for waste identification and transport, the format and the content of the form for the annual report on waste handling by legal entities and natural persons and the format and content of the form for the annual report on waste handling by the Mayor (Official Gazette no.07/2006) •Rulebook on issuing of A and B integrated environmental permit (Official Gazette no. 04/2006); •Relevant to Basel Convention "Rulebook on Format and Content of the Forms for Transboundary Movement of Hazardous Waste" (Official Gazette no. 37/03 and 38/03); •Decree for determining the activities of the installations requiring an integrated environmental permit, i.e. adjustment plan and time schedule for submission of application of adjustment permit with an adjustment plan (Official Gazette no.89/05). •Rulebook on the Form and Content of the forms for trans-boundary transfer of hazardous waste (Official Gazette of RM No. 37/03 and 38/03); •Decision on deploying goods and types of export and import (Official Gazette of RM No. 113/05); |
| Water Sector | _ Draft Law on waters (version January 2006) – The Project team uses this version of the Draft Law on Waters for the analysis within the project activities _ Law on Protection of Ohrid, Prespa and Dojran Lake (Official Gazette of RM, No. 45/77, 8/80, 51/88, 10/90 and Official Gazette of RM, No. 62/93); _ Law on Hydro – Meteorological Affairs (Official Gazette of RM, No.19/92 and 5/03); _ Law on Mineral Raw Materials (Official Gazette of RM, No.18/99 and 29/02); _ Law on Internal Sailings (Official Gazette of RM, No. 27/00 and 74/05); _ Law on Fishing (Official Gazette of RM, No. 62/93); _ Law on Water Communities (Official Gazette of RM, No. 51/03 и 95/05); _ Law on Water Economies (Official Gazette of RM, No. 85/03 and 95/05); _ Law on Drinking Water Supply and Drainage of Urban Waste Water (Official Gazette of RM, No. 68/04), and _ Law on Concessions (Official Gazette of RM, No. 25/02 and 24/03); •Law on Waters (enacted 01/1998); _ Law on Water Supply, Drainage, Treatment and Discharge of Urban Wastewater (draft 03/2000); _ Law on Food Safety and Products and Materials in Contact with Food (Official Gazette of the Republic of Macedonia No. 54/2002); Conventions/Protocols ratified: •Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (1998) •Convention on Environmental Impact Assessment in a Transboundary Context (Espoo) (1991)- Ratification (Official Gazette of RM No.44/99); | •Book of Regulations on the Wholesomeness of Drinking Water (Official Gazette no. 52/2004); •Quality and Health Safety of Drinking Water (1984); •Sampling and Laboratory Analyses of Drinking Water (1987); •Hygienic Safety of Drinking Water (1987); •Amendment on Quality and Health Safety of Drinking Water (1991); •Classification of Waters (1999); •Categorization of Water Courses and Lakes (1999). |

| Env. Sector | Primary National Legislation | Secondary National Legislation |
|---|---|---|
| Air Sector | •Law on Environment (Official Gazette no.53/2005)<br>•Law on Ambient Air Quality (Official Gazette no.67/2004); •Law on Energy (Official Gazette no.63/2006) •Law on Product Safety (Official Gazette no. 33/2006)<br><br>Conventions/Protocols ratified:<br>•United Nations Framework Convention on Climate Change (New York 1992). The Convention was ratified by means of the Law on ratification (Official Gazette no. 6/79). The Law entered into force on 28th of April 1998; •Kyoto Protocol to the United Nations Framework Convention on Climate Change. The Protocol was ratified by means of the Law on Ratification (Official Gazette no. 49/2004) •Vienna Convention for the Protection of the Ozone Layer (1985) and Montreal Protocol on Substances that Deplete the Ozone Layer (1987) – Ratification (Official Gazette no. 1/1990; 25/98); • The Long-Range Transboundary Air Pollution (LRTAP) was ratified means of the Law on ratification (Official Gazette of SFRJ no. 11/86). The Law entered into force<br><br>on 17 th of November 1991 | •Decree on limit values for the levels and the types of polluting substances in ambient air and alarm thresholds, terms for achievement of these limit values, margins of tolerance for the limit value, target values and long-term goals. ("Official Gazette of RM" No.50/2005)<br>•Rulebook on the criteria, methods and procedures for assessment of the ambient air quality ("Official Gazette of RM" No.82/2006) •Ordinance for establishing the activities of the installations for which an adjustment permit is issued (Official Gazette No. 04/2006) •The Ordinance for issuing A integrated environment permits (Official Gazette No.04/2006) •Rulebook on liquid fuel quality (Official Gazette no. 90/2006); •Rulebook on maximum permissible concentration and quantities on other harmful matters that may by released into the air by individual pollution sources (Official Gazette no.3/90) |
| IPC Sector | •Law on Environment (Official Gazette no. 53/2005);<br>•Law on Courts (Official Gazette no.58/2006);<br>•Law on General Administrative Procedure (Official Gazette no.38/2005); •Law on Ambient Air Quality (Official Gazette no. 67/2004);<br><br>Conventions/Protocols ratified: •Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus) – Ratification (Official gazette no.40/99);<br>•Convention on Environmental Impact Assessment in a Transboundary Context (Espoo) (1991)- Ratification (Official Gazette of RM No.44/99); | •Decree determining the activities of installations requiring integrated environmental permit or compliance permit with an operational plan and time table for submission of application for compliance permit with an operational plan – ("Official Gazette of the Republic of Macedonia" No. 89/05 from 21.10.2005) •Rulebook on the procedure for obtaining a compliance permit with an operational plan – ("Official Gazette of the Republic of Macedonia" No.4/06 from 13.01.2006).<br>•Rulebook on the procedure for obtaining A integrated environmental permit – ("Official Gazette of the Republic of Macedonia"No.4/06 from 13.01.2006).<br>•Rulebook on the procedure for obtaining B integrated environmental permit – ("Official Gazette of the Republic of Macedonia"No.4/06 from 13.01.2006).<br>•Rulebook on the additional conditions to be fulfilled by the members of the scientific technical Commission for Best Available Techniques submission – ("Official Gazette of the Republic of Macedonia" No. 71/06 from 08.06.2006);<br>•Rulebook on the criteria, methods and procedures for ambient air quality assessment (Official Gazette no. 82/2006) that comprises the definition of VOC.<br>•Rulebook On Form And Content Of Environmental Label, Manner, Conditions And Procedure For Its Awarding And Use, As Well As Composition And Manner Of Establishing And Operation Of The Committee For Environmental Label (Official Gazette of RM, No. 109/05) |

| Env. | | |
|---|---|---|

| Sector | Primary National Legislation | Secondary National Legislation |
|---|---|---|
| Horizontal Sector | •Law on Environment (Official Gazette No. 53/2005); •The Law on Air Quality ("Official Gazette of RM" No. 67/04); •The Law on Nature Protection ("Official Gazette of RM" No. 67/04); •The Law on Waste Management ("Official Gazette of RM" No. 68/04, 71/04); •Law on Free Access to Public Information ("Official Gazette of the Republic of Macedonia"No.13/06); •Law on administrative taxes (Official Gazette of the RM, No.17/1993); •Law on Courts (Official Gazette of the RM, No.58/06); •The Law on Hydro Meteorological Matters ("Official Gazette of RM" No. 19/92, 5/03); •The Law on General Administrative Procedure ("Official Gazette of RM" No. 38/2005); •The Law on Civil Procedure ("Official Gazette of RM" Nos. 33/98, 44/02); •The Law on Criminal Procedure ("Official Gazette of RM" Nos. 15/97, 44/02, 74/04); •The Law on Administrative Disputes (Official Gazette of the RM, NO. 62/076); Conventions/Protocols ratified: •ESPOO Convention - Ratification (Official Gazette no.44/99); •Aarhus Convention – Ratification (Official Gazette no. 40/99); | •Decree determining projects and criteria of which the screening for an environmental impact assessment shall be carried out (Official Gazette no. 74/05) •Rulebook on the additional criteria, manner, procedure and compensation of expenses for enrolment in and withdrawal from the list of experts for project environment impact assessment – ("Official Gazette of the Republic of Macedonia"No.33/06 from 20.03.2006). •Rulebook on the form, contents, procedure and manner of producing a report for adequacy of the study on project environmental impact assessment, as well the procedure for authorisation of persons form the lists of experts for environmental impact assessment who will produce the report – ("Official Gazette of the Republic of Macedonia" No. 33/06 from 20.03.2006). •Rulebook on the contents of the announcement of the notification of intent for conducting a project, of the decision for the need for project environmental impact assessment, of the study for project environmental impact assessment, of the report for adequacy of the study for project environmental impact assessment and of the decision which approves or denies carrying out of the project, as well as the manner of public consultations ("Official Gazette of the Republic of Macedonia"No.33/06 from 20.03.2006) •Rulebook on the necessary information contained in the notification of intent for conducting a project and on the procedure for determination of the need for project environmental impact assessment – ("Official Gazette of the Republic of Macedonia"No.33/06 from 20.03.2006). •Rulebook on the contents of applications necessary for the project environmental impact assessment study – ("Official Gazette of the Republic of Macedonia"No.33/06 from 20.03.2006) |
| Nature Sector | •Law on Nature Protection (Official Gazette no. 67/04 and 14/06);<br>•Law on Hunting (Official Gazette no. 20/96, 26/96, 34/97, 69/04);<br>•Law on Forests (Official Gazette no. 47/97, 7/00, 89/04);<br>•Law on Plant Protection (Official Gazette no. 5/98, 6/00);<br><br>Conventions/Protocols ratified:<br>•Rio Convention on Biological Diversity – Ratification (Official Gazette no. 54/97)<br>•Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Ratification (Official Gazette no.82/99)<br>•Bon Convention on Conservation of Migratory Species of Wild Animals – Ratification (Official Gazette no.38/99)<br>•Bern Convention on the Conservation of European Wildlife and Natural Habitats – Ratification (Official Gazette no.49/97)<br>•Ramsar Convention – Ratification (Official Gazette no.9/77) | •Ministerial Ordinance on content of management plan for natural heritage and the annual programmes for nature protection (Official Gazette no. 114/05);<br>•Rulebook on the contents of the management plans for protected areas and the content of the annual program for nature protection - (Official Gazette no.117/05 from 29.12.2005) |

| Env. Sector | Primary National Legislation | *Secondary National Legislation* |
|---|---|---|
| *GMO* | • Draft Law on GMOs (version February 2005) – The Project team uses this version of the Draft Law on GMOs for the analysis within the project activities<br>• Law on Environment ("Official Gazette No. 53/05, 81/05)<br>• Law on Nature protection (Official Gazette no. 67/04)<br>• Law on Plant Protection ("Official Gazette No. 25/98-1446, 6/00-225)<br>• Law on Cattle Breeding ("Official Gazette No. 61/97)<br>• Law on Veterinary Health ("Official Gazette No. 28.98)<br>• Law on Hunting ("Official Gazette No. 20/96-613, 26/96-841, 34/97-1405)<br>• Law on Forests (47/97, 7/00)<br>• Law on seeds, breeding material, on breed recognition, approval and protection ("Official Gazette No. 41/00)<br>• Law on Organic Agricultural Production ("Official Gazette No. 16/04)<br>• Law on food safety and safety of products that are in contact with food ("Official Gazette No. 54/02)<br>• Consumer protection law ("Official Gazette No. 38/04)<br>• Law on Industrial Property ("Official Gazette No. 47/02)<br>• Customs Law ("Official Gazette No. 21/98, 26/98, 86/99, 25.00, 109/00, 31/01, 4/02, 5/02, 42/0<br>• Law on medicines, assisting medical products, medical aids ("Official Gazette No. 21/98)<br>• Law on Ground Transport ("Official Gazette No. 63/95, 29/98, 7/99)<br><br>**Conventions/Protocols ratified:**<br>• Aarhus Convention – Ratification (Official Gazette no. 40/99);<br>• Rio Convention on Biological Diversity – Ratification (Official Gazette no. 54/97) | |

Secondary National Legislation

GMO

| Env. Sector | Primary National Legislation | Secondary National Legislation |
|---|---|---|

| | | |
|---|---|---|
| Chemicals Sector | •Draft Law on Chemicals (version 2006) – The Project team uses this version for the analysis within the project activities •Law on Poison Production (Official Gazette (of SFRY) no. 18/76); •Law on Trade in Poisons (Official Gazette of SFRY no. 13/91); •Law on Carriage of Dangerous Goods (Official Gazette (of SFRY) no. 27/90 and 45/90 and Official Gazette no.12/93); • Law on quality and quality control of fertilizers (Official Gazette (of SFRY) no. 10/73, 51/88, 20/90 and Official Gazette of RM no. 83/92); •Law on trade in explosives (Official Gazette (of SFRY) no. 30/85, 6/89, 53/91 and Official Gazette of RM no. 12/93); •Law on trade-decision on classifying types of goods for export and import 56/2004 •Law on pharmaceutical drugs, supplementary treatment substances and medical devices (Official Gazette of RM no. 21/98 •Law on Precursors (Official Gazette no. 37/04); •Law on Waste Management (Official Gazette no.68/2004 and 71/2004); •Law on Ambient Air Quality (Official Gazette no. 67/2004); •Law on Plant Protection (Official Gazette nos. 25/98 and 6/00); Conventions/Protocols ratified: •Stockholm Convention on Persistent Organic Pollutants (POPs) – Ratification (Official Gazette no.17/04); •Vienna Convention for the Protection of the Ozone Layer (1985) and Montreal Protocol on Substances that Deplete the Ozone Layer (1987) – Ratification (Official Gazette no. 1/1990; 25/98) | •Rulebook on Technical, Sanitary and Hygienic Conditions of Organizations which Trade in Poisons (Official Gazette (of SFRY) no. 9/86); •Rulebook on Labelling Toxic Substances Entering the Domestic Market (Official Gazette (of SFRY) no. 32/86); •Rulebook on Criteria for Poisons Classification in Groups and Method for Determining Toxicity Level of Particular Poisons (Official Gazette (of SFRY) no. 79/91); •Rulebook on the Manner of Destruction of Unused Poisons and Materials Used for Packaging Poisons and the Procedure of Poisons Withdrawing from Sale (Official Gazette (of SFRY) no. 7/83); •Inventory and Organization for Toxicological Evaluation and Determination of Poisons Efficiency (Official Gazette (of SFRY) nos. 57/82, 7/84, 58/85, 18/87 and 43/88); •Decision for Establishing the List of Poisons that can be released for Trade (Official Gazette (of SFRY) no. 59.82, 7/84, 9/86, 18/87 and 33/88); •Rulebook on Permit Issuing for Plant Protection Preparations Circulation (Official Gazette nos. 65/01 and 99/02); •Rulebook on the Requirements for Legal Entities Concerning the Equipment, Tools and Premises Used for Plant Protection Substances Testing (Official Gazette no. 54/01); •Rulebook on the Requirements for Legal Entities Concerning the Tools, Equipment and Premises Used in Production, Wholesaling and Retailing of Plant Protection Chemicals and on Contents and Bookkeeping of the Register (Official Gazette no. 54/01); •Rulebook on the Labelling Procedure for Plant Protection Preparations prior to Circulation and Use (Official Gazette no. 54/01); •List of Plant Protection Materials with Permits for Distribution (Official Gazette no. 58/98); •Rulebook on asbestos waste management from products that contain asbestos (Official Gazette no.89/2006) |
| Noise Sector | •Noise Protection Law (Official Gazette No.21/84, 10/90 and Official Gazette No.62/93), which regulates noise protection;<br>•Environment Law (Official Gazette No.53/05 and 81/05);<br>•Law on Entertainment Services (Official Gazette No.62/04)<br>•Law on Sanitary and Health Inspection (Official Gazette No.19/95)<br>•Draft Law on Noise (version August 2006) - The analysis within the project was based on this version of the Draft Law on Noise ; | •Order on Compulsory A-Testing of Motor Vehicles with Minimum Four Wheels (Homologation) with regard to Noise ("Official Gazette of RM" No. 16/97). (by Ministry of Economy). The Order is in line with Article 21 of the Law on Regulation of Technical Requirements for Products and Conformity Assessment ("Official Gazette of RM" No.55/02).<br>•Rulebook on essential requirements that should be met by the vehicles on wheels, equipment and parts, which can be built in and/or used for vehicles on wheels (Official Gazette of the RM no.70/2006).<br>•The "Order for Obligatory Testing (Homologation) of Motor Vehicles with at least four Wheels in regard to Noise" of 1997 |

# ANNEX II: PRIORITIZATION

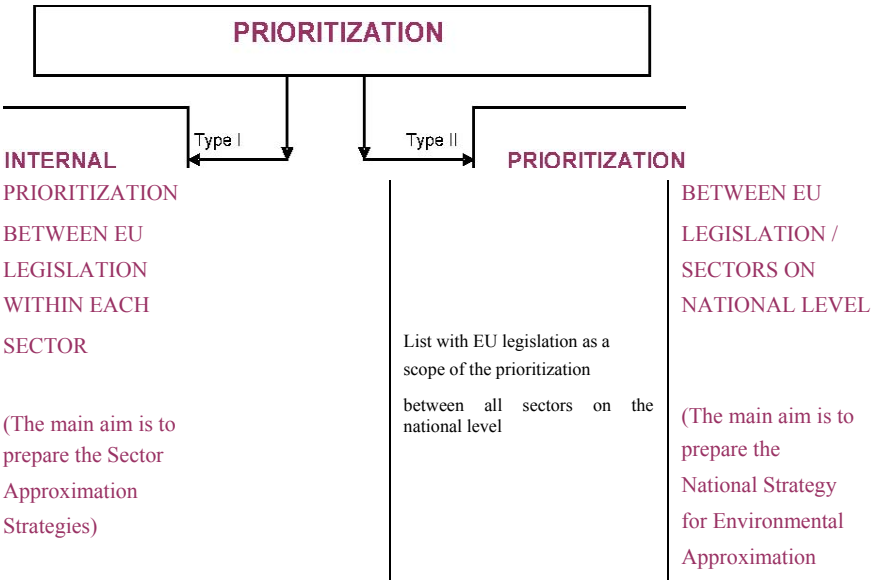
Prioritization between EU legislation / sectors within the process of development of the National Strategy for Environmental Approximation and Sector Approximation Strategies

The process of developing the National Strategy for Environmental Approximation is a complex task due to the number of EU environmental legislation covered (in total 73 pieces of EU legislation within 10 sectors of the environmental chapter) and the different types of tools that were used in order to perform three types of analysis: legal transposition, technical implementation and financial calculations of all proposed actions in the EU approximation process.

The constraints and limitations in respect to the implementation of all proposed actions have been recognized and these limitations have been taken into account through the whole process. The constraints and limitations addressed are the human resources available at all governmental institutions and on municipal level, necessity of new institutional set up, financial resources available from the governmental budget on annual basis, financial resources available from the international donor community, etc.

Working with the bottom-to-the top approach (Directive level Sectoral level National level), the Consultant Team has been aware that the drafting process of the National Strategy for Environmental Approximation should include all limitations and constraints within each particular sector and between all environmental sectors in order to achieve targets linked not only to accession but also to the environment, sustainability development of the country and related economic and social issues as well.

The Consultant Team recognized the necessity to use and perform two types of prioritization as the drafting processes of the Sector Approximation Strategies and the National Strategy were progressing.




The process of prioritization between EU legislation when drafting the Sector Approximation Strategy for particular complex sectors (Waste Management / Water Quality / IPC / Air Quality Sectors)

During the process of developing the Sector Approximation Strategies, the priorities for legal transposition and technical implementation for particular sectors were identified due to the fact

that there are human resources limitation as well as financial limitations to implement all proposed actions. It is not possible to implement within one sector all proposed actions for all its directives at the same time.

The second aim of the prioritization between EU legislation within one sector was to identify which of these pieces of legislation should be selected for the prioritization on the national level. In practical terms, the prioritization process was going through several steps, taking into account the already finalized legal and implementation gap analysis and proposed actions for full transposition and technical implementation of the legislation.

Priorities for legal transposition
The priorities for legal transposition were identified according the priorities in the timeframe 2007-2010 already adopted by the Government within the second National Programme for Approximation of the Acquis (NPAA II) dated April 2007.

Priorities for technical implementation
The Consultant Team identified that the so called Internal Prioritization (within the sector) between EU legislation should be done at least for the more complex sectors (Waste Management / Water Quality / IPC / Air Quality) during the drafting of the Sector Approximation Strategies. The main reasons for this is that these sectors involve in average 10 pieces of EU legislation per sector and there are plenty of proposed actions to be implemented for the full technical implementation of the EU requirements. Also these sectors are so called "heavy costly" sectors with a great need for capital infrastructural actions, technical assistance needs for preparation of the planning documents, institutional strengthening projects and preparation of the documents for infrastructural projects.

The EU covered legislation within each of the above mentioned sectors was grouped into three groups according the importance and complexity of the legislation, using several criteria.

In the Inception Phase of the project, the Consultant Team developed suitable screening / selection prioritization criteria against which a decision was made, in cooperation with the MoEPP and the core team for each Sector Working Group, to select the legislation to be included in the DSIP Phase and in the Sector Phase respectively.

The selection criteria were:

Whether the legislation is a framework Directive (framework Directives are of overarching importance in planning infrastructure) or important in supporting key legislation from a sustainable development point of view; Whether the legislation is likely to pose particular problems in implementation, e.g. because:

a. o it is administratively complex to implement, and / or
b. o implementation mechanisms are not clearly defined, and / or
c. o it will be very costly to implement;

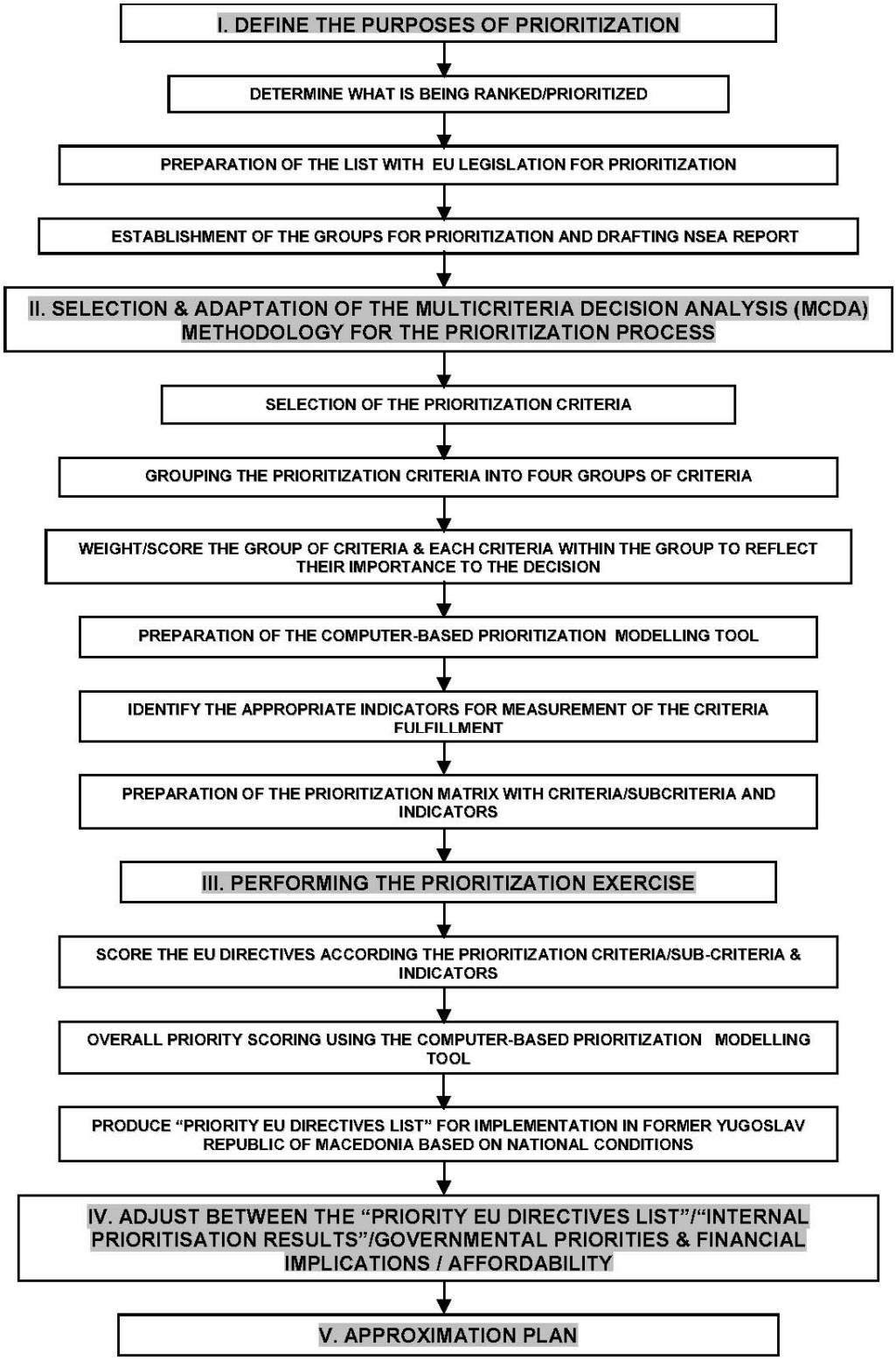
Whether the legislation is likely to require significant investment in technological improvements (e.g. installation of new plants and / or associated infrastructures such as pipe work connections at individual buildings / households, retrofitting of old equipment with new abatement plant, etc.);

Whether the investment is likely to benefit small or large groups of inhabitants (e.g. improve drinking water quality, improve urban air quality, etc.); The current status of transposition, implementation and / or financing of the legislation concerned.

The covered EU legislation that were identified by the Working Groups as the legislation with a high priority for implementation within the particular sector were proposed as legislation to be included in the prioritization process between all ten sectors.

For the more complex sectors (Waste Management / Water Quality / IPC / Air Quality) this kind of internal prioritization was performed by the international and national experts using selected criteria, and the EU legislation with high priority within the sectors were proposed and adopted by the Sector Working Groups and Core Working Group for prioritization.
The process of prioritization between EU pieces of legislation for drafting the National Strategy for Environmental Approximation (NSEA)

The prioritization between the EU covered legislation / sectors within the process of drafting the National Strategy was done using the conceptual model of the Prioritisation Scheme given below:




The main steps that were passed within the prioritization and drafting the National Strategy for Environmental Approximation (NSEA) can be grouped as follow:

1. 1. Define the purposes of prioritization.

2. 2. Selection and adaptation of the methodology for the prioritization.
3. 3. Perform the prioritization exercise.
4. 4. Adjust the "Priority list of EU legislation", "Internal prioritization results" and Governmental priorities already determined in other strategic documents with the financial implications and affordability.
5. 5. Preparation of the Approximation Plan within the NSEA.

Define the purposes of prioritization
The recognition of the complexity of the project aim and existence of constraints and limitations in respect to the full implementation of the EU requirements was made at the beginning of the project by the Consultant Team.

These constraints and limitations have been addressed in form of human resources available at all governmental institutions, necessity of new institutional set up, designation and establishment of the Competent Authorities, financial resources available from the governmental budget on annual basis, financial resources available from the international donor community, etc.

All these limitations have been identified as the main driving forces for performing the prioritization during the NSEA drafting process. Furthermore, the EU priorities in regard to the environmental chapter and environmental topics as well as the national priorities already determined within the governmental strategic documents have been taken into consideration to prepare a feasible and realistic approximation plan as a part of the National Strategy.

The main aims of the prioritization are:

To identify the "Priority List with covered EU Legislation for implementation in the Republic of Macedonia" that will serve to the MoEPP as a route map for focusing their human resources, the governmental budget and donor assistance on a systematic and consistence way;

To adjust the "Priority List with covered EU legislation for implementation in the Republic of Macedonia" with internal prioritization within the sectors, governmental priorities already identified and financial implications;

To develop a coherent National Strategy for Environmental Approximation that recognizes all these constraints and the need to achieve environmental targets linked not only to the accession but also to the sustainable development of the Republic of Macedonia, pointing out also related economic and social issues.

Determine what is being ranked / prioritized
As the priorities for legal transposition of the environmental EU legislation into the national legislation have already been identified and adopted by the Government within the second National Programme for Approximation of the EU acquis (NPAA II) dated April 2007, the Consultant Team was focused on the priorities for implementation of the proposed actions for full technical implementation of the EU requirements.

The main question for the ones involved in the prioritization process was: which EU legislation and sectors have the highest priority for the country (using a set of criteria / sub-criteria and indicators) between all covered EU legislation in order to start their implementation earliest possible and to dedicate the human and financial resources to the finalization of the proposed actions for full technical implementation for this legislation.

The determination of the scope of prioritization was made based on all ten environmental sectors (Waste Management, Water Quality, Air Quality, Horizontal Legislation, Noise, GMO, Chemicals, Nature Protection, Forestry and Industrial Pollution Control) within the EU environmental chapter covering 73 pieces of EU legislation that were analyzed within the project through performed legal, implementation and investment gap analyses.

Preparation of the list with EU legislation for prioritization
The list with EU legislation to be covered within the prioritization process was made based on the result of the internal prioritization during the process of drafting the Sector Approximation Strategies using suitable screening / selection criteria with active involvement of the Sector Coordinators from the MoEPP and members of the Sector Working Groups.

The list contains 36 pieces of EU legislation (32 Directives, 3 Regulations and 1 Decision) which have been identified as the legislation with the highest priority for implementation in the country among the covered 73 pieces of EU legislation within the project.

The list with EU relevant legislation covered within the prioritization process (refer Annex II.D) was finalized and adopted by the members of the Core Group for prioritization on a meeting held in the MoEPP on 29th of May 2007.

Establishment of the Groups for prioritization and drafting of the NSEA
In order to achieve the maximum involvement of all relevant stakeholders within the process of prioritization between EU covered pieces of legislation / sectors and to get a more realistic and objective prioritization, the Consultant Team and the MoEPP established two Groups for prioritization:

Core NSEA Working Group for prioritization;
Broader NSEA Working Group for prioritization and drafting of the NSEA

The Core NSEA Working Group for prioritization consisted of 13 members from the MoEPP. The Core Group members includes all the project Sector Coordinators who have been deeply involved in the project activities and who know the sectors and EU legislation very well as well as the status of transposition and implementation of that legislation on national level. Several high officials from the MoEPP were also Core Group members due to the fact that they have been deeply involved in the environmental policy and decision making processes and development of various strategic documents within the country.

The main role of the Core Group for prioritization was to adopt the final list with EU legislation to be covered in the prioritization, to support the Consultant Team in developing the prioritization methodology and criteria / sub-criteria and indicators for prioritization, to provide the criteria weights / scores and to participate in the prioritization exercise itself.

These so called "preparatory steps for the prioritization exercise" were held during May 2007 and they were finalized in a Meeting held in the MoEPP on 29th of May. At the said meeting, the Core Group members adopted the Prioritization Methodology, the matrix with four groups of criteria, 30 criteria / 33 sub-criteria and 89 indicators as a basic for the prioritization exercise and the list with EU legislation as an objective for the prioritization. They also provided their opinion about the weights / scores for each of the group with criteria and each criteria within the group of criteria to reflect their relative importance to the decision during the prioritization process.

The broader NSEA Working Group for prioritization and drafting the NSEA Report was established at the beginning of June 2007 in order to involve all other relevant stakeholders (high officials from other governmental bodies, local self government units, public enterprises, and academic institutions) who could support the prioritization with "their point of view" on the importance of particular environmental EU legislation for the country. They have the knowledge and expertise about the government policy in their sectors related to the environment (energy, water supply, economy, transport, education, research, etc.) and they are aware of the status of legal transposition and technical implementation of some cross-cutting EU legislation for which they are responsible institution (e.g. the Ministry of Economy is responsible for implementation of the proposed actions under the Fuel Quality EU Directive). Their involvement ensured more objective, transparent and realistic prioritization taking into account not only the targets for

environmental improvement but also the sustainable development of the country.

There are 35 members in the broader NSEA Working Group for prioritization, including all members of the Core Group, with the main role to participate during the prioritization exercise that was organized within a two days Prioritization Workshop held in Ohrid on 8-9 of June 2007. The list of members of the Core NSEA Working Group for prioritization and the broader NSEA Working Group for prioritization and drafting of the NSEA is given in Annex VII.

## Selection and adaptation of the Prioritization Methodology

The Consultant Team reviewed several worldwide accepted approaches and techniques for appraisal of options during the preparation of the strategic decision making policy documents in order to choose the appropriate methodology for decision analysis and to adapt it as a Methodology for Prioritization between EU covered legislation / Sectors on national level. The advantages and disadvantages of the most common decision analysis techniques were reviewed assessing which one is responding best to the prioritization goal. The assessment included the monetary – based techniques: the Cost-Effectiveness Analysis (CEA) and Cost-Benefit Analysis (CBA) that rely on the monetary variables of each option / alternative, and multi-criteria analysis techniques: the Multi-Criteria Decision Analysis (MCDA) that is based on the mixture of monetary and non-monetary variables.

As the nature, goal and scope of the prioritization within the project has been very complex and it has included monetary variables-criteria (e.g. the capital costs for the full implementation of the EU legislation, the technical assistance needs for drafting the legislation, etc.) and non-monetary variables-criteria (e.g. contribution of the legislation to attainment of the sustainable development of the country), the MCDA technique were more advantageous and it was chosen as the methodology to be used for the prioritization.

### Theory and facts about the MCDA technique

The Multi-Criteria Decision Analysis is an approach and a set of techniques with the main goal to provide an overall ordering of options / alternatives from the most preferred to the least preferred option / alternative.

The main role is to deal with the difficulties that human decision-makers have been shown to have in handling large amounts of complex information in a consistent way.

In compare with the informal judgment unsupported by analysis, the MCDA technique is open any time to add new appropriate criteria that can support the decision between several options and can make better differentiation between the options, it uses logical, clear numerical analysis and it is very easy to be used.

This technique has been used for almost 30 years by governmental agencies, as USAID / UK Environmental Agency and it is now widespread well in private and public sector. It has been adapted by the users depending on the application and now days it has been used for choosing the alternatives during the preparation of the EIA Studies, Local Environmental Action Plans, SEA Studies, priorities towards the implementation of the projects etc.)

A key feature of the MCDA technique is its emphases on the judgment of the decision making team in establishing the set of criteria estimating their relative importance weights and contribution of each option to each performance criterion. Each of the member of decision making team provides its own weight/score and for sure it is a subjective judgment but when it has been averaged through all member's judgments the technique becomes objective.

There are several well known software packages that can implement the MCDA technique and at the moment they are applying on different applications worldwide as HIVIEW, MACBETH and HIPRE 3+.

The MCDA technique was adapted as the tool for the prioritization between the 36 selected pieces of environmental EU legislation, using the prioritization criteria / sub-criteria and indicators, with the following main question on the prioritization exercise:
Which of the EU legislation has the higher priority for the implementation in the country taking into account its level of legal transposition into national legislation, its current status of the

implementation, needs for new institutional set-up raised from that legislation, financial implications that legislation will have on the economy of the country and social aspects that it covers with its implementation?

Selection of the prioritization criteria
The main issue for the Consultant Team in developing the appropriate prioritization criteria was:

How many and what type of questions should be asked the members of the NSEA Group for prioritization and how many criteria and type of criteria should be applied for each of the 36 pieces of EU legislation in order to make a better differentiation between the legislation in term of priority for their implementation in the country?

Taking this issue as a crucial one within the prioritization exercise, the Consultant Team developed a great number of different types of appropriate questions / criteria in order to ensure a proper differentation between the directives.

According the methodology for prioritization, the proposed criteria were grouped into the 4 groups of criteria:

1. 1. Legal criteria (includes 8 criteria related to the pertinent of the legislation to the legal obligations of the Republic of Macedonia towards multilateral agreements, transboundary context of the legislation, status of the legal transposition of the EU legislation as a precondition for the smoothly implementation of the legislation, technical assistance needs for drafting the new legislation, etc…);
2. 2. Institutional / Implementation criteria (includes 9 criteria related to the status of implementation of the legislation, availability of the technical competence, needs for new institutional set up on central / local level, necessity of new administrative structure, institutional requirements such as monitoring equipment / accreditation of the laboratory, etc…);

Examples of legal criteria

| |
|---|
| ***Question: Is there legislation transposed entered into force for smoothly implementation of the directive?*** |
| **CRITERIA: Existing legislation in force** |
| ***Question: What is the status of transposition of the directives into national legislation?*** |
| **CRITERIA: Transposition into national legislation** |

Examples of institutional/implementation criteria

| |
|---|
| ***Question: Are there needs for the new personnel required for implementation of the directive's requirements on municipality level?*** |
| **CRITERIA: Needs for new employment at municipality level** |
| ***Question: What are the requirements of the directive refer to the monitoring equipment?*** |
| **CRITERIA: Institutional requirements refer to the monitoring equipment** |

1. 3. Financial / Economic criteria (includes 7 criteria related to the financial implications that the implementation of the legislation will arise, investment range of capital costs and timescale, range of the annual operational costs, generation of the income when the legislation has been implemented, availability of foreign assistant aid for funding the implementation of the projects arises from the requirements of the legsialtion, etc.);
2. 4. Social criteria (includes 6 criteria focusing on the new commercial opportunities raised by the implementation of the legislation, number of new jobs created when the legislation

has been implemented, contribution of the legislation to availability of environmental information / access to justice, contribution of the legislation to attainment of the sustainable development of the country, etc..

Examples of financial/economic criteria

| |
|---|
| ***Question: Are there any economic instruments that can be applied in order to generate an income during the implementation of the directive?*** |
| **CRITERIA: Generation of the income** |
| ***Question: What is the availability of funding (private) the capital infrastructure raised as directive requirements?*** |
| **CRITERIA: Interest of private companies to invest in capital infrastructure projects** |

Examples of social criteria

| |
|---|
| ***Question: Are there any new jobs opportunities that would arise by the implementation of the directive?*** |
| **CRITERIA: New economy opportunities raised in terms of jobs** |
| ***Question: Does the directive contribute to the improvement of the human health?*** |
| **CRITERIA: Contribution of the directive to the impact on the human health** |

The total number of 30 prioritization criteria was developed and in addition 33 sub-criteria were developed for better understanding and explanation of the main criteria.

Weight / score of the group of criteria and each criteria within the group of criteria to reflect their importance to the decision
A very important step within the methodology is to determine the relative importance of each criterion to the decision on priority. The Core Group members provided their assignments of weights for each group of criteria reflecting the relative importance (expressed in %) of each group of criteria towards the decision for the priority of the legislation. Furthermore, they provided their opinion about weight for each criteria within the group of criteria reflecting their relative importance (expressed in %).

The average weights provided by Core Group members are given in Annex II.B.

Preparation of the computer-based prioritization modeling tool
The computer-based prioritization model was created by the Consultant Team in order to make the calculation on the overall priority score for each piece of EU legislation.

The computer-based modeling tool was based on the Microsoft Excel platform and the iput to the model was the average of the weights for each group of criteria and each criteria within the group of criteria provided by the members of the Core Group and the identified indicators that reflect the performance of each piece of legislation against all prioritization criteria.

Identification of the appropriate indicators for measurement of the performance of each piece of legislation against the criteria
For each criteria / sub criteria about 3 appropriate indicators were identified in order to measure the performance of each piece of legislation against the criteria.

There are three types of indicators:

1. 1. The indicators already clearly determined by the current conditions in the country.
2. 2. Monetary expressed indicators using the previously performed financial analysis within the project, based on the proposed actions for approximation.

Example

| CRITERIA | SUB-CRITERIA | INDICATOR |
|---|---|---|
| Pertinent of the directive to an international agreement ratified by the country | Ratification status | Ratification of the convention done |
| | | Ratification of relevant Protocol(s) under convention |
| | Initiation of ratification status | Initiation for ratification has not been started |
| | | Initiation for ratification has been started |
| | No relevance to the international agreements | No relevance to any multilateral agreement |

Example

| CRITERIA | SUB-CRITERIA | INDICATOR |
|---|---|---|
| Investments to meet the environmental standards requested by the directive | Range of the Capital costs | Substantial costs required (>50 M EUR) |
| | | Intermediate costs required (5-50 MEUR) |
| | | Low costs required ( <5 MEUR) |

3. Non-monetary indicators for which the members of the NSEA Group for prioritization should take the decision based on discussion among them.

Example

| CRITERIA | SUB-CRITERIA | INDICATOR |
|---|---|---|
| Contribution of the directive to the impact on the human health | Level of contribution | Low contribution |
| | | Medium contribution |
| | | High contribution |

Preparation of the Prioritization Matrix with all criteria / sub-criteria and indicators
The Prioritization Matrix contains the 4 Groups of criteria, 30 questions / criteria, 33 sub-criteria and 89 indicators as a part of the unique methodology for prioritization. It was prepared taking into account the current national circumstances and results of already performed legal, implementation and investment gap analysis.

The Prioritization Matrix (see Annex II.C) was used as a tool for the prioritization exercise performed during the workshop on prioritization held in Ohrid on 8 - 9 June 2007.

Performing the prioritization exercise
The prioritization between the selcted 36 pieces of EU legislation was done by the members of the broader NSEA Group. The main task for them was to identify the suitable indicator for each piece of legislation that will reflect the performance of the piece of legislation against the prioritization criteria. All members were grouped into 4 groups, each working on 9 pieces of legislation from various sectors.

The final results of the prioritization exercise from the workshop were the prioritization matrixes with fill-out indicators for all 36 pieces of EU legislation.

The fulfilled Prioritization Matrixes for the covered EU legislaion were transferred to the

computer-based model in order to get the overall priority score for each piece of legislation and thereby its priority for implementation in the country.
Several trials with other weights and other indicators were conducted by the Consultant team in order to check the sensitivity of the Prioritization Methodology. The sensitivity analysis shows that minor changes did not affect the overall ordering of the legislation (low sensitivity), and the methodology seems to be a very convenient and robust tool for prioritization. As a final result of the prioritization exercise the "Priority List with EU Legislation" for implementation in the country, based on national conditions, was prepared (see Annex II.D).

In conclusion, the Prioritization Methodology proposed by the Consultant Team and used in the project shows up to be an excellent tool for prioritization and it can be strongly recommended to be used on other projects of a similar nature, also during the drafting of national / local strategic planning documents.

Adjustments between the "Priority list of EU legislation", "Internal prioritization results" and Governmental priorities already determined in other strategic documents with the financial implications and affordability
In the process of drafting a realistic, feasible and appropriate National Strategy for Environmental Approximation, the Consultant Team took into consideration and made additional optimization between:

Results obtained by two types of prioritization:

a. o Internal prioritization during the drafting process of the Sector Approximation Strategies;

b. o Prioritization between covered EU legislation using the Prioritization Methodology and resulting in the "Priority List with EU legislation for implementation".

The priorities already defined in other previously adopted strategic governmental documents as the NPAA II, the NEAP II, the National Solid Waste Management Plan, the National Approximation Strategy of the Republic of Macedonia, Operational Programme for IPA Applications and other documents where the Government already had decided on some priorities for the next coming period;
EU priorities on some specific topics / sectors;
Financial / economic implications of all proposed actions for legal transposition and technical implementation of the covered EU legislation in all sectors taking into account that it is not possible to do everything at once with limited human and financial resources available;
Amount of available international financial aids that could support the approximation process;
Proposed negotiable transitional periods in relation to the heavy costly directives, such as the IPPC Directive (96/61/EC), Large Combustion Plants Directive (2001/80/EC), Urban Waste Water Treatment Directive (91/271/EEC), Waste Management related directives, and some of the other water related directives and VOC related directives.

APPROXIMATION PLAN
All these issues were taken into account developing the Approximation Plan for the implementation of the proposed actions for full legal transposition and full technical implementation of the EU legislation in Republic of Macedonia through the time period till 2015 as a proposed accession year and beyond.

The Approximation Plan present the optimized result of the adjustment of all the above mentioned issues, which was carried out to get the synergy between human resources, financial means on disposal for environment and time period needed for the whole process. The

Approximation Plan is presented in Annex V.

## ANNEX II.A: EU LEGISLATION COVERED WITHIN THE PRIORITIZATION PROCESS

| Directive / Regulation |
| --- |
| ***HORIZONTAL (including civil protection)*** |
| EIA Directive (85/337/EEC) as amended by Directives 97/11/EC and 2003/35/EC |
| SEA Directive (2001/42/EC) |
| Environmental Information Directive (2003/4/EC) |
| Public Participation Directive (2003/35/EC) |
| Environmental Liability Directive (2004/35/EC) |
| ***AIR QUALITY- (including Climate Change)*** |
| Ambient Air Quality Framework Directive (96/62/EC) as amended by Regulation (EC) 1882/2003 |
| Limit Values for SO2, NOx, NO2, Particulate Matter and Lead Directive (99/30/EC) as amended by Decision 2001/744/EC |
| National Emission Ceilings Directive (2001/81/EC) |
| Quality of Petrol and Diesel Fuels Directive (98/70/EC) as amended by Directives 2000/71/EC, 2003/17/EC and Regulation (EC) 1882/2003 |
| Sulphur Content Liquid Fuels Directive (99/32/EC) as amended by Regulation (EC) 1882/2003 and Directive 2005/33/EC |
| ***WASTE MANAGEMENT*** |
| Waste Framework Directive(75/442/EEC) as amended by Directives 91/156/EEC, 91/692/EEC and Regulation (EC) 1882/2003 as well as by Decision 96/350/EC |
| Hazardous Waste Directive (91/689/EEC) as amended by Directive 94/31/EC |
| Landfill Directive (99/31/EC) as amended by Regulation (EC) 1882/2003 |
| Packaging Waste Directive (94/62/EC) as amended by Regulation (EC) 1882/2003 and Directives 2004/12/EC and 2005/20/EC |
| Batteries Directive (91/157/EEC) as amended by Directive 98/101/EC |
| Waste Oils Directive (75/439/EEC) as amended by Directives 87/101/EEC, 91/692/EEC and 2000/76/EC |
| PCB/PCT Directive (96/59/EC) |
| End-of-Life Vehicles Directive (2000/53/EC) as amended by Decisions 2002/525/EC, 2005/63/EC, 2005/437/EC and 2005/438/EC |
| ***WATER MANAGEMENT*** |
| Water Framework Directive ( 2000/60 /EC) as amended by Decision 2455/2001/EC |
| Urban Waste Water Directive (91/271/EEC) as amended by Directive 98/15/EC and Regulation (EC) 1882/2003 |

| **Directive / Regulation** |
|---|
| Nitrates Directive (91/676/EEC) as amended by Regulation (EC) 1882/2003 |
| ***NATURE PROTECTION*** |
| Wild Birds Directive (79/409/EEC) as amended by Directives 81/854/EEC, 85/411/EEC, 86/122/EEC, 91/244/EEC, 94/24/EC, 97/49/EC & Reg. (EC) 807/2003 |
| Habitats Directive (92/43/EEC) as amended by Directive 97/62/EC and Regulation (EC) 1882/2003 |
| CITES Regulation – Endangered Species Regulation 338/97/EC |
| ***INDUSTRIAL POLLUTION CONTROL AND RISK MANAGEMENT*** |
| IPPC Directive (96/61/EC) as amended by Directives 2003/35/EC, 2003/87/EC& Regulation (EC) 1882/2003 |
| Large Combustion Plants Directive (2001/80/EC) |
| SEVESO II Directive (96/82) as amended by Directive 2003/105/EC and Regulation (EC) 1882/2003 |
| Solvents Directive (1999/13/EC) on activities as amended by Regulation (EC) 1882/2003 |
| VOCs from Petrol Stations Directive (94/63/EC) as amended by Regulation (EC) 1882/2003 |
| EMAS Regulation (EC) 761/2001 |
| EPER Decision 2000/479/EC |
| ***GMO*** |
| Deliberate Release of GMOs Directive (2001/18/EC) as amended by Regulations (EC) 1829/2003 and 1830/2003/EC as well as Decisions 2002/623/EC and 2002/811/EC |
| Contained Use of GMMs Directive (90/219/EEC) as amended by Directives 94/51/EC, 98/81/EC, Regulation (EC) 1882/2003 and Decisions 2001/204/EC and 2005/174/EC |
| ***CHEMICALS*** |
| Dangerous Substances Directive (67/548/EEC) as amended by Directives 69/81/EEC, 70/189/EEC, 71/144/EEC, 73/146/EEC, |
| Ozone-Depleting Substances Regulation ((EC) 2037/2000) as amended by Regulations (EC) 2038/2000 & 2039/2000, Decision 2003/160/EC, Regulation (EC) 1804/2003, Decision 2004/232/EC and Regulation (EC) 2077/2004 |
| ***NOISE*** |
| Environmental Noise Directive (2002/49/EC) |

ANNEX II.B: WEIGHTS OF CRITERIAS AND GROUPS OF CRITERIAS

| | | | Weights of criterias within each group | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type of Group of Criteria | | Weights of Group (%) | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | Total |
| Legal criteria | L/C | 39 | 19 | 17 | 14 | 9 | 7 | 7 | 13 | 14 | | 100% |
| Institutional / Implementation criteria | I/C | 24 | 16 | 12 | 14 | 13 | 10 | 12 | 9 | 7 | 8 | 100% |
| Financial criteria | F/C | 27 | 19 | 17 | 16 | 13 | 10 | 12 | 13 | | | 100% |
| Social criteria | S/C | 10 | 18 | 14 | 16 | 16 | 16 | 20 | | | | 100% |

total 100%

ANNEX II.C: PRIORITIZATION MATRIX WITH ALL CRITERIA / SUB-CRITERIA AND INDICATORS

| GROUP of CRITERIA | | MAIN CRITERIA | SUB-CRITERIA | INDICATOR | indicator significance scores |
|---|---|---|---|---|---|
| Legal | | *What is the relation of the directive with international Multilateral Environmental Agreements (MEAs) ratified by Macedonia?* | | | |
| | L/C1 | Pertinent to an international MEAs ratified by Macedonia | Ratification status | Ratification of the convention done | |
| | | | | Ratification of relevant Protocols under convention | |
| | | | Initiation of ratification status | Initiation for ratification has not been started | |
| | | | | Initiation for ratification has been started | |
| | | | No relevance to MEAs | No relevance to any multilateral agreement | |
| | | *Question: How does this directive address the transboundary impacts?* | | | |
| | L/C2 | Transboundary context of the directive | Importance in transboundary context | High importance | |
| | | | | Medium importance | |
| | | | | Low importance | |
| | | *Question: What is the status of transposition of the directives into national legislation?* | | | |
| | L/C3 | Transposition into national legislation | Transposition status | Transposition partially complete | |
| | | | | Transposition almost complete | |
| | | | | Transposition complete | |
| | | *Question: Is there technical assistance needed for drafting the national legislation?* | | | |
| | L/C4 | Technical assistance needs for legal drafting process | Technical assistance needs | Major TA required | |
| | | | | Minor TA required | |
| | | | | No TA required/internal resources only | |
| | | *Question: Is the directive costly in relation to the TA needs costs for legal transposition?* | | | |
| | L/C5 | Magnitude of the TA costs for drafting the legislation | Range of TA costs for drafting legislation | >50 000 EURO/year | |
| | | | | 50 000-100 000 EURO/year | |
| | | | | > 100 000 EURO/year | |
| | | *Is there legislation transposed and entered into force facilitating smoothly implementation of the directives?* | | | |
| | L/C6 | Existing legislation in force | Stage reached | Transposed sectoral Law in force | |
| | | | | Transposed related Laws in force | |
| | | | | Transposed secondary legislation (Annexes from directives) in force | |
| | | *Question: What is the type of the directive (impact on other directives/sectors)?* | | | |
| | L/C7 | Type of directive | Type of directive | Horizontal directive | |
| | | | | Framework directive | |
| | | | | Daughter directive | |
| | | | | Sector directive | |
| | | *Question: What is the importance of the directive in relation to the relevance with other sectors?* | | | |
| | L/C8 | Relevance to other directive | Scale of the relevance | Direct link with other directives within the sector | |
| | | | | Direct link with directives from other sectors | |

| | | | | | |
|---|---|---|---|---|---|
| | | | | Direct link with more than 3 directives | |
| Institutional & Implementation | | Question: How far is the implementation of the directive on national level? | | | |
| | I/C1 | Implementation of the directive requirements | Current implementation status | Implementation just started | |
| | | | | Implementation partially completed | |
| | | | | Implementation not started yet | |
| | | Question: Are any requirements for new institutional set up raised from the directive? | | | |
| | I/C2 | Necessity of new administrative structure | Establishment of unit | Unit has been established | |
| | | | | Unit planned to be established | |
| | | Question: Is there any need for the new personnel for implementation of the directive's requirements? | | | |
| | I/C3 | Need for new employment at governmental level | Employment of additional personnel within the central government level | No new personnel is required | |
| | | | | 1-5 new staff required /first year | |
| | | | | 5-10 new staff required /first year | |
| | | Are there any needs for the new personnel required for implementation of the directive's requirements on municipality level? | | | |
| | I/C4 | Needs for new employment at municipality level | Employment of additional personnel within the local self-government level | No new personnel is required | |
| | | | | 1-3 new staff required /first year | |
| | | | | >3 new staff required/first year | |
| | | Question: Are there enough technical competence/skills for implementation of the directive? | | | |
| | I/C5 | Availability of the technical competence | Decree of the technical competence | Low | |
| | | | | Medium | |
| | | | | High | |
| | | What is the status of the national laboratory's capacities in relation to the directive's requirements? | | | |
| | I/C6 | Institutional requirements refer to the laboratory equipment and compliance with standards for testing and calibration | Accredited Laboratory established for parameters given in directive's Annexes | yes | |
| | | | | no | |
| | | | | in the process/planned | |
| | | | Laboratory equipment needed | Major new equipment required<br>Minor new equipment required | |
| | | | | No new equipment required | |
| | | Question: What are the requirements of the directive in relation to the monitoring equipment? | | | |
| | I/C7 | Institutional requirements refer to the monitoring equipment | Monitoring equipment required | Major new equipment required | |
| | | | | Minor new equipment required | |
| | | | | No new equipment required | |
| | | How much will the implementation of the directive response to the priorities in the NEAPII/Waste Management Plan/other strategic documents? | | | |
| | I/C8 | Significance in achieving priorities in the strategic | Level of the significance | Low | |
| | | | | Medium | |

| | | | | | |
|---|---|---|---|---|---|
| | | documents | | High | |
| | | Is there a necessity of developing the national strategic documents (strategy/plan) requested by the directive? | | | |
| | I/C9 | Planning document has been developed and adopted for smoothly implemen tation of the directive | Existence of the planning document | yes<br>no | |
| | | | | under preparation | |

| | | | | | |
|---|---|---|---|---|---|
| Financial / Economic | | Question: What is the scale/magnitude of investments in response to the directive requirements? | | | |
| | F/C1 | Investment timescale | Period of the Investment | Long-term (> 10 years) | |
| | | | | Medium term (3-10 years) | |
| | | | | Short term <3 years | |
| | | Question: What are the capital costs for achieving the compliance with the directive 's requirements? | | | |
| | F/C2 | Investments to meet the environmental standards | Range of the Capital costs | Substantial costs required (>50 M EURO) | |
| | | | | Intermediate costs required (5-50 MEUR) | |
| | | | | Low costs required ( <5 MEUR) | |
| | | What are the annual operational capital costs for achieving the compliance with the directive 's requirements? | | | |
| | F/C3 | Annual Operational costs for the implementation of the directive's tasks | Range of the Annual Operational costs | Substantial costs required (>10 M EURO) | |
| | | | | Intermediate costs required (1-10 MEUR) | |
| | | | | Low costs required ( <1 MEUR) | |
| | | Question: Are there any new infrastructure requirements raised from the directive? | | | |
| | F/C4 | New infrastructure needed | Necessity of the new infrastructure | Major new infrascture is needed | |
| | | | | Minor new infrastructure is needed | |
| | | | | No new infrastructure is needed | |
| | | Are there any economic instruments that can be applied in order to generate an income during the implementation of the directive? | | | |
| | F/C5 | Generation of the income | Type of the income generation | Completely self-financing | |
| | | | | Partially co financing | |
| | | | | No income generated | |
| | | What is the availability of funding (private) for the capital infrastructure raised from the directive requirements? | | | |
| | F/C6 | Availability of private funding for capital infrastructure projects raised from the directive requirement | Interest of private companies to invest in capital infrastructure projects | High | |
| | | | | Medium<br>Low | |
| | | What is the level of interest from the foreign assistance aid of funding the implementation of this directive? | | | |
| | F/C7 | Availability of foreign assistant aid | Interest of foreign | Major interest (the sector and directive are on their priority list) | |

| | | | | | |
|---|---|---|---|---|---|
| | | for funding the implementation of the projects raised from the directive<br><br>requirement | community to assist the implementation of the directive | Minor interest | |
| | | | | No interest | |
| Social | | Question: Are there any new jobs opportunities that would arise by the implementation of the directive? | | | |
| | S/C1 | New economy opportunities raised<br><br>in terms of jobs | Number of jobs created | < 5000 | |
| | | | | 5000-15 000<br><br>> 15 000 | |
| | | Are there any new commercial opportunities that would arise by the implementation of the directive? | | | |
| | S/C2 | New commercial opportunities raised | Level of new<br><br>commercial opportunities raised | Low | |
| | | | | Medium | |
| | | | | High | |
| | | What is the directive contribution to availability of information/access to justice for the stakeholders? | | | |
| | S/C3 | Contribution to availability of environmental information/access to justice | Level of contribution | Low | |
| | | | | Medium | |
| | | | | High | |
| | | Question: How much does the directive contribute to attainment of the sustainable development of RM? | | | |
| | S/C4 | Contribution to attainment of the sustainable development of RM | Level of contribution | Low | |
| | | | | Medium | |
| | | | | High | |
| | | Question: How much will the implementation of the directive contribute to the enhancing the quality of environment | | | |
| | S/C5 | Contribution to the enhancing / conserving the quality of environment/natural resources | Level of contribution | High | |
| | | | | Medium | |
| | | | | Low | |
| | | Question: Does the directive contribute to the improvement of the human health? | | | |
| | S/C6 | Contribution of the directive to the impact on the human health | Level of contribution | High | |
| | | | | Medium | |
| | | | | Low | |

ANNEX II.D: PRIORITY LIST OF EU LEGISLATION

| Directive / Regulation/Decision | Score of the prioritization process | ORDER OF PRIORITY or implementation |
|---|---|---|
| EIA Directive | 81.94 | 1 |
| Environmental Information Directive | 78.85 | 2 |
| Public Participation Directive | 78.78 | 3 |
| Ambient Air Quality Framework Directive | 76.83 | 4 |
| SEA Directive | 76.79 | 5 |
| PCB/PCT Directive | 76.17 | 6 |
| Hazardous Waste | 74.95 | 7 |
| Waste Framework Directive | 74.50 | 8 |
| IPPC Directive | 74.37 | 9 |
| EPER Decision | 74.20 | 10 |
| Wild Birds Directive | 74.04 | 11 |
| Environmental Liability Directive | 73.37 | 12 |
| SEVESO II Directive | 73.37 | 13 |
| CITES Regulation – Endangered Species | 73.05 | 14 |
| Water Framework Directive | 72.32 | 15 |
| Dangerous Substances Directive | 71.22 | 16 |
| Batteries Directive | 70.99 | 17 |
| Habitats Directive | 70.66 | 18 |
| Limit Values for SO2, NOx, NO2, Particulate Matter and Lead Directive | 70.63 | 19 |
| Quality of Petrol and Diesel Fuels Directive | 70.05 | 20 |
| VOCs from Petrol Stations Directive | 69.78 | 21 |
| Ozone-Depleting Substances Regulation | 69.76 | 22 |
| Landfill Directive | 69.51 | 23 |
| Large Combustion Plants Directive | 69.46 | 24 |
| Waste Oils Directive | 69.31 | 25 |
| Deliberate Release of GMOs Directive | 68.05 | 26 |
| Contained Use of GMMs Directive | 67.92 | 27 |
| National Emission Ceilings Directive | 66.43 | 28 |
| Solvents Directive | 65.83 | 29 |
| EMAS Regulation | 65.70 | 30 |
| Urban Waste Water Directive | 64.56 | 31 |
| Packaging Waste Directive | 64.40 | 32 |
| Nitrates Directive | 63.74 | 33 |
| End-of-Life Vehicles Directive | 58.56 | 34 |
| Sulphur Content Liquid Fuels Directive | 58.36 | 35 |
| Environmental Noise Directive | 57.35 | 36 |

# ANNEX III: CROSS CUTTING ISSUES

The following cross cutting issues should be considered when planning implementation activities.

Monitoring and Reporting of the Environmental Status and Emissions

Monitoring can be considered as a chain of activities, where the quality of the end-result will be dependent on the quality of each activity:

-Field monitoring,
-Sampling,
-Laboratory analysis,

- Quality Assurance,
-Data storage and processing.
-Evaluation and reporting of monitoring

Field monitoring
At each sampling location, field measurements will be recorded at the time of sampling. For some monitoring activities (e.g. air quality monitoring) the majority of data comes from field monitoring.

Sampling
The quality of the monitoring results delivered by laboratory analyses not only depends on the laboratory work, but also on the quality of the sampling, as inappropriate sampling may give entirely erroneous results, i.e. if the sampling site or method is not correct or if the handling and storage of the sample is inappropriate. Guidance advise on appropriate sampling, storage, conservation etc. can be found e.g. in ISO standards.

Laboratory analysis
Comparability of analysis shall be ensured through analytical quality control: intra-laboratory and inter-laboratory comparisons. The accuracy of the analyses shall be checked within individual laboratories by analyzing standard reference materials of known concentrations.

Quality Assurance
The validation of data should include a quality assurance of all the steps in the production of data and knowledge: selection of monitoring stations and monitoring parameters, field monitoring, sampling, storage and transport of samples, laboratory analysis and the further use of data in assessments and environmental management.

Data storage and processing
Data should be stored in normalised databases. Normalisation means minimizing redundancy. When data in a database are normalised a new data item only to be inserted in one place, an obsolete data item only to be deleted from one place and data item to be modified only appears in one place. Different users have different access to the databases, most users can only look for data in the database, some users are granted with access to include new data or revise existing data.

Evaluation and reporting of monitoring
Monitoring data should only be collected when they are used to assess the quality of and impact by human activities on the environment, to provide the basis for detecting trends and to provide the information enabling the establishment of cause-effect relationships thereby support decision

making. Important aspects of assessment of data are the interpretation and reporting of the results of monitoring and the making of recommendations for future actions. Publication and dissemination of data and reports to relevant authorities, the public, and the scientific community is also a part of the reporting and assessment activities. The implementation of the proposed actions already addressed into the Monitoring Strategy and Data Management Strategy is a crucial task for the all involved institutions into the monitoring and reporting procedures.

Permitting, Inspection and Enforcement

For the enterprises subject to permitting, permits has to be elaborated with clear and operational requirements, as a basis for self-monitoring, inspection and enforcement.

The environmental inspectorates has to have adequate resources in manpower and equipment, and regular training is needed for inspectors generally and for the specific industrial sector that they regulate.

Systems of fines, penalties and criminal liability for serious violations have to be established.

Inspection activities include check of compliance with conditions in permits and licences and with orders given by the authority itself. Beside this, it shall be checked that all activities, which do not need permits or licences, do not result in significant pollution. Inspection also has an advising role in connection with information about the consequences of the environmental decisions for the single industry or activity.

The controlling function of inspectors can be supplemented with a role as catalyst, where the inspection encourages, stimulates and co-operates with the industry to change it to more environmentally friendly and natural resource saving production methods. This will require an in-depth knowledge of the production system by the inspector.

Training of Local Self Government Units

The Local Self Government Units have important roles in monitoring, inspection, enforcement, permitting and public information & consultation for a range of directives including the most important ones. This role is relatively new and there is urgent need for training of the Local Self Government Units in the content, requirements and their obligations in line with the existing law and the EU environmental acquis.

Public Participation and Stakeholder Involvement

In the process of transposition and implementation of the EC environmental legislation it is important to take into account the situation and experience of the public, regional and local authorities, and all relevant ministries.

Data Management and Environmental Information

Promoting transparency by giving access to environmental information is an important principle in not only for the specific directive on Access to Environmental Information but for the whole EC environmental legislation.

Users (the public, enterprises, and authorities) should have access to all available environmental information by accessing one Internet Web page.

Environmental Awareness

Access to information about the environment has to be secured for the public, enterprises and other authorities than the one responsible for the collection of information, monitoring and reporting.

The government and local authorities can conduct awareness campaigns and provide services

which facilitate environmental responsible behaviour, such as separate waste collection and relievable public transport.

# ANNEX IV: FINANCIAL ISSUES

## ANNEX IV.A: DEFINITIONS AND USAGE OF FINANCIAL TERMS

The term investment is used in this report in a broad sense, i.e. it refers not only to capital expenditure but to all expenditure incurred in implementing the approximation project. Often there is substitutability between capital and operating costs. For example a government department needing to analyse water samples may either establish its own laboratory, the costs of which would include capital elements such as the construction of the facility and the purchase of the necessary instrumentation, or it can send the samples to an accredited private laboratory in which case it will incur recurrent costs proportional to the number and frequency of samples to be tested.

One-off costs are costs which are incurred just once or only during a finite period of time, and can be contrasted with recurrent costs, i.e. costs which are ongoing year-after-year, month-after-month, etc. Technical assistance for capacity building is an example of a one-off cost, as is the cost of building a wastewater treatment plant. Salaries are a recurrent cost, as are the operating and maintenance costs of a pollution abatement installation.

Capital costs are the one-off costs associated with the acquisition of plant or equipment. Operating costs are the recurrent costs associated with an item of plant or equipment.

Multiplicity of cost-bearers, complexity of costs assessment

In many projects the costs fall on a single party, i.e. a company, a government department or the general public, which is also the decision-maker in relation to the project.

In the case of environmental approximation the situation is more complex. The costs will fall on different agencies, socio-economic groups or sectors. Some costs will fall on government departments, some on municipalities, some on private companies, some on project developers, some on builders, etc., etc. Moreover these increased costs will work through the economy in different ways. The need to increase the budgets of some government departments means probably that the government will need greater tax revenue. Where companies incur increases in costs they will either be able to recoup these higher costs through increases in the prices paid by consumers, other businesses or importers in other countries, or will have to be absorbed in companies operating margins, which will mean reduced dividends or reduced reserves available for future investment. The ability of the different cost bearers to absorb those costs will be different from case to case.

Role of costs in National Strategy

As will be seen in section 5.1.3 the costs of the approximation exercise are high, and this means that the issue of affordability arises. There is little which can be done to reduce the total costs, since what needs to be done is determined by the content of the environmental acquis, and a least cost approach was generally taken. What is possible, however, is to spread the costs by lengthening the implementation period, and this has been done in drawing up a timetable for the approximation strategy. This is described further in section
5.1.4. This means that costs have a crucial role in this work. The costs are not just a result of the strategy, but also a determinant of it.

## ANNEX IV.B: METHODOLOGY OF COSTING

Resource requirements

The starting point for the costing was the action lists drawn up by the project sector specialists for each directive (or other item of EU legislation) considered to have significant cost implications. These were 'DSIP-phase' directives, 'sector-phase' directives and 'additional' directives.

In some cases these action lists were translated into a form which made their resource requirements more apparent.

The resource requirements of each action were then estimated along the lines shown in the table below:

| Resource type | Units |
|---|---|
| human resources | ongoing tasks: number of full-time person equivalents (ftpe), specified by senior, intermediate and junior grade, or<br>temporary tasks: number of person-months |
| office workstation | fixed requirements per person were assumed in terms of $m^2$ of space, computer, network connection, heating, pages printing, overheads, etc. |
| Training | person-days of international/national trainer (i.e. trainer-days, not trainee-days) |
| Equipment | nature of equipment, number and/or size required |
| capital items | nature of equipment, number and/or size required |

Separate action lists were made for (i) transposing the directive fully into Macedonian legislation and (ii) implementing it.

In the case of the legal transposition the starting point was the list of transposition actions, mainly lists of legal provisions which need to be transposed into Macedonian legislation, drafted by the project legal experts. The resource requirements for this work were estimated by the appropriate sectoral working groups, in consultation with other ministries where necessary. Resources required for legal transposition included:

. • human resources in MEPP and other relevant institutions (the resources needed for deployment on transposition tasks only, implying that the personnel would be used for other purposes afterwards),

. •training requirements (national or international trainers distinguished), •office space, equipment and support services,

. • materials to be procured,

. • production of necessary documents,

. • technical assistance projects / experts.

These resources were then costed on the basis of unit costs for personnel, office space, equipment, materials, etc. These unit costs were supplied to us by the Sector for European Integration. All costs are expressed in 2006 prices.

In the case of implementation a similar approach was taken, except that:

. • the starting point was lists of actions compiled by the sectoral experts. These lists were further disaggregated where necessary to make them more resource-specific;

. • the human resources are generally assumed to be new resources which will be required on an ongoing basis.

. • the resource requirements for technical assistance projects were based on estimates, drawing on experience, of the necessary TA project inputs in terms of international and national consultants and other resources.

. • some larger capital and operating expenditures had to be costed. The general approach taken here was:

- where possible use costs already calculated locally for the action in feasibility or other studies;

.- if such costs are not available, extrapolate cost elements calculated locally to the actual situation applying;

.- if such cost elements are not available, adapt comparable costings done in other countries, if possible with a similar profile to that of Macedonia;

.- if this is not possible, use the most appropriate approximate method which can be devised stating assumptions, and include a future action which will arrive at a more accurate costing

Assumptions made and costing bases were discussed with the sectoral working groups comprising representatives of MoEPP and other stakeholder organisations.

The cost estimation method and or data sources used are outlined briefly in 'costing sheets', produced for each item of EU legislation costed. These costing sheets were included in the DSIPs (for DSIP-phase directives) or SASs (for the sector-phase directives and additional directives) 'Recurrent costs' are estimated on the basis of the additional resources needed to comply with EU legislation compared with the present situation as outlined in section 2.5.

All costs are estimated in constant 2006 prices.

Obviously many future actions and therefore costs will depend on the outcomes of decisions not yet taken by decision-makers, on the nature of policies that have not yet been made. In such cases an assumption was made about the outcome of such decisions or policy-making, and the assumption was stated on the costing sheet. The costing was then made on the basis of this assumption. The costing was then made on the basis of this assumption. This assumption was often chosen on the basis of what seemed like the most rational choice or the lowest-cost solution. An example of this is that it was assumed that incinerators will not be used in the foreseeable future in the Republic of Macedonia for waste disposal. This is because they are costly and on projected arisings of incinerable hazardous waste it would be cheaper to transport these wastes to incinerators in neighbouring EU countries (permissible under the Basel Convention, though not in conformity with the proximity principle), and a cheaper alternative for infectious medical waste is autoclaving/disinfection/maceration and volume reduction. However such assumptions may very well turn out subsequently to be incorrect if decision-makers take different decisions.

Responsible institution

All costs were assigned to a specific government agency, economic sector or grouping. In the case of implementing actions these costs were assigned to the authority competent or assumed competent for implementation. Assigning the competent authority for implementation is one of the tasks which need to be carried out as part of approximation. In some cases the competent authority/ies have already been designated, in others it was necessary to make an assumption about who will be competent. These details are explained on the costing sheet or elsewhere in the reports. Compliance costs, on the other hand, are assigned to the party who needs to carry out the action to comply.

Database

The cost data were established in a database which allowed them to be kept secure, manipulated and used to present reports and analyses. Because there was no explicit budget in the project budget for database management, the application was not developed as much as it might be, and further development would make this useful tool even more flexible. The database can be made

available to the MoEPP after the end of the project, and a member of staff at the Ministry has been trained in its use.

## ANNEX IV.C: TRANSITIONAL PERIODS

The rules that define whether a country is eligible to join the European Union are referred to as the Copenhagen criteria. The third criterion is the most relevant for the environment: ability to assume the obligations of membership. This means that the applicant country has harmonised national legislation and practices to conform with existing EU requirements (the acquis communautaire). In EU terminology, this process has come to be known as "approximation". Officials of the EC have defined "approximation" as consisting of:

- precise transposition of the relevant EU legislation;
- having in place the necessary administrative and other structures for implementation and enforcement.

In principle, aspiring EU member states are supposed to have aligned their national legislation fully with the environmental acquis and to be in compliance with European law by the date of their accession. In practice the EU recognises that this requirement is not realistic given the high implementation cost of some directives. It is therefore willing to negotiate 'transitional periods' for some directives. A transitional period is an extra period counted from the date of accession during which the acceding state is permitted to achieve compliance.

The European Union is quite parsimonious in granting transitional periods. They must be negotiated, and transitional arrangements agreed are limited in time and scope. They do not necessarily apply to an entire directive, but may apply only to specific provisions, and must be accompanied by a clear plan for the implementation of the acquis. Transitional periods can only apply to cost-heavy directives, they cannot apply to framework directives. All EU legislation must have been transposed by the date of accession and the EU is reluctant to postpone implementation of biodiversity-protecting legislation.

The EU insists that applicant countries 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 nature protection are subject to a similar requirement. Transitional periods may be considered in 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, e.g. where financially heavy investment will be required. DG Environment has signalled the following acceptable and non-acceptable positions:

- Acceptable transitional periods: urban waste water treatment and large combustion plant requirements;
- Negotiable transitional periods: packaging waste and industrial pollution prevention and control requirements;
- Unacceptable transitional periods: all framework Directives, nature protection, access to information, environment impact assessment.

Most of the transitional periods requested by 2004 enlargement countries were not in the end accepted by the EU negotiators. Out of the 27 Directives for which transitional periods were requested, transitional periods were provisionally agreed only for five - the Urban Waste Water

Treatment, Landfill, Packaging Waste, VOCs Stage I, and Large Combustion Plants Directives. Whereas Hungary, Slovenia, and Poland were granted transitional periods until 2015 to comply with the Urban Waste Water Treatment Directive requirements, Lithuania's request for a transitional period until 2015 was negotiated into a transitional period of 2009. Similarly, its transitional period request of 2010 for the Packaging Waste Directive was reduced to 2006. Other reductions in transitional periods were made for Estonia (Landfill Directive transitional period request of 2013 reduced to 2009), Hungary (Large Combustion Plants Directive request of 2008 reduced to 2004), and Poland (VOCs Stage I Directive request of 2009 reduced to 2005).

In the 2007 accession of Romania and Bulgaria more generous transitional periods were granted, as shown in the table below.

| EU Directive | Romania | | Bulgaria | |
|---|---|---|---|---|
| | Compliance | Years | Compliance | Years |
| VOCs from storage and distribution of petrol Directive (94/63/EC) | end 2009 | 3 | end 2009 | 3 |
| Reduction in sulphur content of certain liquid fuel Directive (1999/32/EC) | | | end 2011 | 5 |
| Packaging & packaging waste (Directive 94/62/EC | end 2009 - end 2013 | 3 - 7 | end 2014 | 8 |
| Landfill Directive (1999/31/EC): municipal waste | July 2017 | 10.5 | | |
| Landfill Directive (1999/31/EC): landfill of certain liquid wastes | end 2013 | 7 | end 2014 | 8 |
| WEEE Directive (2002/96/EC): 4 kg collection rate | end 2008 | 2 | end 2008 | 2 |
| Urban waste water treatment Directive (91/271/EEC) | end 2018 | 12 | end 2014 | 8 |
| Drinking water Directive (98/83/EC) | end 2010 | 4 | end 2015 | 9 |
| Dangerous substances of water discharges Directive (76/464/EEC) | end 2009 | 3 | | |
| Large Combustion Plants Directive (2001/80/EC) | end 2008 end 2013 | 2 - 7 | end 2009 - end 2014 | 3 - 8 |
| IPPC Directive (96/61/EC) | end 2008 end 2015 | 2 - 9 | end 2008 end 2011 | 2 - 5 |
| Incineration Directive (2000/76/EC) | end 2007 end 2008 | 1 - 2 | | |

## ANNEX IV.D: PHASING OF ENVIRONMENTAL APPROXIMATION OVER TIME

| Directive | Priority (1-36) | Transitional period negotiable? | Assumed maximum transitional period | No. of years required for implementation | Deferment | | Comments | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Max. | | | Proposed |
| HORIZONTAL (including civil protection) | | | | | | | | |
| EIA Directive (85/337/EEC) as amended | 1 | | | 3 | 6 | - | Start year 2007 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SEA Directive (2001/42/EC) | 5 | | | 3 | 6 | 2 | Start year 2009 |
| Environmental Information Directive (2003/4/EC) | 2 | | | 3 | 6 | - | Start year 2007 |
| Public Participation Directive (2003/35/EC) | 3 | | | with other directives | 6 | - | No costs. Start 2007. Implemen-tation should go directly with EIA / Env. info. Directi. |
| Environmental Liability Directive (2004/35/EC) | 12 | | | 3 | 6 | 3 | Start year 2010 |
| NOISE | | | | | | | |
| Environmental Noise Directive (2002/49/EC) | 36 | | | 6 | 3 | 3 | Start year 2010 |
| Motor Vehicle Directive (70/157/EEC) as amended | | | | | 4 | 4 | No additional costs. Start 2011 |
| Outdoor Equipment Directive (2000/14/EC) | | | | 5 | 4 | 4 | Start year 2011 |
| GMO | | | | | | | |
| Deliberate Release of GMOs Directive (2001/18/EC) as amended | 26 | | | 3 | 6 | 6 | Start year 2013 |
| Contained Use of GMMs Directive (90/219/EEC) as amended | 27 | | | 3 | 6 | 6 | Start year 2013 |
| AIR QUALITY - (including Climate Change) | | | | | | | |
| Ambient Air Quality Framework Directive (96/62/EC) as amended | 4 | | | 5 | 4 | - | Start year 2007 |
| National Emission Ceilings Directive (2001/81/EC) | 28 | | | 8 | 1 | 5 | Start year 2012 |
| Ozone in Ambient Air Directive | | | | with air framework | 4 | - | No costs. Start year 2007 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| (2002/3/EC) | | | | | | | |
| Emission Trading Directive (2003/87/EC) as amended | | | | 11 | - | - | Start effectively 2012 (already factored into costing sheet) |
| Limit Values for SO2, NOx, NO2, Particulate Matter and Lead Directive (99/30/EC) as amended | 19 | | | with air framework | 4 | - | No costs Start year 2007 |
| Benzene and Carbon Monoxide Directive (2000/69/EC) | | | | with air framework | 4 | - | No costs Start year 2007 |

| Directive | Priority (1-36) | Transitional period negotiable? | Assumed maximum transitional period | No. of years required for implementation | Deferment | | Comments | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Max. | | | Proposed |
| Quality of Petrol and Diesel Fuels Directive (98/70/EC) as amended | 20 | | 2 | 3 | 6 | 1 | Start 2008. Leaded petrol was supposed to be banned by 2006. Has high priority. | |
| Sulphur Content Liquid Fuels Directive (99/32/EC) as amended | 35 | | 3 | 2 | | 4 | Start 2011. Has a high priority. | |
| Consumer Information Directive (1999/94/EC) as amended | | | | 3 | 6 | 2 | No costs. Start year 2009 | |
| Directive on As, Cd, Hg, Ni and PAH in ambient air (2004/107/EC) | | | | 7 | 2 | 2 | Start year 2009 | |
| WASTE MANAGEMENT | | | | | | | | |
| Waste Framework Directive (75/442/EEC) as amended | 8 | | | 3 | - | - | Start year 2007 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hazardous Waste Directive (91/689/EEC) as amended | 7 | | 0 | 5 | 4 | 2 | Start year 2009 |
| Landfill Directive (99/31/EC) as amended | 23 | | 8 | 9 | 6 | 3 | Contaminated land clean-up will not be completed until year 17. Start 2010 |
| Packaging Waste Directive (94/62/EC) as amended | 32 | | 4 | 7 | 6 | 6 | Start year 2013 |
| Waste Incineration Directive (2000/76/EC) | | | 0 | 4 | 5 | 5 | No costs. Start year 2012 |
| Batteries Directive (91/157/EEC) as amended | 17 | | | 6 | 3 | 2 | Start year 2009 |
| WEEE Directive (2002/96/EC) as amended | | | 6 | 6 | 6 | 6 | Start year 2013 |
| Waste Oils Directive (75/439/EEC) as amended | 25 | | 0 | 2 | 6 | 6 | Start year 2013 |
| PCB/PCT Directive (96/59/EC) | 6 | | 2 | 5 | 6 | 0 | Start year 2007 |
| EOL Vehicles Directive (2000/53/EC) as amended | 34 | | 2 | 5 | 6 | 6 | Start year 2013 |
| RoHS Directive (2002/95/EC) as amended | | | | 3 | 4 | 4 | No costs. Start year 2011 |
| Waste Shipments Regulation ((EEC) 259/93) as amended | | | 2 | 4 | 6 | 6 | Start year 2013 |
| Management of Waste from the Extractive Industries Directive (2006/21/EC) | | | 8 | 7 | 6 | 7 | Start year 2014 |

| Directive | Priority (1-36) | Transitional period negotiable? | Assumed transitional period maximum | No. of years required for implementation | Deferment | | Comments |
|---|---|---|---|---|---|---|---|
| | | | | | Max. | Proposed | |
| WATER QUALITY | | | | | | | |
| | 15 | | | 5 | 4 | 1 | RBAs. It's assumed that |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Water Framework Directive (2000/60 /EC) as amended | | | | | | | when the RBMP have been com pleted, all the infrastructure necessary has been completed and implementa-tion started, that will be sufficient to satisfy EU that accession conditions have been satisfied, even though plans are not fully implemented until year 13. Start year 2008 |
| Urban Waste Water Directive (91/271/EEC) as amended | 31 | | 10 | 9 | 6 | 3 | By year 8 sanita-tion systems will be completed in all agglomerations > 2000 p.e. Start year 2010 |
| Nitrates Directive (91/676/EEC) as amended | 33 | | 2 | 5 | 6 | 6 | Start year 2013 |
| Drinking Water Directive (98/83/EC) as amended | | | 5 | 12 | 2 | 4 | Start year 2011 |
| Surface Water for Abstraction Directive (75/440/EEC) as amended | | | | 4 | 5 | 5 | Start year 2012 |
| Bathing Water Directive (76/160/EEC) as amended | | | | 4 | 5 | 5 | Start year 2012 |
| Dangerous Substances to Water Directive (76/464/EEC) as amended | | | | 8 | 1 | 1 | Start year 2008 |
| Sewage Sludge Directive (86/278/EEC) as amended | | | | with UWWD | 6 | 4 | No costs Start year 2011 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Measurement of Drinking Water Directive (79/869/EEC) as amended | | | | | 4 | 4 | No costs<br>Start year 2011 |
| Groundwater Directive (80/68/EEC) as amended | | | 0 | | 4 | 4 | Start year 2011<br>No costs |
| Mercury Discharges from Chlor-Alkali Industries Directive (82/176/EEC) as amended | | | 0 | | 4 | 4 | Start year 2011<br>No costs |

| Directive | Priority (1-36) | Transitional period negotiable? | Assumed maximum transitional period | No. of years required for implementation | Deferment | | Comments | Proposed |
|---|---|---|---|---|---|---|---|---|
| | | | | | Max. | | | |
| Cadmium Discharges Directive (83/513/EEC) as amended | | | 0 | | 4 | 4 | Start year 2011<br>No costs | |
| Other Mercury Discharges Directive (84/15/EEC) as amended | | | 0 | | 4 | 4 | Start year 2011<br>No costs | |
| HCH Discharges Directive (84/491/EEC) as amended | | | | | 4 | 4 | Start year 2011 No costs | |
| List One Substances Directive (86/280/EEC) as amended | | | | | 4 | 4 | Start year 2011<br>No costs | |
| Fish Water Directive (78/659/EEC) as amended | | | | | 4 | 4 | Start year 2011 No costs | |
| Shellfish Water Directive (79/923/EEC) as amended | | | | | 4 | 4 | Start year 2011 No costs | |
| NATURE PROTECTION | | | | | | | | |
| Wild Birds Directive (79/409/EEC) as amended | 11 | | | 7 | 2 | 1 | Start year 2008 | |
| Habitats Directive (92/43/EEC) as | 18 | | | 7 | 2 | 2 | Start year 2009 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| amended | | | | | | | |
| Endangered Species Regulation ((EC) 338/97) as amended | 14 | | | 3 | 6 | 3 | Start year 2010 |
| Zoo Directive (1999/22/EC) | | | | 4 | 5 | 2 | Start year 2009 |
| Leghold Traps Regulation (EEC) 3254/91 | | | | | 6 | 4 | Start year 2011. No costs |
| Monitoring of Forests Regulation (EC) 2152/2003 | | | | 2 | 6 | 6 | Start year 2013 |
| INDUSTRIAL POLLUTIN CONTROL (IPC) AND RISK MANAGEMENT | | | | | | | |
| IPPC Directive (96/61/EC) as amended | 9 | | 8 | 10 | 7 | 1 | Start year 2008 |
| Large Combustion Plants Directive (2001/80/EC) | 24 | | 10 | 10 | 9 | 3 | Start year 2010 |
| SEVESO II Directive (96/82) as amended | 13 | | 4 | 7 | 6 | 3 | Start year 2010 |
| Solvents Directive (1999/13/EC) as amended | 29 | | 3 | 6 | 6 | 4 | Start year 2011 Is top priority |
| Directive 2004/42/EC on VOC from paints and products | | | 4 | 8 | 5 | 5 | Start year 2012 |
| VOCs from Petrol Storage Directive (94/63/EC) as amended | 20 | | 3 | 9 | 3 | 2 | Start year 2009 |
| Eco-Labelling Regulation (EC) 1980/2000 | | | | 5 | 4 | 2 | Start year 2009 |

| Directive | Priority (1-36) | Transitional period negotiable? | Assumed maximum transitional period | No. of years required for implementation | Deferment Max. | | Comments Proposed |
|---|---|---|---|---|---|---|---|
| EMAS Regulation (EC) 761/2001 | 30 | | | 6 | 3 | 3 | Start year 2010 |
| EPER Decision | 10 | | | 4 | 5 | 1 | Start year 2008. To start at the |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2000/479/EC | | | | | | | same time as IPPC directive |
| CHEMICALS | | | | | | | |
| Dangerous Substances Directive (67/548/EEC) as amended | 16 | | 2 | 4 | 7 | 3 | Start year 2010 |
| Ozone-Depleting Substances Regulation ((EC) 2037/2000) as amended | 21 | | | 3 | 6 | 3 | Start year 2010 |
| Animal Experiments Directive (86/609/EEC) as amended | | | | 3 | 6 | 6 | Start year 2013 |
| Asbestos Directive (87/217/EEC) as amended | | | | 4 | 5 | 5 | Start year 2012 |
| Risk Assessment Regulation (EC) 793/93 as amended | | | | | 6 | 6 | No costs Start year 2013 |
| Import and Export of Dangerous Chemicals Regulation (EC) 304/2003 as amended | | | | 2 | 6 | 6 | Start year 2013 |
| Biocides Directive (98/8/EC) as amended 1882/2003 | | | | | - | - | |

## ANNEX IV.E: DATABASE SYSTEM USED FOR FINANCIAL CALCULATIONS

The exercise of translating directives into the actions needed for their transposition, implementation and enforcement, and costing these actions, generated a substantial volume of data. Since each action had quite a number of attributes of interest, a database system was set up to manage the data. The Microsoft SQL server platform was used, and the application was developed by a software house in Skopje.

A database record contains all the data for a single 'action'. The data stored for each action include:

- unique action code (generated by the system)
- description of action and comments
- name of the item of EU legislation
- sector (according to standard 9 sectors: horizontal, air, waste, … etc.)

. • the Macedonian institution responsible for the action
. • possible source(c) of finance
. • resource requirements for each of a series of resource types, classified in a 4-level hierarchical system. For example one branch of the tree is LEGAL TRANSPOSITION/ INSTITUTIONAL REQUIREMENTS/ NEW EMPLOYMENT/ SENIORS, another is IMPLEMENTATION/ INVESTMENT ACTION LIST/ MEDICAL WASTE/ DEDICATED MW TRANSPORT VEHICLES
. • Years over which cost is incurred. Capital and operating costs are kept separate

The database system performs the following functions:
. • provides a secure means of storing and documenting all the data developed;
. • calculates costs by multiplying estimated required resource units by a unit price. These unit prices can be either customised, e.g. capital cost of a sanitary landfill per m of capacity, or standard costs for resources which are frequently required such as
a. osalary of an employee (senior, intermediate, junior)
b. o costs associated with a standard workstation (rent for space, heating, overheads, reporting, computer, LAN connection, internet access, etc.)
c. ocosts of providing trainer per day (international, national)
d. o costs of a standard TA project (2 international consultants, 2 national consultants) per month
e. o etc.

. • provides an audit trail for all changes to the system
. • allows certain standard reports to be generated automatically, i.e.:
a. o a directive action list, which contains details of each action in the directive, including cost of action broken down by legal transposition, administrative / institutional, TA and investment;
b. o a legal transposition action list, which contains details of each transposition action with cost broken down by institutional, TA;
c. o an administrative/institutional action list, which contains details of each administrative/institutional action with no. of new staff of each level and costs;
d. o a technical assistance action list which contains details of each TA action, whether national or international and costs; and
e. o an investment action list which contains details of each investment action, and details of the capital and operating cost.
. • allows certain 'filters' to be applied so that analyses of subsets of the data can be made. These filters include the attribute action, sector, item of legislation, responsible institution, source of funding, period of implementation: year from …. to ….
. • allows data to be exported to Excel for further manipulation the user might wish.

Because there was no budget in the project for developing such a database, it was only developed to a limited extent. A generalised report generator is not available, Simple modifications such as displacing an entire directive several years in time have to be processed arduously by hand. There are a number of limitations in its flexibility. The database system would benefit greatly from some further development. It would then be a powerful tool which would allow exercises such as the following:
. • easily update costs to allow for changes in assumptions, the availability of better cost estimates, etc.
. • carry out recostings in the future
. • a tool (for use by MoEPP, for example) for monitoring progress with the

approximation process

. • a tool for doing what if?; and scenario calculations.

Some MoEPP personnel have been trained in using the database.

# ANNEX V: APPROXIMATION PLAN

# ANNEX VI: SUMMARY OF SECTOR APPROXIMATION STRATEGIES

## ANNEX VI.A: HORIZONTAL LEGISLATION SECTOR

Scope and approach

The general approach was to identify relevant sector EU Legislation to be covered, perform initial priority among selected Directives, perform gap analyses using various analyses tools, draft all actions needed for a full approximation, get key findings validated by the Working Group, and carry out logic prioritization. Within the process of developing this Sector Approximation Strategy (SAS) there was an active involvement of all stakeholders through the Working Group, and proper consideration has also been taken to the existing national strategies and plans dealing with relevant sector issues.

The EU directives and agreements covered in this SAS are the main horizontal EU legislation, in particular the Environmental Impact Assessment (EIA) Directive (85/337/EEC) as amended by Directives 97/11/EC and 2003/35/EC, the Strategic Environmental Assessment Directive (2001/42/EC), Access to Environmental Information Directive (2003/4/EC), Public Participation Directive (2003/35/C), Environmental Liability Directive (2004/35/EC), Convention on Environmental Impact Assessment in a Transboundary Context, Protocol on Strategic Environmental Assessment, and Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.

Present situation

The Law on Environment (LoE) is a framework Law in the area of environment which provides the basic principles and procedures for coherent policy toward the protection on the environment. The overall policy in this sector are given through a series of strategic and planning documents, such as Second National Environmental Action Plan (NEAP II, 2006), Environmental Monitoring Strategy (2006), Public Environmental Awareness Strategy (2005), Environmental Communication Strategy (2005), Strategy and Action Plan for the Aarhus Convention Implementation (2005), National Capacity Needs Self Assessment for Global Environmental Management (2005), Environmental Data Management Strategy (2005), Vision 2008 (2004), Spatial Plan of the Republic of Macedonia, (2004), National Environmental Health Action Plan (NEHAP, 1999), and National Transportation Strategy (NTS, 2007).

The Ministry of Environment and Physical Planning (MoEPP) is the Competent Authority for developing and implementing environmental policies, and has also the lead responsibility for the transposition of the horizontal EU legislation. The MoEPP's internal institutions responsible mainly for the horizontal sector are the Administration for Environment (responsible for the EIA process), the State Inspectorate for Environment (supervising the implementation of

environmental legislation), Macedonian Environmental Information Centre (provide relevant information on the state of the environment), and the Public Relations Office (provides easy access to environmental information to increase the public environmental awareness).

The Ministry of Foreign Affairs has also responsibilities within the sector, especially in relation to transboundary pollution and access to information. Other ministries and authorities responsible for preparing programmes and plans will also need to comply with the provisions of the LoE. Areas covered include mainly town and country planning, land use, transport, energy, waste management, water management, industry, telecommunications, agriculture, fisheries and tourism.

The Local Self-Government Units (LSGUs) are responsible for the local environment and nature protection and have the right and the obligation to undertake on their territories all measures and activities of environmental protection and improvement which are not under the exclusive competence of state authorities. The LSGUs responsibilities in the horizontal sector are linked with issuance of B environmental permits relating to location and building of industrial facilities, Strategic Environment Assessments (SEAs) on local strategies, plans and programmes, as well as monitoring, inspection and enforcement within the Municipality. The LSGUs have a possibility to establish a local environment monitoring, as well as to manage part of the national monitoring network, have access to environmental information, and participate in organizing the public debate on the adoption of plans, strategies and programs.

Citizens' associations (NGO's), which are established for the purpose of environment protection and improvement, have the right to lodge an appeal against any decision to carry out or to reject the application for project implementation to the Second Instance Commission of the Government.

The LoE is the main national law transposing partly the EU horizontal legislation, and the NEAP II defines the necessary future transposition strategies and bylaws in the different environmental media and areas. In the area of inspections there is a Rulebook on the content of the annual report on inspection supervision. New amendments have established a commitment for obligatory submission of report by the local inspectors to the State Environmental Inspectorate. A Decision on establishment of Coordinative Body for cooperation regarding inspection supervision is also in force. In the area of environmental monitoring, the Environmental Monitoring Strategy was adopted by the Government in 2006 and a full implementation of this strategy will enable MoEPP to establish relevant, comprehensive and accurate data and to make it publicly available to provide the state of the environment.

The transposition of the EIA Directive (85/337/EEC) is very advanced, which in 2006 included preparation and adoption of 5 rulebooks as well as the preparation of two guidance documents. In early 2007 amendments have also been made in the LoE and secondary legislation has been issued to regulate the process of EIA in case of transboundary impacts. However, there are still some gaps in particular as regards the Annexes. The transposition of the SEA Directive (2001/42/EC) is still modest as only some definitions are fully transposed. The LoE provides the general obligation to carry out the SEA, and the consultations with other authorities during scoping are in line with the said Directive. Transposition of the Access to Environmental Information Directive (2003/4/EC) is in progress but still only approximately half of the Directive's provisions are fully transposed. The transposition of the Public Participation Directive (2003/35/EC) is in an early phase as only one provision is fully transposed and the transposition of the public participation concerning plans and programmes and Annex II is still pending. Transposition of the Environmental Liability Directive (2004/35/EC) is still at a low level,
e.g. several definitions are either not fully in line with the Directive's relevant definitions or are not found in the legislation.

Lack in the implementation is mainly reflected as lack of resources and capacity. The Government is responsible for determination of the national environmental plans and programmes for which the procedure for strategic assessment shall be carried out, whilst the Competent Authority for implementation of the EU horizontal directives is the MoEPP. The Administration for Environment within the MoEPP has a Department of Environment with an EIA Division consisting of 2 employees. This division is covering the EIA procedure in the whole country, however, the municipalities are also obliged to deal with all environmental issues under their competence and provide all information needed on issues where the municipality is responsible and provide consultations during the EIA process.
A suitable set-up for the MoEPP to be able to perform implementation of the SEA Directive (2001/42/EC) is not in place. The responsible institution(s) for development of a strategic document are obliged to perform the SEA process, but there is not any SEA documents produced so far.

The MoEPP and other authorities which possess environmental information are obliged to ensure dissemination, public access and to maintain such information in formats for easy reproduction and availability through computer communication networks. Both for the developer applying for development consent, for the authorities involved, for the NGOs and for general public, access to raw data on the environmental situation and information based on these data are crucial for the quality of their actions and involvement. In general there is little information on the state of the environment available due to the limited capacity of the institutions involved in environmental monitoring and the lack of implementation of an overall data management strategy. The Macedonian Environmental Information Centre (MEIC) within the MoEPP has the main role to collect, process, maintain, present and give access to environmental data, and to prepare reports, running of cadastre and register and perform predictions and modelling. The MEIC has 15 employees. Some constraints exist in regard to establish a structure where all data (quality assured) are stored in databases under the competence of the institution collecting the data linked together and with access via the Internet. These constraints are mainly unreliable internet connections, lack of professional IT staff, lack of applying sufficient standard in communicating environmental data and information, lack of coordination and overlapping responsibilities between authorities. The Public Relations Office within the MoEPP is disseminating the environmental information to the public and is providing the active public participation into the decision-making process. This Office with its 8 employees is working on a broad range of hearing and environment awareness activities, covering EIA, IPPC and SEA hearing procedures, general information on nature and environment, contacts to media, competition of schools on environment and nature issues, etc., but only two of its persons are directly involved in public participation procedures. The Office also organizes the marking of all the international events/days from the Eco-Calendar aimed at public awareness raise, and also participates in organizing of the public awareness campaigns on nature, household waste, etc.

The implementation of the Environmental Liability Directive (2004/35/EC) is at its very beginning. No measures have been taken to encourage the development of financial security instruments by the appropriate economic and financial operators. Regarding EIA and SEA studies, generally speaking the administrative procedures are in place. Guidance documents and methodologies are available, inspectors to follow up on consent permissions are appointed, and those who at the moment in the MoEPP are dealing with EIA and requests for consent procedures are trained. However, only two civil servants in the MoEPP are occupied with requests for consent procedures in the MoEPP. More manpower to EIA (and SEA and IPPC) related activities are needed. For enforcement of consent permissions and follow up through control monitoring by inspectors a practise exists, but the number of inspectors are few and there is no “self monitoring” and reporting system in place to reduce the work load of the inspectors and to support the efficiency of enforcement procedures. After adoption of the new LoE, the MoEPP has received 3

major (Annex I) projects, but no full EIA has been implemented since then. According to the LoE, the EIA procedure shall be carried out with the MoEPP, but EIA studies are also required as a part of issuing the Permission to build from the MTC. Since the harmonisation of the Laws is not in place, the EIA procedure is not in full function. No procedure for SEA has been carried out and no list of Experts has yet been established, even though there is a legal basis in the LoE.

Permitting, inspection and enforcement are crucial factors for the implementation of the EU environmental acquis. The State Inspectorate for Environment (SIE) carries out inspection supervision of the implementation of technical and technological measures. The SIE consists of the head office and 6 branch units in the seats of counties and includes environmental protection inspection (13 environmental inspectors) and nature protection inspection (5 environmental and nature protection inspectors). The SIE is a member of the EU network for Implementation and Enforcement of Environmental Law (IMPEL) and the Environmental Compliance and Enforcement Network for Accession (ECENA). Inspection supervision in the LGSUs shall be performed by their Authorized Environmental Inspectors.

Priorities for transposition

The horizontal sector has wide implications to the other sector of the environment and requires special attention as regards the timing of transposition. The SEA Directive (2001/42/EC) has been given the highest priority for transposition, which requires drafting of a new SEA Regulation. This is likely to be a relatively complex task because of the large number of stakeholders involved. One of the short term priorities are the amendment of the LoE. Amendments will introduce obligations in the Law that are not yet fully in line with the directives and need to be included in the primary legislation such as definitions, allocation of responsibilities, main principles and general obligations which are best fitted in the primary legislation. For the Environmental Liability Directive (2004/35/EC), the procedures for prevention, restoration, remediation and restoration activities should be laid down and due account should be given to the Law on General Administrative Procedures to be aligned with this Directive as well as the public participation and access to justice rights. As regards the transposition of the Access to Environmental Information Directive (2003/4/EC), the Law on Access to Information will need to be changed and amended. In the short term, also appropriate legal basis should be included in the LoE enabling the adoption of secondary legislation. Annexes found in the directives as well as detailed procedures for access to information and public participation should be provided through secondary legislation. Due account should be taken to avoid conflicts or overlaps with other existing legislation. One option to consider is whether this secondary legal act should remain a Rulebook approved by the MoEEP or jointly with other ministry or should be changed to a Decree adopted by the Government.

Full implementation of the SEA Protocol requires adoption of by-laws arising from the SEA, to incorporate all the elements of the Protocol. The entry into force of the LoE and more detailed by-laws of the SEA process are the main preconditions for the ratification of the SEA Protocol. The LoE is currently being changed and amended, which will enable broader legal basis of adoption of additional by-laws. At the same time these changes will establish the manner, type and procedure for issuing direct penalties by the State Inspectorate for Environment, in compliance with the Law on Misdemeanor. The changes will enable efficiently establishment of punishment policy and will contribute to better enforcement of the law.

Priorities for implementation

In regard to developing the required capacity and expertise in the MoEPP, an overall strategy and plan should be prepared, defining which areas of expertise to be developed within the MoEPP. A plan for extending the number of employees in accordance with projected workloads should also be made, including a description of qualification profiles for employment of new staff members. The MoEPP should decide on the qualifications needed by external experts, maintain and publish

the List of Experts, and ensure that a budget is available to remunerate them.

A pool of expertise on EIA and SEA needs should be built up to meet the requirements (review of EIAs and SEAs where is necessary, preparation of scope of EIAs and SEAs plus other technical support). These might include external consultants for conducting the EIAs on commission from the developers, SEA for authorities on plans and programmes, reviewing of EIAs and SEAs to ensure an adequate quality, and to determine the implications of the EIAs and SEAs). The annual need for expertise on EIA is estimated to 200 days for external expertise, 200 days in the MoEPP and 400 days in the LGSUs. The new and present staff in the MoEPP need to be trained in EIA and SEA, which can be done in the context of a technical assistance project where consultants work closely with the MoEPP staff, including study tours for selected employees. Project developers shall carry out EIAs where required, estimated to 20 EIAs annually and ministries and other national public bodies shall carry out SEAs where required, estimated to 40 SEAs annually.

Additional staff is needed to implement the environmental information requirements, and a Capacity Building Project is needed to draw up a plan for the implementation, addressing issues like guidance on provisions to deal with imminent threats, access to justice, designation of an arbitration body, and design of detailed procedure for redress. Environmental info should be published and disseminated in brochures, in newspapers and on radio and TV. The need for additional staff in MoEPP to deal with this issue is estimated to 2 persons. To give access to environmental information, it is proposed to set up an overall structure where all (quality assured) data are stored in distributed databases under the competence of the institution collecting the data, linked together and with access via the Internet. New databases need to be set up (e.g. for raw data, self monitoring as specified in permits, applications, permits, EIAs, SEAs, inspection and enforcement), an internet based user interface has to be established, and the staff of the institutions maintaining the system and entering data into it has to be trained. It is proposed to implement an overall environmental monitoring through step by step approach, (e.g. beginning with air monitoring as the most advanced and thereafter to start with the other media like water, noise, waste or soil). 11 positions for the IT Division have been proposed and approved, however, only three of these vacations are filled at present. A cross sectoral project is needed to design and implement the system, train the users (preferably by on- the-job training), and purchase and install the needed software and hardware.

A pool of expertise needs to be built up to deal with environmental liability, estimated to 200 days annually. A training project is needed to design assessment procedure (to evaluate whether environmental damage has taken place and the operator is liable), develop a procedure for determining when the Competent Authority should take remedial action, develop a strategy for preventive measures, develop consultation procedures with stakeholders on prevention, mitigation, remediation and restoration strategies, recovery measures, determine the protocols and institutional responses to transboundary cooperation and consultation requirements, investigate scope for financial instruments to provide for liability, hold seminars/workshops with stakeholders, and investigate procedures for enforcing liability against offending operators. Operators of activities that handle potential pollutants have a mandatory requirement to establish an insurance to secure that they have the financial means to address future problems.

A budget has to be allocated for the participation of the SIE (within the MoEPP) in the work of the European Union network for Implementation and Enforcement of Environmental Law (IMPEL) and the Environmental Compliance and Enforcement Network for Accession (ECENA). A project is needed to train environmental inspectors and to support their participation in the IMPEL and ECENA networks.

Priorities for investment

The total costs of legal transposition and implementation of the EU legislation within the

Horizontal Legislation Sector are €3.0 million in capital (one-off) costs and €3.6 million in operating (recurrent) costs. Only a small proportion of the total costs are attributable to the legal transposition (about €160,000). Most of this relates to the personnel taken on temporarily by the MoEPP to support the necessary legislative drafting (3 person years plus support services). Personnel-related implementation costs amount to over €1 million
p.a. in salaries and salary-related costs (corresponding to 40 persons), together with a one-off expenditure of €40,000 for training. Technical assistance projects with a value of €2¾ million will be required to support implementation. The greater part of the one-off costs are attributable to the MoEPP, whilst the project developers, the municipalities and City of Skopje which will bear the brunt of the recurrent costs. The investment programme can be completed by year 3 and the great majority of the technical assistance needed can already be provided by year 2, with most of the costs occurring in year 2. Most of the one-off costs are for technical assistance.

The approach to financing will depend on the type of cost involved. All operation costs of government departments and temporarily employments will have to be met from the state budget. For technical assistance grant funding should be sought from the international donor community (e.g. IPA). One-off costs related to new personnel should be bundled-in as part of the various capacity building projects and funded by the international donor community. For capital items, potential grant funding should be sought, otherwise these costs will have to be met from the state budget. Salary and other running costs of the LSGUs (municipalities) will have to be met from the municipal budget, whilst grant funding should be sought from the international donor community to cover technical assistance costs. The costs of the industry will have to be raised by the industry itself.

Sector approximation plan
The overall plan to obtain full approximation consists of legal transposition and implementation (including enforcement) actions). The legal transposition is composed of 16 actions, and the implementation (including enforcement) is composed of 30 actions. The milestones of the overall sector approximation plan are given in the table below (starting in year 0 – actual start will be determined in the National Strategy for Environmental Approximation).

| Directive | Overall Approximation Plan | Start (year) | End (year) |
|---|---|---|---|
| EIA (85/337/EEC) Directive | Implementation and Enforcement | 0000 | |
| SEA (2001/42/EC) Directive | Legal Transposition | 0000 | 0001 |
| | Implementation and Enforcement | 0000 | |
| Public Participation Directive (2003/35/EC) | Legal Transposition | 0000 | 0000 |
| | Implementation and Enforcement | 0002 | |
| Environmental Information Directive (2003/4/EC) | Implementation and Enforcement | 0002 | |
| Environmental Liability Directive (2004/35/EC) | Legal Transposition | 0000 | 0002 |
| | Implementation and Enforcement | 0001 | |
| IMPEL and ECENA networks | Implementation and Enforcement | 0002 | 0002 |

Implementation of the horizontal legislation will benefit the environment in a cost-effective way and identify adverse environmental impacts of projects or plans at an early stage. Environmental information and public participation effect a democratisation of the environment. The environmental liability legislation establishes a legal framework for the prevention or remedying of environmental damage.

## ANNEX VI.B: AIR QUALITY SECTOR

Scope and approach

The general approach was to identify relevant sector EU Legislation to be covered, perform initial priority among selected Directives, perform gap analyses using various analyses tools, draft all actions needed for a full approximation, combine validated actions into groups of action (institutional development, technical assistance, and capital investments), and carry out logic prioritization. There was an active involvement of all stakeholders through the Air Quality Working Group.

NU The EU directives covered are the main air quality directives and relevant international agreements, in particular the Ambient Air Quality Framework Directive (96/62/EC), National Emission Ceiling Directive (2001/81/EC), Ozone in Ambient Air Directive (2002/3/EC), Emission Trading Directive (2003/87/EC), Directive on Limit Values for $SO_2$, 2, $NO_x$, Particulate Matter and Pb (1999/30/EC), Directive on the Reduction in the Sulphur Content of Certain Liquid Fuels (1999/32/EC), Benzene and CO Directive (2000/69/EC), Quality of Petrol and Diesel Fuels Directive (98/70/EC), Consumer Information Directive (1999/94/EC), and Directive on As, Cd, Hg, Ni and PAHs (2004/107/EC).

Present situation

The Republic of Macedonia has adopted several relevant policy documents such as Second National Environmental Action Plan II (NEAP II, 2006), Environmental Monitoring Strategy (2006), Environmental Awareness Raising Strategy (2005), Environmental Data Management Strategy (2005), Vision 2008 (2004), Physical Plan of Republic of Macedonia (2004), Strategy on Energy Efficiency until 2020 (2004), and National Environmental Health Action Plan (NEHAP, 1999). Several additional policy documents are being prepared or planed of which the most relevant are the National Strategy for Sustainable Development with Action Plan, and National Strategy for Protection and Rescue for Republic of Macedonia.

The main responsibility for preparing and adopting all legal instruments to complete full transposition, to ensure the implementation processes and to identify available funds for investment in the ambient air quality improvement lies with the MoEPP. The MoEPP and Ministry of Health (MoH) are collaborating for the purpose of specifying limit values for each pollutant and to prescribe the criteria, methods and procedures of ambient air quality assessment. The Ministry of Economy (MoE) in consultation with the MoEPP specifies limit values for the contents and types of harmful substances in fuel. National emission ceilings are carried out by the MoEPP in consultation with the MoE, Ministry of Finance (MoF) and Ministry of Agriculture, Forestry and Water Economy (MAFWE).

The legal framework comprises the Law on Ambient Air Quality and secondary legislation and the Law on Environment. Changes will be required in the Law on Ambient Air Quality in order to enable for full transposition via primary and secondary legislation. The transposition of the Ambient Air Quality Framework Directive (06/62/EC) is advanced, but still there is a need for some changes and for secondary legislation to enable completion of the transposition. About half of the provisions of the two daughter directives (1999/30/EC and 2000/69/EC) are not transposed. The National Emission Ceilings Directive (20001/81/EC) is at an early stage of being transposed, whilst the transposition the Ozone Directive (2002/3/EC) is quite advanced but there is a need for some amendments in the Law and secondary legislation. The transposition of the Emission Trading Directive (2003/87/EC) is at an early stage, however, the Republic of Macedonia is not an Annex I country. Regarding the Benzene and Carbon Monoxide Directive in Ambient Air (2000/69/EC) only about half of the Directive's requirements are not transposed. No legal transposition is provided for the Quality of Petrol and Diesel Fuels Directive (98/70/EC), and the transposition of the Directive on the Reduction in the Sulphur Content of Certain Liquid Fuels

(99/32/EC) is at a very early stage.

The responsibility for improvement of the ambient air quality is divided between the MoEPP, MoH and local authorities. Strategic documents and plans should be prepared (following the regular order of their adoption). Focus should first be put on preparation of the National Plan for Ambient Air Quality Improvement and the National Plan for Compliance with the National Emission Ceilings. There are no emission reduction plans and no integrated plans for the sector. The first step to be done for making the country eligible for Clean Development Mechanism (CDM) projects is to amend the Law on Environment with a legal basis for adoption of secondary legislation for performing and verification of CDM projects.

The monitoring network of the MoEPP is well equipped and works on the methodologies determined with the EU legislation. The measured substances are $SO_2$, NO, $NO_2$, NOx, $O_3$, CO, PM10, Benzene, Ethyl-benzene, o-xylen, and p-xylen. Determination of PM2.5 and heavy metals will be introduced in the near future. Determination of locations for sampling points will be part of the Rulebook on Monitoring and Reporting on Ambient Air Quality that is under preparation. No modelling techniques are available for supplementing the monitoring.

The first List of Zones and Agglomeration was prepared by the ongoing CARDS 2004 Project which will be further elaborated by the ongoing Finnish Twining Project. For the time being only continuous monitoring for high populated areas exists. No representative samples from other localities taken by random sampling are available. In order for preliminary assessment to be performed on regular basis, the preparation of Rulebook on Preliminary Assessment is urgent.

Work is ongoing to identify all pollution sources in the country and a database of pollutant substances exists in the MoEPP. In the database of the CORINAIR Inventory and the Inventory of Green House Gasses are data for agriculture and natural sources. There is no written guideline, procedures, instructions and a Quality Assurance System to ensure correct dataflow, data validation and data quality, or in case monitoring data shows that limit values are exceeded. It is planned to prepare a Rulebooks for Informative Systems from the Law of Environment to cover the mentioned procedures. Average monitoring values (daily, monthly and annual) is manually calculated and are presented in reports (available to the public), which, however, is not fully in compliance with the EU requirements. Data processing software for creation of reports should be introduced. The MEIC of MoEPP generates reports according to the United Nations Framework Convention for Climate Change, Longe Range Transboundary Air Pollution, and CORINAIR requirements. Reports according to the National Emission Ceilings Directive (20001/81/EC) and the EPER Decision (2000/479/EC) are planned.

There has been significant investment in the sector during the last decade, but the staff in the MoEPP is heavy committed and reinforcement is needed to take on the additional obligations from the air quality directives.

Priorities for transposition

In the transposition of the legislation, a prioritisation is essential. The transposition of the Air Quality Framework Directive (96/62/EC) must be given a high priority, as this provides the structure and foundation for the daughter legislation and should be carried out in conjunction with implementation of key legislation in other sectors e.g. IPC, waste management, reporting directives, etc.. Legislation with international implications should also be given a high priority.

Amending the current Law on Ambient Air Quality is a short-term priority and cover also actions related to climate change issues. An amendment of the Law on Environment is also envisaged to introduce provisions dealing with CDM. Rulebooks will be issued to finalise the transposition of the Ambient Air Quality Framework Directive (96/62/EC) and the 1st and 2nd daughter directives (1999/30/EC and 2000/69/EC). Regarding the Montreal Protocol, a Rulebook on Ozone

Depleting Substance Management will be prepared, and regarding the EMEP Protocol, the MoEPP has proclaimed their intention to ratify it. Other short-term priorities are Adoption of the National Plan for Ambient Air Protection in accordance with the Law on Ambient Air Quality Management, ratification of the Protocols to the Convention for Long Range Trans-boundary Air Pollution, adoption of secondary legislation in the form of Rulebooks to deal with monitoring and reporting issues on ambient air quality, the form and content of a national plan for ambient air protection and emission limit values from mobile sources. As regards issues falling under climate change and on the basis of the Law on Environment, secondary legislation is expected to be adopted in the form of a Rulebook to deal with the Methodology for Detailed Content and Manner of Developing the National Plan for Mitigation of Climate Change, and a Rulebook on the Conditions, Manner and Procedure for Developing the National Inventory of Anthropogenic Emissions Against Sources and Sinks of Greenhouse Gasses, and to regulate greenhouse gasses emission trading schemes. As regards the Pollutant Release and Transfer Registers Protocol, its ratification is pending on the establishment of a special unit for keeping registers and cadastres. All actions needed to complete transposition of the sector (preparation, adoption and entry into force of secondary legislation) are presented in Table 4 (see Sub-chapter 3.4).

Definitions, allocation of responsibilities, main principles and general obligations are best fitted in the primary legislation and appropriate legal basis should be included in the Law to enable the adoption of secondary legislation. Annexes of the EU directives as well as detailed procedures should be provided through secondary legislation, and it should be considered whether a secondary legal act should remain a Rulebook or should be a Decree.

Priorities for implementation

The primary and necessary activities for full implementation of the EU requirements can be divided up in tree groups: the implementation of monitoring network and laboratories for analysis, implementation and enforcement of general legislation to improve fuel quality and to reduce emissions from automobile sources and illegal waste incineration, etc., and monitoring of air quality and management of an improvement plan (to be closely connected with IPC emission monitoring). The primary tool to ensure that the air quality standards are met is the improvement plan, which uses the monitoring data to adjust, modify and prioritize the use of the regulation tools with the purpose to reduce the emissions to a level where the ambient air quality standards are met. This plan shall be managed by an Integrated Administrative Unit who shall coordinate all activities that has influences on the ambient air quality.

There is at present a good overview of the general ambient air quality in the country, but there is not a full understanding of the reason for all the high pollution levels observed in many areas. To reach such an understanding will include establishment of the Integrated Administrative Unit and a database system for registration of all pollution sources and their pollutants, compare air quality data with emissions data, assess the effects of the implementation of the directives (including other sectors), and carry out specific action plans for reduction of emissions to comply with all limit values in all areas.

The framework directive and the improvement plan is given the highest priority together with the Directive on Limit Values for $SO_2$, $NO_x$, $No_2$, PM and Pb (99/30/EC). The second highest priority is given to the directives on fuel quality (98/70/EC and 99/32/EC) as it will result in immediate emission reductions from both point sources and non-point sources. Implementation of the Ozone in Ambient Air Directive (2002/3/EC) has highest priority among the remaining sector directives. All actions needed to obtain full implementation and enforcement of the sector is presented in Table 9 (see Sub-chapter 4.4).

Of major importance are the implementation of the directives on IPPC (96/61/EC), Large Combustion Plants (2001/80/EC), VOCs from Petrol Stations (94/63/EC) and Waste Incineration

(2000/76/EC). Also of great importance is control of all VOC sources and emissions from waste incineration (including illegal open land incineration). Focus should also be put on emission from private wood fuelling, the old car park, etc., and improved industry/traffic planning must also be considered.

Priorities for investment

The total costs of legal transposition and implementation of the legislation are €7.9 million in capital (one-off) costs and €8.41 million in operating (recurrent) costs. These costs are, however, subject to significant uncertainty. The Ambient Air Quality Framework Directive (96/62/EC), including its first two daughter directives (1999/30/EC and 2000/69/EC), is the most costly, whilst the National Emissions Ceilings Directive (2001/81/EC) and the As, Cd, Hg, Ni and PAH Directive (2004/107/EC) also involve significant costs. The fuel quality directives (98/70/EC and 99/32/EC) involve rather high operating costs (up to €2.6 million p.a.). Only about one-tenth of the total costs are attributable to the legal transposition, and most of this relates to technical assistance to support the necessary legislative drafting. Personnel-related implementation costs amount to €692,000 p.a. (27 persons), together with a one-off expenditure of €200,000 for training and equipment. Technical assistance projects with a value of €4.8 million will be required to support implementation. Total capital investment amounts to €2 million (the costs incurred by the industry for improving air quality is assigned to other sectors). Most of the capital investment (€1.75 million) is for upgrading and extending the existing network of air quality monitoring stations. The remaining costs relate to laboratory and monitoring equipment. Most of the costs are attributable to the MoEPP.

When looking at the build-up of both capital and operating costs, i.e. total cost cash flow, with the assumption that total resources are not constrained, the capital/one-off costs account for the greater part of the total costs in the early years. However these costs will be nearly all incurred within 8 years, in which time the operating/one-off costs are building up. The cash flow on the assumptions made exhibits a peak in the 4 year. The approach to financing will depend on the type of cost involved. All operation costs and temporarily employments will have to be met from the state budget or special allocations. For technical assistance grant funding should be sought from the international donor community (e.g. IPA). One-off costs related to new personnel should be bundled-in as part of the various capacity building projects and funded by the international donor community. For capital items potential grant funding should be sought, otherwise these costs will have to be met from the state budget. It is estimated that technical assistance with a value of, say, €400,000 has already been assigned to actions included in this approximation strategy, and the further costs which need to be financed are capital / one-off costs of €7.5 million and operating / recurrent costs of € 910,000.

Sector approximation plan

The overall plan to obtain full approximation consists of legal transposition and implementation (including enforcement) actions. The legal transposition is composed of 15 actions (refer Table 4), which have been compiled into three main categories of actions (see table below). The implementation (incl. enforcement) is composed of 53 actions (refer Table 9) which have been compiled into three main categories of actions (see table below). The milestones of the overall sector approximation plan are given in the table below (starting in year 0 – actual start will be determined in the National Environmental Approximation Strategy).

| Overall Sector Approximation Plan | | Start (year) | End (year) |
|---|---|---|---|
| Legal transposition | - Decrees | 0000 | 0001 |
| | - Rulebooks | 0000 | 0003 |
| | - Plans / Methodologies | 0001 | 0001 |

| | | | |
|---|---|---|---|
| Implementation and Enforcement | - Institutional Set-up | 0000 | 0003 |
| | - Technical Assistance | 0000 | 0012 |
| | - Capital Infrastructure & Operation | 0000 | 0010 |

The main benefits from the approximation are that an efficient improvement of the ambient air quality will be obtained, resulting in improved health and related economic savings, and in an improved environment (reducing acidification, eutrofication, forest degradation, etc.).

The primary key issues for the approximation of the sector are if there is a politic will to support the approximation process, the stakeholders is willing to cooperate, the EU legislation is being fully transposed (incl. sub-legislation to support implementation and enforcement), a data collection systems and database for emission inventory are being established, preparation and implementation of an Integrated National Plan for Ambient Air Quality, and efficient enforcement of the legislation.

The primary uncertainties are if the industry and the population can absorb the additional costs on improvements, electricity, heating, maintenance, etc., how difficult it will be to comply with the EU legislation (the future emission ceiling values is not yet known), and how much the implementation of the directives from other sectors (in particular the IPC Sector) will contribute to the improvement of ambient air quality (if other reduction activities will have to be implemented).

## ANNEX VI.C: WASTE MANAGEMENT SECTOR

Scope and approach

The general approach was to identify relevant sector EU Legislation to be covered, perform initial priority among these directives, perform gap analyses using various analyses tools, draft all actions needed for a full approximation, combine validated actions into groups of action (institutional development, technical assistance, and capital investments), and carry out logic prioritization. There was an active involvement of all stakeholders through the Waste Management Working Group.

The EU directives covered are the main waste management directives, in particular the Waste Framework Directive (2006/12/EC), Hazardous Waste Directive (91/689/EEC), Landfill Directive (99/31/EC), Packaging Waste Directive (94/62/EC), Waste Incineration Directive (2000/76/EC), Batteries Directive (91/157/EEC), WEEE Directive (2002/96/EC), Waste Oils Directive (75/439/EEC), PCB/PCT Directive (96/59/EC), End-of-Life Vehicles Directive (2000/53/EC), RoHS Directive (2002/95/EC), Waste Shipments Regulation (EEC 259/93), and Waste from Extractive Industries Directive (2006/21/EC).

Present situation

Waste management is one of the most serious environmental issues in the Republic of Macedonia and is included in the priorities in the Analytical Report for the Opinion on the Application for EU Membership, the Council Decision of 14 June 2004 on the Principles, Priorities and Conditions Contained in the European Partnership with Republic of Macedonia (2004/518/EC) as well as in the National Programme for the Adoption of the Acquis Communautaire (NPAA).

The general waste management policy in the Republic of Macedonia was defined with the adoption of the National Environmental Action Plan (NEAP) in 1996, which included, inter alia, the detailed analysis of the status of waste management. For the purpose of implementing the general waste management policy, several planning documents have been developed, and others are being drafted. A National Waste Management Plan (NWMP) was prepared in December 2005 (MoEPP), although this has not been adopted and still remains unpublished.

The MoEPP has the main responsibility for preparing and adopting all legal instruments to complete full transposition and to implement the waste management directives. The preparation of the main laws and secondary legislation will be carried out and adopted jointly/in cooperation/through consultations/in agreement with other Ministries or authorities (like City of Skopje, municipalities).

The National and supportive legislation on the Waste Management Sector comprises the Law on Waste Management, Law on the Environment, Law on the Organisation of the Organs of the State Administration, Law on Local Self Government, Law on Public Enterprise, Law on Physical and Urban Planning, Law on Investment Constructions, Law on Concessions, Law on Public Procurement, and National Environmental Action Plan II.

The transposition of the Waste Framework Directive (75/442/EEC) is very well advanced. Two main issues that still needs to be considered for full transposition are the content of the waste management plans and the content of the permit for carrying out disposal operations. The transpostiion of the Hazardous Waste Directive (91/689/EEC) is quite advanced. However, there are some provisions to be fully transposed via amendments of the Law and the adoption of secondary legislation that is still pending. The tranposition of the Waste Oil Directive (75/439/EEC) is still at a very early stage. Some changes in the Law are needed and secondary legislation should be adopted to enable full transposition, which the Law provides the legal basis for. Transposition of the Batteries Directive (91/157/EEC) is not so advanced, and the legal basis found in the law for issuing secondary legislation to enable full transposition will need to be better constructed.
Transposition of the PCBs/PCTs Directive (96/59/EC) is still at an early stage. Only few provisions are fully transposed. The existing legislation transposing the Packaging Waste Directive (94/62/EC) is not adequate and at a low level. Very few provisions are in place and even those are not really in compliance and there are missing definitions. The End-of-life Vehicles Directive (2000/53/EC) is partly transposed and transposition is at a very early stage, but there is a legal basis for adoption of secondary legislation. The transpostion of the WEEE Directive (20002/96/EC) are at a very early stage. There is one legal basis in the Law for issuing secondary legislation, but this legal basis does not seem appropriate to regulate all the Directive's remaining provisions. Transposition of the ROHS Directive (2002/95/EC) in electrical and electronic equipment has not yet commenced, and no existing legislation is found in the Law. Transposition of the Landfill Directive (99/31/EC) is not advanced. Only few provisions are found in the Law but changes and adoption of new provisions will be needed. The transposition of the Incineration of Waste Directive (2007/ 76/EC) is quite low as relatively few of the provisions are fully transposed, but legal basis for regulating this Directive's requirements exists. The Republic of Macedonia is already a party to the Basel Convention.

National direction, policy setting and legislation is insufficient in a number of areas to comply with the requirements of the waste sector. National policy on waste management is not sufficiently developed, existing policy does not address all key areas of performance for waste management, there is no clear basis for determining priorities, performance requirements or targets, and required standards for waste management remain difficult to implement and enforce.

National initiatives in minimising waste at domestic and industrial level are lacking in a number of areas. Waste producers are not aware of potential opportunities for, and benefits of, preventing wastes, information on opportunities and techniques for wastes prevention are not generally available, the true costs of environmentally sound waste management are not perceived or met by waste producers, resources, including resources for waste management, are not used effectively, and requirements for wastes treatment and disposal are higher than need be.

The Competent Authority for implementation of all EU waste related directives is the MoEPP.

Establishment of the non-hazardous and inert waste landfills is the responsibility of the municipalities, but authorizing, inspection and monitoring, with exception of inert waste landfills, is the responsibility of the MoEPP. Inspection of the fulfilment of the requirements of the Packaging Waste Directive (94/62/EC) is the obligation of the State Market Inspectorate (MoE). Inspection of the segregation, labelling and storage of medical waste is the obligation of the State Sanitary and Health Inspectorate (MoH).

Waste collection, selection, transport and disposal treatment is insufficient in a number of areas to comply with the requirements of the Waste Management Sector. Available facilities and capacities for treatment and disposal of wastes are inadequate, legislation and standards not effectively enforced, and current waste management practices contribute to pollution of air, water resources and land.

An incomplete permitting system has been established to cover disposal and recovery operations. Adoption of all regulations regarding permits and licences (by end of 2007) will be the base for the future implementation of the Law. Waste generators are registrated through the Cadastre of Polluters. There is no registration on waste handlers, and there is only one application for registering of private companies dealing with the waste management.

Generally, there is no formally organized segregation of any type of waste. Collection of municipal waste is performed by public enterprises. Some 70% of the total population benefit from regular waste collection services, but only 10% in the rural settlements. Most of the municipal waste not collected is disposed at ‘wild dumps’. Most skips and waste collection vehicles are very old, low-capacity and often dilapidated. There are no formal collection systems for construction and demolition waste. Industrial non-hazardous waste is mainly collected and landfilled on the municipal landfills. Medical (hazardous) waste are separated in some hospitals and incinerated at the Drisla landfill, whilst the remaining medical waste is not handled or treated in a compliant way and most of it is disposed of in municipal dump sites or ‘wild dumps’ without distinction from the municipal waste. Management of other types of waste (batteries, accumulators, end of life vehicle, PCB’s, electrical/electronic waste, etc.) is not in compliance with the EU directives. The largest volumes of hazardous waste are generated by the mining and metallurgical industries and generally stored on non-compliant dumps on the companies’ premises. Many (hazardous) waste oils are burned as fuels.

The recovery and recycling activities for municipal waste are very limited and without any organized approach, but there are informal collectors of metals, PET, paper, accumulators, etc. There is no initiative on the municipal level to organize selection and recycling of the municipal waste. It is mostly private companies which deal with recycling (scrap yards). Waste composting is not practiced in the country, but a facility for waste composting is now being built in one municipality.

In 2004, there were 54 municipal dumps, but very few of these have a permit. Waste disposal practices do not comply with any technical and/or environmental standards. There are an estimated 1.000 illegal waste dumps in rural municipalities. Drisla is the only waste site compliant with national requirements. However, this waste site does not comply with contemporary technical standards or with the requirements of the landfill directive. None of the sites except Drisla landfill would be capable of being upgraded to become EU-compliant.

Monitoring system(s) for waste management is still not introduced because of the lack of input data. On landfill sites are gathered only information for quantities of disposed waste (estimated). Procedures are not in place to check that the operator only accepts waste that has been treated, performs a visual inspection of the waste at the entrance and at point of deposit, keeps a register of waste quantities and characteristics deposited, provides written acknowledgement of receipt of each delivery accepted on the site, and informs the competent authority of cases of non-

acceptance on waste. Also, data is not collected on processes on recycling, recovery and treatment of waste, as well as on the biodegradable proportion of waste going to landfills. A system has been established for periodic inspection (frequency not specified) by the Competent Authority of waste management undertakings and facilities. All provisions for enforcement of the Law in sense of penalties are given in the law, but there is no practical implementation of these tools and there is no initiative for use of economic instruments to enforce the implementation of the Law. Waste management inspectors do not have powers of enforcement.

There are some technical standards applied in the field of laboratory tests, but lacks for landfill construction, vehicles and equipment used in the Waste Management Sector. Accurate technical standards should be met by operators as well. However, some of the standards will be set out in the permits/licenses.

Communication, preparation of guidance and trainings is the weakest part of the MoEPP practice. There is no organized system for the regular meetings between MoEPP and the municipalities, industry and other stakeholders for exchange of information regarding waste management, and there is no guidance on implementation of the waste management legislation. Many of the stakeholders in the waste management are not able themselves to fulfil the task given by the Law.

A system of trainings is partly in place to ensure that waste regulators and inspectors are adequately trained in waste management issues, but these are not regular training events.
There is no system of examination and certification for waste regulators and inspectors, and not a system of formal qualifications and accreditation for waste regulators and inspectors.

A functioning data recording and reporting system is not in place. A few by-laws are needed in order to establish an efficient public information and consultation system. At the moment MoEPP is working on a public information and consultation system through intensive dialog with interested parties, in particular municipalities.

Implementing EU legislation on waste will require major investment in people, equipment and waste infrastructure, but very little investment has been committed.

Priorities for transposition
According to the NPAA, 22 legal acts of secondary legislation will be prepared till 2012 in order to ensure full transposition in this sector. Priority should be given to the Waste Framework Directive (75/442/EC) and the Hazardous Waste Directive (91/689/EEC) as both set the basic rules, principles and the structure for waste management. The said legislation should be prioritised and programmed in conjunction with key legislation in other sectors. The second priority should be the Landfill Directive (1999/31/EC), and in addition should legislation implementing international treaties be given a high priority where applicable.

Consideration should be given to providing a robust legal framework allowing for amendments to legislation, and where necessary to environmental permits, in order to ensure easier and swifter implementation into national law of Community law obligations, and compliance thereafter with such obligations. Definitions, allocation of responsibilities, main principles and general obligations are best fitted in the primary legislation. Amendment of the Law will harmonise provisions found in the Law on Misdemeanour in order to introduce direct charges. Appropriate legal basis should also be included in the Law that will enable the adoption of secondary legislation. It is suggested that annexes found in the Directives as well as detailed procedures are provided through secondary legislation.

Secondary legislation that is foreseen to be adopted in 2007 covers several Rulebooks dealing with waste issues in general, hazardous waste/waste oil/ PCB/PCTs management, landfills, and waste types for which import/export is needed. Actions planned in following 2-3 years will enable transposition of several waste stream Directives (Packaging Waste, WEEE, Batteries, Waste,

etc.). As regards the transposition of Waste Incineration Directive the MoEPP should make a decision on the use of legal basis to be used for transposing air emission limit values and wastewater discharges. Full legal transposition is expected to occur in 2010.

Twelve transposition actions are already ongoing or planned (see Table 4). Additional twelve actions have been defined to complete the transposition (see Table 5). They cover the preparation, adoption and entry into force of secondary legislation.

Priorities for implementation

The first step to resolve the lack of technical and financial capacity at municipal level and insufficient administrative capacity at the central level is to enact Articles 160 and 161 of Law on Environment and to establish an Administration for Environment as a lead agency. There is also a need for communication and trainings of the local administration, industry and the communal enterprises which can be supported with issuing of the Guidance for Waste Management Reporting System, which is considered very important taking in consideration current status of no data for waste management on the central and local level. Implementation of the Waste Framework Directive (75/442/EEC) and Hazardous Waste Directive (91/689/EEC) must be given a high priority, as these provide the structure and foundation for the 'daughter' legislation. Prioritisation of the 'daughter' directives under both these directives needs to take account of implementation requirements in other sectors.

A waste section (division) should be established in the MoEPP, an assessment of staff resources required, and a training needs analysis in waste management conducted.

The new concept for collection and transportation of the waste should be based on the cost/benefit approach, well maintenance of the vehicles and optimisation of the routes. Primary selection of the municipal waste should be supported by various measures given on the local level with close relation of recycling business activities. As landfill is the most commonly used and widespread method of waste disposal in the country, and as poorly designed and managed and/or inadequately controlled waste sites can cause significant pollution and other environmental hazards, it may be considered more appropriate to concentrate initially on implementing policies and legislation aimed at improving and controlling the standards and practices for landfill in preference to developing other methods of waste treatment and disposal. Measures to mitigate the impacts of existing and old landfills and to establish new landfills are very expensive. It will be needed to determine which option would be the most effective and efficient by applying of concept of regional landfills for municipal and other non-hazardous wastes and concept for hazardous waste management, which should be based on the results of a special feasibility study and appropriate planning documents.

Within CARDS 2006, a Healthcare Risk Waste Management Project was initiated in 2007 with the aim of establishing conditions for the correct collection, transport and disposal of all hazardous medical waste at national level.

Under the requirements of the EU legislation, polluting waste dumps have to be closed quickly, consequently the competent authority must address the situation that there will be a short-fall of available disposal sites between closure and inception of landfill sites, whilst local authorities should review the waste dumps, select the least polluting, upgrade and use the upgraded sites as a temporary expedient.

Increased environmental concerns and the emphasis on material and energy recovery are gradually changing the orientation of municipal solid waste management and planning. In this context, the application of optimisation techniques must be introduced at municipal level to design the least cost solid waste management systems, considering the variety of management processes. Savings can be achieved by minimizing the generation of waste (waste prevention), optimizing waste streams (waste separation), reviewing contracts with waste collection firms

(reducing collection costs), plus recycling and grouping of services for best cost-effectiveness to the largest population served against transport of waste costs, and tariff reforms to achieve at least partial cost-recovery.

Initiatives in waste sorting, recycling and reuse at national, regional and local level should be supported by the Government and the local authorities. The internal market for recyclables should be developed with the logistic and financial support of the Government and the local authorities.

Composting is one of the biggest issues regarding implementation of the EU Landfill Directive (1991/31/EC). Preparation of the necessary measures for reduction of biodegradable waste disposed on the landfills should be done by introduction of the system for selection at source with two bins (for wet and dry waste). Standardized methods for testing and evaluating compost quality are needed.

The most important preparatory activities regarding financing should be done in the first 3 – 4 years period (policy documents and improving of the institutional capacity). The 5 years period thereafter should be reserved for the implementation of the infrastructure investments and start of the systems with the secondary priorities, followed by a 7 – 8 years period covering the further implementation of the overall strategic investments and start of all subsystems of modern waste management in the country.

Four implementation actions are already ongoing or planned (refer Table 6). Additional seventy-eight actions are needed to complete the transposition (refer Table 7).

Priorities for investment

The total costs of legal transposition and implementation of the legislation are €360 million in capital (one-off) costs and €44 million in operating (recurrent) costs. The Landfill Directive (99/31/EC) is by far the most expensive of the waste directives, in terms both of capital and operating costs. The Extractive Industries Directive (2006/21/EC) gives also rise to high costs. The End-of-life Vehicles Directive (2002/53/EC) and the WEEE Directive (2002/96/EC) will also require significant new infrastructure and organisation, and will therefore also be relatively costly. The operating costs for the Hazardous Waste Directive (91/689/EC) are relatively high because it is assumed that waste will be exported for incineration. Costs under the Waste Incineration Directive (2000/76/EC) are nil because of this assumptions made. Only a very small proportion of the total costs are attributable to the legal transposition. Nevertheless the personnel-related costs constitute a significant cost to the Competent Authority over a four-year period, for which financial planning will be necessary. A very considerable budget for technical assistance for implementation (€34 million) is envisaged. Personnel-related implementation costs are also high: €8.3 million annually. These costs relate to an estimated additional almost 300 jobs which will have to be created to implement EU waste policy. The great majority of the costs however relate to the capital expenditure and associated operating costs which will arise in laying the infrastructure, purchasing vehicles and receptacles, closing existing waste dumps, cleaning up historically contaminated land and establishing systems for collecting and disposing of special streams. The costs will fall in the first place on industry, on local self government and on government departments. The costs accruing to industry include an estimated €50 million falling on the mining industry. Local self governments will be responsible for establishing the new regional waste management infrastructure, purchasing the equipment needed to collect and transport waste, and for providing waste management services to households and industry. They will also be responsible for the costs of closing existing waste management dumps. At central government level, the MoEPP will be competent for most of the implementation activities. It is also assumed that it would be responsible for the clean-up of historical contamination where the polluter is not known, no longer exists or cannot be made to pay for the necessary remediation. However the Ministry of Health would be responsible for the management of medical waste

within hospitals and other medical institutions, and the MoE would have some responsibilities in relation to the mining industry. The capital costs account for the major part of the total costs in the early years, but the operating and recurrent costs gradually build up until they account for the major part of the total cash flow, almost levelling off after 14 years.

Sector approximation plan

The overall plan to obtain full approximation consists of legal transposition and implementation (including enforcement) actions. The legal transposition is composed of 14 actions (refer Table 5), which have been compiled into three main categories of actions (see table below). The implementation (incl. enforcement) is composed of 78 actions (refer Table 7) which have been compiled into three main categories of actions (see table below). The milestones of the overall sector approximation plan are given in the table below (starting in year 0 – actual start will be determined in the National Environmental Approximation Strategy).

| Overall Sector Approximation Plan | | Start (year) | End (year) |
|---|---|---|---|
| Legal transposition | - Decrees | 0002 | 0003 |
| | - Rulebooks | 0000 | 0003 |
| | - Amendments / changes | 0002 | 0002 |
| Implementation and Enforcement | - Institutional Set-up | 0000 | 0008 |
| | - Technical Assistance | 0001 | 0012 |
| | - Capital Infrastructure & Operation | 0001 | 0013 |

The main benefits from implementing the Waste Management Directives are a reduced number of respiratory diseases and noise nuisance to local population, reduced risks to health from contamination, benefits to eco-systems and other environmental resources as emissions from waste activities are reduced and the recovery of energy is increased, reduced health and explosions risks as well as lower impact on global warming as methane emissions from landfills are captured and made to generate energy, lower pollution to groundwater and surface water from leakage of unprotected landfills, increased efficiency in the use of material and reduced production of primary material as a result of higher levels of recycling, lower costs for waste collection, treatment and disposal, as less waste will be produced, and better management and monitoring of waste streams.

The key issues for successful implementation of the requirements from the EU Directives on waste management are mainly closely related to political willingness of the Competent Authorities (mainly MoEPP) and the municipalities, available and future trained human resources on the all levels, and available and future financial possibilities. All the implementation activities need a high level of organization and coordination in time, human resources and financial aspects. One of the most important challenges will be the continuity of the adopted policy because lot of different political or business interests will try to change the adopted policy and direction.

## ANNEX VI.D: WATER QUALITY SECTOR

Scope and approach

The general approach was to identify relevant sector EU Legislation to be covered, perform initial priority among selected Directives, perform gap analyses using various analyses tools, draft all actions needed for a full approximation, combine validated actions into groups of action (institutional development, technical assistance, and capital investments), and carry out logic prioritization. There was an active involvement of stakeholders through the Water Quality Working Group

The EU directives covered in this sector strategy are the main water quality EU legislation, in

particular the Water Framework Directive (2000/60 /EC), Urban Wastewater Treatment Directive (91/271/EEC), Nitrates Directive (91/676/EEC), Drinking Water Directive (98/83/EC), Surface Water for Abstraction Directive (75/440/EEC), Bathing Water Directive (2006/7/EC), Dangerous Substances to Water Discharges Directive (76/464/EEC), Sewage Sludge Directive (86/278/EEC), Measurement of Drinking Water Directive (79/869/EEC), Ground Water Directive (80/68/EEC), Mercury Discharges Directives (82/176/EEC and 84/15/EEC), Cadmium Discharges Directive (83/5123/EEC), Hexachlorocyclohexane Discharges Directive (84/491/EEC), List One Substances Directive (86/280/EEC), Fish Water Directive (78/659/EEC) and Shellfish Water Directive (79/923/EEC).

Present situation

The general environmental policy of the Republic of Macedonia is based on an integrated approach and gradual harmonization with EU legislation, achieving environmentally sustainable economic development, sustainable management of natural resources, their protection and enhancing cooperation. No comprehensive government policy exists for the sector.

The concept of sustainable development has been grasped in the existing strategic documents, prescribing optimum utilization of limited resources of water in an environmentally sustainable manner. The need for reorganization, restructuring and capacity building, as well as the need for increased investment in the sector has been recognized in the National Strategy for European Integration as well as the main objective of water management are to be achieved through cost-effective utilization of natural resources, gradual increase in public investment in the protection of the environment and introduction of private-public partnerships (PPP). Also the need of heavy investment in rehabilitation and completion of wastewater networks and construction of wastewater treatment plants has been recognized.

One of the objectives of the second National Environmental Action Plan (NEAP II) is to introduce sustainable practices of integrated water resources management through river basin management and water pollution control and prevention, which coincide with the requirements of the EU Directives. Construction of wastewater treatment plants has one of the highest priorities in NEAP II. However, implementation of the planned actions in the key strategic documents has been hampered by the lack of integrated planning and fragmentation of responsibilities among institutions. The last Water Master Plan was made in 1976 and is greatly outdated.

In regard to roles and responsibilities, the Assembly defines the boundaries of the river basin districts, adopts the National Strategy for Waters and the Water Master Plan, which becomes part of the national legislation and a binding development document. The Government is responsible for granting concessions for economic activities involving use of water from surface and ground water bodies, adoption of the River Basin Management Plans, preparation and adoption of programme of measures for each River Basin District, and setting water quality standards and establishment of protection zones. The Ministry of Agriculture, Forestry and Water Economy (MAFWE) has up to now been responsible for the overall water management in the country, planning of water allocation, permitting of use or discharge, inspection supervision, and surface and groundwater monitoring. However, the Ministry of Environment and Physical Planning (MoEPP) has recently been appointed to be responsible for the overall water management, including river basins management and permitting system, while the MAFWE remains responsible in the domain of irrigation. The MoEPP also performs activities concerning monitoring of water quality and water protection against pollution, and carries out professional activities in water, and supervises the implementation of water related Laws. The Ministry of Transport and Communications is responsible for the utility infrastructure, covering the issues of wastewater treatment and water supply. The Ministry of Economy has responsibilities in regards to ground water, hydropower generation and exploitation of mineral and thermomineral water resources. Ministry of Health is responsible for health safety of drinking and bathing water and

for the protection of the population against water-borne contagious diseases. The Ministry of Education and Science is responsible for water quality monitoring on the three main natural lakes. The Local Self-Government Units (LSGUs) are responsible for the protection and prevention of water pollution, drinking water supply, technological water supply and waste and storm water drainage and treatment. The LSGUs (municipalities) carry out their activities through their local structures and through Communal (municipal) Enterprises, performing practically and legally as public enterprises (are founders and owners of all assets). The LSGUs are also responsible for all monitoring of water bodies within the local water monitoring network and for the implementation, operation, maintenance and development of the local water monitoring network. The LSGUs are obliged to appoint local environment inspectors, to submit annual reports on performed inspections and to draft annual inspection programs and to submit those to the MoEPP. The Public Water Management Enterprise is responsible for operational management with particular emphasis in irrigation and drainage and river basin management.

The obligations of the Competent Authority (MoEPP) for water management comprise development of the National Water Strategy, Water Master Plan and the River Basin Management Plans, coordination of the plans and programmes of measures within international river basin and/or district, implementation of the plans and programmes of measures within international river basin and/or district, setting the limit values for emissions and conditions of use of water resources, exercise control, and establishment of a comprehensive monitoring and reporting system. The MoEPP is also the Competent Authority for developing and implementing policies in the sector. The appointment / assignment of Competent Authorities for the respective sectoral directives have not yet been done.

The MoEPP adopted in December 2006 a new organizational administrative set up which responds to its obligations, competencies and responsibilities. Bodies in the MoEPP established are State Environmental Inspectorate, GIS Service, and Administration for Environment. However, the current institutional capacity of the MoEPP to perform the required water management is far from being sufficient.

The Water Law (1998) sets the legal basis for water protection and management. Apart from national laws also some international conventions or agreements are completing the existing national water legislation. There are agreements on transboundary waters with Greece, Albania and Bulgaria on downstream watercourses and commonly shared lakes.

There is competence overlapping between different state administrative bodies created by the Water Law itself. In order to overcome that and to introduce integrated water management and harmonise the national legislation with the relevant EU legislation, the development of a new Law on Waters was initiated in 2003 but this draft Law has not yet been adopted. Gap analyses revealed that the Draft Law on Waters does not yet fully transpose the requirements of the EU Water Quality legislation. However, there are recent developments towards the simplification of the Draft Law on Water and changes that will provide the appropriate level of transposition either by the draft Law itself or by subsidiary legislation. The transposition progress has been impeded by institutional problems.

The three foreseen strategic and planning documents (Strategy, Water Master Plan and the River Basin Management Plans) when completed are supposed to set the standards, specify the steps required and deadlines for achievement of good water status for all waters.

The draft Law stipulates the establishment of River Basin Water Management Bodies in order to achieve an integrated approach to water utilization, as well as the establishment of a National Water Council as an advisory body in establishing water policy. This has not yet been enacted. In principle, river basin has always been the planning and management unit in the water management sector in the country. The river basin catchments have been identified. Four river

basins are precisely defined, and the Government has set catchment boundaries in the draft Law. Some river basin studies have also been undertaken as required by EU.

There is significant land-based pollution entering all river catchments and ground water. Lack of funding to the regulatory authorities for basic tools, accredited laboratory services and qualified laboratory staff in addition to capital works for new wastewater treatment plants and collection systems are key impediments to enacting government policy in urban wastewater treatment. There are six urban wastewater treatment plants in the country covering about 12% of the present demand. No treatment or effluent standards exist at the moment. The laws proscribe treatment of industrial wastewater before discharge into municipal collection systems, however, quality standards are not set in detail. The draft Law prescribes the terms, manner and emission limit values for discharges of wastewaters following pre-treatment and secondary treatment, including special requirements for protecting sensitive zones. The reuse of untreated wastewater happens in an uncontrolled manner, and the reuse of sewage sludge in the agriculture is not regulated. Advanced sludge treatment is not practiced in the country. Waste from agricultural sources is not properly managed and is very often diffuse sources of pollution of soil and water. Pollution with nitrates, beside from urban sources of untreated wastewater occurs mainly from uncontrolled return flows of irrigated agriculture, local isolated cases of overuse of agro-chemicals and pesticides, manure production locations and large scale livestock-breeding farms.

Sensitive areas in respect to wastewater, as well as the areas vulnerable to nitrate pollution and protected zones have not been identified and proclaimed officially. At state level, identification of sensitive zones has only been done in regard to protection zones for drinking water.

Monitoring of qualitative and quantitative status of surface and ground water has long been established. In the last decades deterioration of the quality and extent of the monitoring is notable, mainly due to lack of financing and insufficient capacity of institutions and personnel. Achievement of the monitoring requirements will require sustained and increased efforts. Exception is the drinking water monitoring which is carried out properly and regularly in all larger water supply systems. Classification of waters, as well as categorization of watercourses and water bodies exist and are implemented. Adoption of new required approaches in monitoring and review and identification of water bodies and ground water bodies have not been made. Vulnerable (sensitive) areas have not been identified, except for the three natural lakes for which enhanced monitoring is established. Poor and insufficient monitoring, scatter of data in separate monitoring, data collection, data owning, poor institutional cooperation and the lack of integrated management approach and coordination have lead to overall low data availability. Integrated databases practically do not exist. Reporting to the EU Commission is currently carried out by the MoEPP with limited extent and limited available data, still not according to the EU requirements. Very few, if any, laboratories have the capacity to implement the EU requirements. Currently, certification and Quality Assurance / Quality Control are not in place, and a scheme for certification of laboratories does not exist.

All surface waters / river basins in the country are transboundary. Cooperation and joint management have not been established with neighbouring countries on shared water resources.

Significant investment has taken place in recent years to upgrade the water sector. Donor funding amounting to approximately €120 million has been allocated for water and sanitation projects (some 80% of the total donor funding).

Priorities for transposition

In order to proceed with the transposition of the EU legislation, the need for adoption of the draft Law on Waters is essential. This Law should be clearly setting out the legal framework, the principles for water management and responsibilities of Competent Authorities, and can regulate other issues such as water quality objectives, emission control issues and monitoring and

reporting obligations. It is recommended that monitoring and reporting obligations are comprised in the main Law on Waters and further details could be inserted in secondary legislation. A distinction should be drawn between the provisions to be kept in the Law and the provisions to be included in subsidiary legislation (resolutions/decisions) as they contain details or describe procedures. It is also recommended that the Law is not being used to regulate the production and distribution of water intended for human consumption. Public health legislation (and subsidiary legislation) that is already in place could deal with the transposition of these issues.

The priority for transposition is to proceed in amendments of the draft Law (expected to be adopted during the course of 2007). Secondary legislation is on-going as regards public participation and access to information obligations. As those provisions are of horizontal nature, the best fitted legal instrument is a Governmental Decree. In addition, the MoEPP should liaise with other Ministries during the preparation of several pieces of subsidiary legislation. At a second stage secondary legislation is foreseen to be prepared and adopted.

Priorities for implementation

In respect to water management and wastewater in particular, the main objectives are to be achieved through cost-effective utilization of natural resources, gradual increase in public investment in the protection of the environment and introduction of private-public partnerships (PPP). Establishment of Competent Authorities and the adjoining institutional setup have to be in placing soonest possible.

The main strategy for the forthcoming period is to reorganize the water sector in line with the requirements in respect to institutional setup, allocation of responsibilities, set-up of a monitoring and reporting system and introduction of economic instruments for sustainable management. Also, the key strategic and planning documents (Strategy, Water Master Plan and River Basin Management Plans) have to be elaborated and adopted by the Government, the Parliament and the newly established Competent Authority, respectively.

Full compliance and achievement of the environmental objectives of the sector has been planned over a long period, and realistically it is to be expected at the earliest in 2025. This plan will have to be supported both by the national budget and by bi- and multilateral technical and development cooperation.

The Government will have to decide the kind of institution required for delivering water sector services. Job descriptions of the Competent Authorities should be clearly defined to avoid overlap. Integration of environmental factors, targets and priorities in plans and policies should be improved. An effective enforcement, monitoring and inspection systems shall be established, including an effective database and better application of environmental information. Focus in training to increase the capacities of central, regional and municipal staff resources is required. Coordination and information exchange should be improved. Refurbishment and upgrading of the existing laboratories, including laboratory equipment, new methods for analysis, Quality Assurance / Quality Control, and new qualified and appropriately trained staff recruitment. It should also be determined who will be involved in river basin management.

The requirements for full implementation anticipate establishment of an efficient and sustainable institutional structure. The adoption of the draft Law is considered a priority of highest importance as it shall provide a legal basis for allocation of responsibilities in the sector and shall allow for establishment of required new units within existing institutions and/or their transformation. The new institutional setup requires new employments for full implementation of the sectoral requirements in particular in the LWGUs.

Considering the existing national capacity compared to the needed, significant support in Technical Assistance projects is required, in particular where experience and international expertise may be beneficial for the Republic of Macedonia in capacity building.

The number of agglomerations needing serious upgrading of urban wastewater collection system is very large. Water supply systems in the country also need serious reconstruction and upgrading, and, especially, to decrease the loss and 'unaccounted for' water in the systems.

Priorities for investment

The costs of transposing and implementing the sector directives will be high. The total costs of legal transposition and implementation of the legislation are €724 million in capital (one-off) costs and €46 million in operating (recurrent) costs. The Urban Wastewater Treatment Directive (91/271/EEC) and Drinking Water Directive (98/8/EC) between them account for over 95% of the total costs. Only a very small proportion of the total costs are attributable to the legal transposition but, nevertheless the personal-related costs constitute a significant cost to the Competent Authority for which financial planning will be necessary. A very considerable budget for technical assistance for legal transposition (€8 milllion) and implementation (€26 million) is envisaged. Personnel-related implementation costs are also high (€8 million p.a.) corresponding to additional human resource requirements of 319 persons, together with a one-off expenditure of €724,000.

The great majority of the total costs, however, relate to the capital expenditure and associated operating costs which will arise in laying the infrastructure. These costs will fall in the first place on local self-government units (€688 million) but also on the MoEPP (€28 million). The capital costs account for the major part of the total costs in the early years, but the operating and recurrent costs will gradually build up until they account for the major part of the total cash flow. The costs are very high (about €100 million p.a.) in about 8 years and are then decreasing sharply.

The approach to financing will depend on the type of cost involved. All operation costs of government departments and temporarily employments will have to be met from the state budget (but could be recovered from fees). For technical assistance grant funding should be sought from the international donor community (e.g. IPA). One-off costs related to new personnel should be bundled-in as part of the various capacity building projects and funded by the international donor community. For capital items potential grant funding should be sought, otherwise these costs will have to be met from the state budget. The operation costs of the municipalities will have to be met from the municipal budgets, but the costs should be passed on to the users (polluter-pays-principle). However questions of affordability arise, and until these costs can be passed on in water and sanitation charges they will have to be met from regular municipal budgets.

Sector approximation plan

The overall plan to obtain full approximation consists of legal transposition and implementation (including enforcement) actions. The legal transposition is composed of 19 actions (refer Table 4), which have been compiled into three main categories of actions (see table below). The implementation (incl. enforcement) is composed of 89 actions (refer Table 9) which have been compiled into three main categories of actions (see table below). The milestones of the overall sector approximation plan are given in the table below (starting in year 0 – actual start will be determined in the National Environmental Approximation Strategy).

| Overall Sector Approximation Plan | | Start (year) | End (year) |
|---|---|---|---|
| Legal transposition | - Decrees | 0001 | 0002 |
| | - Rulebooks | 0000 | 0003 |
| | - Decisions | 0001 | 0003 |
| | - Recommendations | 0002 | 0002 |
| Implementation and Enforcement | - Institutional Set-up | 0000 | 0010 |

| | | | |
|---|---|---|---|
| | - Technical Assistance | 0000 | 0011 |
| | - Capital Infrastructure & Operation | 0001 | 0018 |

The main benefits of compliance are more sustainable use and better protection of water resources, less negative impacts on health and environment, safe and reliable water supplies, safe and controlled wastewater (sewerage) handling, improved river basin management, improved surface water quality, bathing water quality and drinking water quality, and improved national economy.

The main key issues are provision of adequate resources to secured full implementation, clear definitions of roles and responsibilities, adequate training and capacity building, availability of the required funding, efficient inspection and enforcement of the environmental law, public information about the need for sustainable use and protection of water resources, and introduction of suitable water and wastewater pricing in urban and rural communities.

The main uncertainties are future political and/or economical stability, the extent to which user charges can realistically be increased in order to comply with the polluter-pays-principle, and the current estimates of requirements and costs, particularly for institutional strengthening and investment.

## ANNEX VI.E: IPC AND RISK MANAGEMENT SECTOR

Scope and approach

The general approach was to identify relevant sector EU Legislation to be covered, perform initial priority among selected directives, perform gap analyses using various analyses tools, draft all actions needed for a full approximation, get key findings validated by the Working Group, combine validated actions into groups of action (institutional development, technical assistance, and capital investments), and carry out logic prioritization. Within the process of developing this Sector Approximation Strategy (SAS) there was an active involvement of all stakeholders through the Working Group, and proper consideration has also been taken to the existing national strategies and plans dealing with relevant sector issues.

The EU directives covered in this SAS are the main IPC EU legislation, in particular IPPC Directive (96/61/EC), Large Combustion Plants Directive (2001/80/EC), SEVESO Directive (96/82/EC), VOCs from Solvents Directive (1999/13/EC), VOCs from Petrol Directive (94/63/EC, EPER Decision (2000/479/EC) / EPRTR Regulation (EC 166/2006), EMAS Regulation (EC 761/2001), and Eco-label Regulation (EC 1980/2000).

Present situation

In the last several years, significant part of the IPC relevant EU legislation were transposed into the national legislation and several international Conventions and Protocols were ratified. Several policy documents were also adopted of which some of the more important are the Second National Environmental Action Plan (NEAP II, 2006), Vision 2008 (2004), National Environmental Health Action Plan (NEHAP, 1999), Physical Plan of the Republic of Macedonia (2004), and strategies on Energy Efficiency (2004) and Environmental Monitoring/Awareness/Data Management. Some additional policy documents are being prepared or are planned, of which the most relevant for the IPC Sector are the National Strategy for Sustainable Development with Action Plan (to be adopted 2008) and the National Strategy for Protection and Rescue for the Republic of Macedonia (still in the very early phase).

One of the main principles in the EU Decision on the Principles, Priorities and Conditions Contained in the European Partnership with Republic of Macedonia (2006) and supported by NEAP II, is the principle of “integration of environmental protection requirements into other sectoral policies”, which start to be more and more acknowledged and practiced by all Competent

Authorities in the country.

The Ministry of Environment and Physical Planning (MoEPP) is the the main responsibility for preparing and adopting all legal instruments to complete full transposition of the EU Directives of the IPC Sector and for the implementation of these and any relevant international agreements ratified / adopted by the state.

The legal framework covering the IPC sector comprises the Law on Environment, Law on Ambient Air Quality, Law on Courts and Law on General Administrative Procedure. The transposition of the IPPC Directive (96/61/EC) is advanced, but there are still a few outstanding issues. The Large Combustion Plants Directive is not yet fully transposed and is not advanced. The transposition of the SEVESO Directive (96/82/EC) is not advanced, and the VOCs from Solvents Directive (1999/13/EC) is in a very early stage of transposition, whilst the VOCs from Petrol Directive (94/63/EC) is not yet transposed.

A-IPPC installations are obliged to implement BATs, and the legislation for Large Combustion Plants (LCPs) is seeking potential emission reduction through assessment of BATs. Volatile Organic Compounds (VOCs) emitting installations / activities may be subject to A/B-permitting, but some shall be regulated under other legal provisions. An inventory of IPPC installations showed that around 140 installations are subject to A-permitting and approximately 260 to B-permitting. A very rough estimate of the number of VOCs installation in the country is around 300 installations. The presence of VOC products and potential sources of VOCs on the national market has not been assessed.

The general concept of implementing the Large Combustion Plants Directive (2001/80/EC) is used for the sector as a whole, offering two permit options: an A-IPPC Permit or an Adjustment with Adjustment Plan (AwAP) Permit. The latter option gives the operators of the IPPC installations an opportunity to comply with the requirements of the A-IPPC Permit in a timeframe agreed with the MoEPP.

There are three important issues to be dealt with in the implementation of the EU IPC legislation in the Republic of Macedonia. The first is to get harmonized the national ELVs with the ones of the EU Directives. The second is to get clarified the definition of the border line between existing and new LCPs. The border line according to the LoE is 1st of July 2007, whilst it is 1st of July 1987 in the Large Combustion Plants Directive (2001/80/EC). There are some LCPs in the Republic of Macedonia that should be identified as new according to the Large Combustion Plants Directive (2001/80/EC) and as existing according to the LoE. The third is to which extent the used methodologies, tests, analyses, equipment, and knowledge and skills of human resources are suitable for reliable monitoring.

IPPC installations are required to apply for an A/B-IPPC or AwAP Permit before end of 2008 and LCPs before end of 2006. At present, the MoEPP should have received more than 60 applications from A-IPPC installations, but have only received 21. The situation is not better regarding the applications for B-IPPC Permits. The problem originates from the fact that neither type of installations have capacities to prepare the applications, either has the Competent Authorities sufficient staff and skills to handle this number of applications at present. Of the LCPs only two have applied. There is up to now not issued any permits to any of the installations which have applied.

Guidance notes on BATs for all installation categories have been prepared (CARDS 2004) following the guidelines of EU BREFs. The BREFs has not yet been fully adopted by the MoEPP (estimated as too expensive), even though the BREFs may offer benefits relevant for many IPPC stakeholders.

The adoption of the requirements of the SEVESO Directive (96/82/EC) has not started yet, but

according to Law they should be implemented in the period 2009-2011. The Law also requires operators of industrial installations to prepare contingency plans; however, it does not seem that these plans fulfill the requirements of the Directive and that they actually have been implemented.

Nothing has so far been started in the area of VOC installations / activities, as well as in the area of implementing the EPER / EPRTR and EMAS Regulations. However, some activities have started in relation to establishing criteria and to establish a Commission for awarding national eco-label for environmentally friendly products (a promotional step and incentive to apply for the EU eco-label).

According to the lately approved organizational set-up of the MoEPP, a separate Department for Industrial Pollution and Risk Management (including divisions for IPPC, Chemicals and Industrial Accidents, Risk Management and Atmosphere, and Monitoring) will be established. In addition, the MoEPP is committed to strengthen the existing IPC supporting departments / bodies within the MoEPP. However, the establishment of a Scientific-technical Commission on BATs and an IPPC List of Experts is still pending. Emergency plans of systems involving dangerous substances are according to Law the responsible of the Direction for Protection and Rescuing (an independent body of the state administration).

MoEPP (MEIC) has established a database on air pollutants from stationary sources and fugitive emissions (including VOC emissions). The CORINAIR methodology for inventorying has been used since 2005. Emission dispersion modelling techniques are still not used, but it is expected that the on-going Finnish Twining Project will introduce dispersion modelling. Some industrial installations have their own on-line monitoring of emissions, but lack of agreed methodology, data validation, and quality assurance makes the results somewhat questionable. Cadastre of polluters, encompassing emissions in all environmental media and areas, is under preparation, and may be used as data source for EPER / EPRTR.

Regular inspection of the IPPC installations and annual reporting is required by Law. In the State Inspectorate for Environment (SIE) 13 inspectors are employed, each covering a number of A-IPPC installations. However, the technical skills of the staff are still not adequate to be able to cover the whole spectrum of industrial activities. Regarding inspection of the System for Protection and Rescuing, a General Inspector is appointed by the Direction for Protection and Rescuing.

The LoE was in 2007 amended devoting great attention to the revision of the enforcement measures in order to make them effective, proportionate and dissuasive. The misdemeanors are divided in three categories and breaches of the provisions covering the IPC Sector, fall in the highest category.

The MoEPP, the City of Skopje and municipalities have responsibility to inform the public throughout the whole procedure of IPPC permitting and hold public consultations when necessary. Hard copies of the applications of the pilot and other companies are available at the Public Relation Office, and a few applications for the AwAP Permit can be found on the MoEPP web site. Public information and consultation on Emergency Plans it is expected to be performed after the start of implementation (2009-2011) of the SEVESO Directive (96/82/EC).

It is the responsibility of the MoEPP to report to EU Commission on the implementation of IPC Sector directives. The MoEPP feel very confident in regard its ability for competent reporting, even in 2009 on air emissions, as CORINAIR and SNAP already has been introduced and experience has been gained from regular reporting under the Convention on Log Range Transboundary Air Pollution.

To comply with the requirements of the EU IPC legislation will be very costly, the great majority of these costs being for the installation of abatement plants or the upgrading of existing

equipment and practice. A lot of preparatory (less costly) work has been done, but the great majority of the required investment (in particular technical measures) still remains to be made.

Priorities for transposition

The LoE is considered as the appropriate legal instrument to complete transposition of the EU legislation in the IPC Sector, with the adoption of secondary legislation. This Law regulates also the Environmental Impact Assessment (EIA) procedure and comprises public information and consultation obligations that are applicable both to the IPPC Directive (96/61/EC) and the SEVESO Directive (96/82/EC). It seems that one legal act can best integrate the obligations of all those directives where connections in procedures are found. Secondary legislation can accommodate more technical and detailed obligations that could also be easily amended. In the short term an amendment of the current LoE is needed to enable adjustments to be made for the IPPC Directive (96/61/EC) and the SEVESO Directive (96/82/EC). In addition, the soon expected adoption of a Decree on the amount of the compensation to be paid by operators of AIPPC installations and on the criteria and the manner of determining and calculating the compensation for B-IPPC installations will complete the legal framework dealing with the issuance of integrated environmental permits. As per the SEVESO Directive (96/82/EC) the process of preparation and adoption of secondary legislation will be the main activities in the coming 2-3 years. Technical and detailed issues, such as the content of internal and external emergency plans, procedures for their approval, limit values and criteria applied to classify a substance as dangerous, will be regulated. In regards to the VOCs from Solvents Directive (1999/13), changes and amendments to the Law on Ambient Air Quality and preparation of Rulebooks will be the main tasks to be carried out within 1-2 years.

Priorities for implementation

The strategy for the implementation of the directives in the IPC Sector is to give highest priority to the directives which implementation will result in expected highest benefit for human health and the environment. Based on that principle, the highest priority is given to the IPPC Directive (96/61/EC), the Large Combustion Plants Directive (2001/80/EC), and the SEVESO Directive (96/82/EC). The strategy is to use the IPPC Directive (96/61/EC) as the central directive as to reduce the impacts from all industrial activities in the country. The institutional setup around the IPPC Directive (96/61/EC) will make it possible to use the same administrative resources for other industries and polluters than IPPC installations, as required. Another reason to make the IPPC Directive (96/82/EC) the focus point in the IPC sector strategy is that this Directive automatically will regulate all LCP facilities, all SEVESO installations, some of the facilities for storage of petrol and diesel fuel, and many of the larger VOC emitting installations.

The most important future tasks for the full implementation of the IPPC Directive (96/61/EC) and the Large Combustion Plants Directive (2001/80/EC) are to produce the required Rulebooks. Also important is to provide information on BAT and translation of BREF or reference list to EU BREF notes, and to provide training of central and local authorities in making IPPC permits and in inspection and control of enterprises. Finally is required a permitting plan and compliance plan for all enterprises and LCP's, and certified laboratories

Next to the IPPC Directive (96/61/EC) that covers a high number of facilities, the Large Combustion Plants Directive (2001/80/EC) has the highest priority as the LCP's in the country are major air polluters and need costly upgrading to comply with the emission limits and with the principles of BAT. This will naturally be a process that need take place over some years, but an early start op is very important to reduce the air pollution level in the country.

All SEVESO installations are also IPPC installations, which mean that all conditions in relation to safety will be written into the IPPC permit. For the practical implementation of the SEVESO Directive (96/82/EC), it will be necessary to produce a number of Rulebooks and to prepare a

plan for risk analysis, permitting plan and compliance plan for all SEVESO enterprises.

Emissions of VOCs from industrial activities and emissions from LCPs can be regulated either by making a National Emission Reduction Plans (NERPs) or on individual basis for each facility (chosen in the Republic of Macedonia). In the latter case each facility must be registered and conditions for emissions must be given and controlled for each facility.

The VOC directives (1999/13/EC and 94/63/EC) are given next highest priority as the country has quite high concentrations of ozone. VOC's are precursors for ozone formation and it is thus important to reduce the overall VOC emissions, which is effectively achieved by proper implementation and enforcement of these two directives. The most important tasks for the implementation of the Directive are to prepare Rulebooks/Guidelines for practical implementation. Furthermore, a permitting plan and compliance plan should be made for all installations.

The EPER / EPRTR register and a report generator will together with the integrated register for all emission sources in the country form at good background for following the future reduction in emissions and hereby the reduced impacts on the surroundings. The two regulations, EMAS and Eco-label (EC 761/2001 and 1980/2000), are given the lowest priority in the IPC sector. It is expected that those two regulations will not have the primary focus for the industry compared till more important investmens as to comply with present and future regulation are in place. For these regulations, the most important tasks are to produce guidelines for Competent Authority on product control in production facilities and end user facilities, and establishment of an administrative unit to handle these regulations.

It is strongly recommended that an integrated administrative unit with the responsibility and power to coordinate all activities that has influence on the proper implementation of the IPC sector be formed in the MoEPP.

Priorities for investment

The total costs of legal transposition and implementation of the legislation are €1166 million in capital (one-off) costs and €84 million in operating (recurrent) costs. These costs are very large (but also subject to significant uncertainty) and will represent a major challenge for the country. The IPPC Directive (96/61/EC) and Large Combustion Plants Directive (2001/80/EC) between them account for 95% of the costs for the entire sector. An extremely small proportion of the total costs are attributable to the legal transposition, and most of this relates to technical assistance to support the necessary legislative drafting. No extra manpower is considered necessary at MoEPP, but the existing personnel will require training and some enhancement of facilities. Personnel-related implementation costs amount to €1.3 million p.a., corresponding to additional human resource requirements of 52 persons, together with a one-off expenditure of €414,000 for training and equipment. Technical assistance projects with a value of €10.6 million will be required to support implementation. Implementing the IPC sector legislation is very capital-intensive as total capital investment amounts to over €1 billion. The operating costs of the capital equipment amount to €83 million p.a. nearly all of this relates to the technical modifications required by various types of industrial plants to make it compliant with EU legislation. The overwhelming majority of the costs (over 99% of the capital costs) will fall in the first place on industry. LCPs account for a total of €745 million, corresponding to nearly two-thirds of industry's total capital costs. Most of the capital / one-off costs for actions for which the MoEPP is responsible relate to technical assistance and training (€5.5 million out of €6.5 million). Similarly most of the operating costs relate to the salaries and salary-related costs of the new staff they will have to take on.

The capital expenditure will be spread fairly evenly over a 13-year period with an annual average investment of about €90 million. Technical assistance grows steadily in the first four years, and

falls away sharply thereafter. The capital costs account for the major part of the total costs in the early years, but the operating and recurrent costs gradually build up until the operating / recurrent costs have reached a level comparable with the annual investment during the investment period (when the capital investment programme is complete). The capital investment will include major new installations that will have to be coordinated with companies' investment programmes which they will anyway be undertaking to modernise their operations and make them more competitive and viable.

The approach to financing will depend on the type of cost involved. All operation costs of government departments and temporarily employments will have to be met from the state budget (but could be recovered from fees). For technical assistance grant funding should be sought from the international donor community (e.g. IPA). One-off costs related to new personnel should be bundled-in as part of the various capacity building projects and funded by the international donor community. For capital items potential grant funding should be sought, otherwise these costs will have to be met from the state budget. One-off costs of the municipalities will have to be met from the municipal budgets, whilst the costs of the industry will have to be raised by the industry itself.

Sector approximation plan

The overall plan to obtain full approximation consists of legal transposition and implementation (including enforcement) actions. The legal transposition is composed of 9 actions (refer Table 6), which have been compiled into three main categories of actions (see table below). The implementation (incl. enforcement) is composed of 65 actions (refer Table 9) which have been compiled into three main categories of actions (see table below). The milestones of the overall sector approximation plan are given in the table below (starting in year 0 – actual start will be determined in the National Environmental Approximation Strategy).

| Overall Sector Approximation Plan | | Start (year) | End (year) |
|---|---|---|---|
| Legal transposition | - Decrees | 0000 | 0000 |
| | - Rulebooks | 0000 | 0001 |
| | -Amendments / Changes | 0000 | 0000 |
| Implementation and Enforcement | - Institutional Set-up | 0000 | 0008 |
| | - Technical Assistance | 0001 | 0006 |
| | - Capital Infrastructure & Operation | 0001 | 0013 |

The full implementation, control and enforcement of the IPC Sector directives will have a substantial positive effect on human health and the environment. The major benefits of compliance are substantial positive effect on air quality, water quality of recipients, and reduction in ozone concentration. Other major benefits are reduction of the number of respiratory related deceases, increase of the average life duration, reduction in forest degradation and acidification, and improvement of crop yield. Finally can be mentioned higher efficiency in heat and power supply and other industrial activities, and improved economy (reduction of economic losses and improved ability to compete).

The most important key issue for a successful implementation of the EU IPC legislation is whether it will possible to establish a well functioning control and enforcement unit. A high number of environmentally and industrial experts have to be employed and trained, and certified laboratories for control of emissions from enterprises have to be established. It is also very important that an integrated administrative unit be established in the MoEPP and that this unit also are responsible for an integrated national plan for air quality to secure efficiency.

# ANNEX VI.F: NATURE PROTECTION AND FORESTRY SECTORS

Scope and approach

The general approach consists of identification of EU Legislation on nature and forestry to be covered, perform the first priority among these EU Directives, usage of different analyses tools in order to perform gap analysis, drafting all actions needed for a full approximation, validation of the key findings by the Nature and Forestry Working Group, and carry out logic prioritization. There was an active involvement of stakeholders through the Nature and Forestry Working Group, and proper consideration was also taken to the existing national strategies and plans dealing with Forestry and Nature issue.

The EU directives covered in this sector strategy are the main nature and forestry EU legislation, in particular the Habitats Directive (92/43/EEC), Wild Birds Directive (79/409/EEC), Endangered Species Regulation (EC 338/97), Zoos Directive (1999/22/EC), Leghold Trap Regulation (EEC) 3254/91, and Monitoring of Forests Regulation (EC 2152/2003). Also several relevant international agreements have been covered in this sector strategy.

Present situation

The medium-term policy in Vision 2008 envisages undertaking of reforms aimed at improved nature protection through implementation of the Law on Nature Protection, development of a National Strategy for Nature Protection, and plans for protected areas management. The Spatial Plan of the Republic of Macedonia (2002), Sectoral Study on Natural Heritage Protection, is a strategic development document, specifying areas and objects of nature that based on the basic social values are preserved as the most important natural heritage of national significance. The Strategy for Biological Diversity Protection and the Action Plan (2004) provides a strong national expert based foundation, which defines the overall vision and goals of biological diversity protection and represents an integrated framework based upon a series of strategic components and approaches. In 2006 the second National Environmental Action Plan (NEAP II) was adopted addressing also very important national policy issues related to the nature conservation, and the necessity to protect nature and biodiversity. There are also several documents regarding forest and development of forestry in the country, including the Strategy for Sustainable Development of Forestry in the Republic of Macedonia (adopted in 2006). All these policy documents reflect international and especially EU policy in the nature conservation sector, including international and European conventions/agreements ratified by the Government.

As regards the competencies in the Nature and Forestry Sectors, the Ministry of Environment and Physical Planning (MoEPP) enjoys full responsibility for the management and supervision in the field of protected areas and protected species, whilst the Ministry of Agriculture, Forestry and Water Economy (MAFWE) is responsible for forest management and protection, and the regulation of the fields of hunting, fishing and plant protection. As regards the competence in the area of wild birds protection institutionally both of these ministries have responsibilities.

National parks will according to Law be transformed into National Park Institutions to be responsible for the management of national parks. The administrative supervision over their operations will be conducted by the MoEPP.

The legal basis for nature protection is found in the Constitution, the Law on Environment, international agreements signed or ratified by the country and laws regulating the use of certain natural resources. Most of the EU legislation on nature conservation has been transposed in the Law on Nature Protection, which also contains obligations from relevant ratified international agreements. Full implementation of the Law will be achieved only after adopting several by-laws. The status of transposition of the Habitats Directive (92/43/EEC) is not at an early stage but there are still a lot of requirements pending full transposition. The transposition of the Wild Birds Directive (79/409/EEC) is not advanced as the existing legal framework (the Law on Nature

Protection and the Hunting Law) are not fully in compliance with the Directive's requirements. The transposition of the Zoo Directive (1999/22/EC) is hardly started as only one provision is transposed.

Regarding implementation, the MoEPP is the main responsible institution for nature protection and monitoring, including protected areas and protected species. However, all important natural resources are still controlled by other ministries, e.g. waters, forests, game species, etc. This situation creates lot of inconsistencies since these resources are not treated as ecosystems supporting large portion of biodiversity. Management of these resources (especially waters) in protected areas is usually under dual (or triple) jurisdiction. The capacity for implementation of EU legislation of the Nature Sector in the MoEPP (and other ministries and institutions) is low. This is mainly due to understaffed departments and different approach toward nature conservation. The Competent Authority for implementation of EU nature conservation requirements has not been established yet, and it is rather important to get established such body soonest possible.

Most of the general legislation needed for implementation of the EU requirements in the Nature Sector has been adopted so far. However, not much attention has been paid on the implementation of the newly established laws as secondary law are not adopted, institutional set-up is not in accordance to the new demands, no measures for staffing and equipment is undertaken, no mapping of habitats, etc.

The current network of protected areas in the country includes 3 national parks, which have well established management systems, including a management authority and management plans, but there is no formal provision for management of other protected areas, which has no management plans and few scientific data. The existing system of classification and categorisation of natural rarities has not been harmonised with international standards, and it is therefore important to re-evaluate and re-categorise existing protected areas as required by the new Law. The Country Study recommends that an additional 39 natural properties (including 2 national parks and 9 strict nature reserves) be included in the system of protected areas. Up to now 6 Areas of Special Conservation Interest were proposed and analysed (30% of the total national EMERALD network) and currently additional 10 sites are proposed (covering 80% of the network).

The Law on Nature Protection provides for declaring "Protected Species" and "Strictly Protected Species", however, no species has been classified so far (due to the lack of Red Lists / Data Books for threatened species). The only protection is stipulated in the Law on Hunting. Action plans for management and conservation of threatened species are only elaborated for vultures (Balkan Plan). Several actions were undertaken in the MoEPP for the species listed for the need of regulation of their trade, mainly due to the obligations of the CITES Convention. Lack of sufficient and adequate information for habitat types, distribution of habitats and species, vegetation maps, etc. is also lacking, and there is no systematic GIS system and data base for presentation of data.

Not much has been done concerning implementation of the Monitoring of Forest Regulation (EC/2152/2003), and not all aspects are covered (especially biodiversity part). The responsible institutions are the MAFWE, Public Enterprise "Macedonian Forests", Faculty of Forestry, Ministry of Interior, etc., but there is not any proper co-ordination and a Competent Authority has not been appointed. Implementation of the Zoos Directive (1999/22/EC) has not started since the legislation for this has not been transposed yet. Administrative responsibility for management of Skopje Zoo lies in city administration, which complicates the implementation. However, many activities aiming to improve animal environment in the zoo have started recently and they are in compliance with the Directive.

To date there has been only limited investment in the nature sector in the country. Only two

people have been appointed in the MoEPP to work (part-time) on nature protection and conservation issues. A small number of Technical Assistance (TA) projects, which directly or indirectly have resulted in the protection of nature, have in recent years been implemented.

Priorities for transposition

The transposition of the Habitats Directive (92/43/EEC) is a priority as it sets out a comprehensive network of protected areas. The Wild Birds Directive (79/409/EEC) is interconnected and also a priority. To achieve full transposition of these two directives, amendments in the existing Law on Nature Protection and Hunting Law have to be conducted to introduce the obligations of these two directives not yet fully transposed in the Laws. Appropriate legal basis should be included in the two Laws to enable the adoption of secondary legislation. Annexes found in the two directives as well as detailed procedures should be provided through secondary legislation. Due account should be taken to avoid conflicts or overlaps with other existing legislation. One option to consider is whether this secondary legal act should remain a rulebook (approved by the MoEPP) or should be changed into a Decree (adopted by the Government).

The actions to be taken for transposing the Wild Birds Directive (79/409/EEC) will require consultations between the MoEPP and MAFWE. The existence of two laws issued by different ministries can create problems in the proper transposition of the said directive. A thorough legal review will need to be undertaken for both Laws in order to avoid duplications that might jeopardise the legal certainty. As regards secondary legislation, preparation and adoption should comprise both Ministries.

Short-term priorities are to amend the Law on Nature Protection and harmonise it with the Law on Misdemeanour in order to introduce direct charges along with the Law on Hunting. In addition, a proper legal framework to enable the implementation of the CITES Convention should be adopted. Currently a Decree on trade of wild species has been drafted but not adopted, as there is need for a better legal basis to be included in the Law on Nature Protection. The adoption of this Decree will enable a better alignment with the provisions of the CITES Convention and enable its proper implementation. Medium-term priorities are adoption of secondary legislation for the two directives as well as an amendment of the Law on Forest to facilitate proper implementation of the Monitoring of Forest Regulation (EC) 2152/2003.

Priorities for implementation

The strategy for achieving full compliance with the directives/regulations of the Nature Sector is divided into 2 phases: a preparation phase and an implementation phase. In the preparation phase, legal reforms to support the implementation are completed, the necessary institutions are established and strengthened, information systems are installed, and surveys undertaken to determine precisely the level of compliance already achieved and the additional work required to secure full compliance. In the implementation phase, the institutions undertake and monitor the programme of work that will secure full compliance. Regarding the preparation activities, some important secondary legislation remains to be passed to ensure that the primary legislation can be implemented. The MoEPP will also require a new dedicated NATURA 2000 unit with a trained core of professional biologists, due to the heavy demands and technical nature of managing the Natura 2000 network and other nature conservation measures. The unit as a whole will need to establish cooperative links with other departments, universities and expert NGOs. The division in the MoEPP, covering public relations, public awareness and education, should work closely with the NATURA 2000 unit.

A principal task for implementation is to identify and designate protected areas. It may be necessary to reclassify state land or purchase private land for this purpose. A second task is to prepare remaining management plans for protected areas and action plans for conserving species. The preparation and implementation of management and action plans will extend over a 10-15

year period, but can partially overlap with the preparation phase. Procedures for establishing databases for habitats, forests, species and CITES are included in the implementation plans. The databases should be linked to a GIS. The databases shall include information gathered from extensive surveys and mapping programmes. Most of the preparation phase can be completed in 1-2 years but the mapping and subsequent gap analysis is expected to take 4-5 years.

Priorities for investment

The total costs of legal transposition and implementation of the EU legislation within the two sectors are €20 million in capital (one-off) costs and €11 million in operating (recurrent) costs. The Habitats Directive (92/43/EEC) and Wild Birds Directive (79/409/EEC) account for about 90% of these costs, mainly because they involve the identification of a large network of national 'Natura 2000' sites and the drafting and implementation of management plans for these sites, as well as the establishment of conservation measures and the associated data collection. Only a very small proportion of the total costs (about €850,000) are attributable to the legal transposition, and most of these costs relate to technical assistance to support the necessary legislative drafting. The recurrent costs are dominated by the salaries and other salary-related costs of over 420 new jobs, which mainly will be required to maintain and conserve the 100 protected areas assumed to be established. There will also be a one-time cost of €220,000 for initial training and equipment for new personnel. Technical assistance projects with a value of over €15 million will be required over the years to support implementation. The capital / one-off costs of nearly €4 million include upgrading of Skopje Zoo, CITES facility at Skopje Zoo, closure of Bitola Zoo, acquisition of land, and forest monitoring facilities. The capital (one off) cost for MoEPP is about €18.3 million, whilst the operating (recurrent costs) is €10.9 million (including the 420 new personnel).

The Nature Sector involves ambitious, large-scale programmes, which is expected to take about 16 years from the time of commencement. Although in the very early years the capital costs are significant, by year 8 the costs are predominantly operating costs, particularly the salaries of the large numbers of new personnel.

The approach to financing will depend on the type of cost involved. All operation costs of government departments and temporarily employments will have to be met from the state budget (but could be recovered from fees). For technical assistance grant funding should be sought from the international donor community (e.g. IPA). One-off costs related to new personnel should be bundled-in as part of the various capacity building projects and funded by the international donor community. For capital items potential grant funding should be sought, otherwise these costs will have to be met from the state budget. Operating costs for the zoos will have to be covered through sound business management, whilst grant funding should be sought for their capital costs or be met from the budget of the LSGUs concerned.

Sector approximation plan

The overall plan to obtain full approximation consists of legal transposition and implementation (including enforcement) actions. The legal transposition is composed of 17 actions, and the implementation (including enforcement) is composed of 53 actions. The milestones of the overall sector approximation plan are given in the table below (starting in year 0 – actual start will be determined in the National Environmental Approximation Strategy).

| Directive | Overall Approximation Plan | Start (year) | End (year) |
|---|---|---|---|
| Habitats Directive (92/43/EEC) | Legal Transposition | 0000 | 0002 |
| | Implementation and Enforcement | 0001 | 0009 |
| Wild Birds Directive (79/409/EEC) | Legal Transposition | 0000 | 0009 |
| | Implementation and Enforcement | 0000 | 0016 |

| | | | |
|---|---|---|---|
| Endangered Species Regulation (EC 338/97) | Legal Transposition | - | - |
| | Implementation and Enforcement | 0000 | 0003 |
| Zoo Directive (1999/22/EC) | Legal Transposition | 0001 | 0002 |
| | Implementation and Enforcement | 0001 | 0012 |
| Leghold Traps Regulation ((EC) 254/91) | Legal Transposition | 0001 | 0001 |
| | Implementation and Enforcement | 0002 | 0002 |
| Monitoring of forests Regulation (EC) 2152/2003 | Legal Transposition | - | - |
| | Implementation and Enforcement | 0000 | 0008 |

The principal benefit will be an enhanced network of protected areas and associated administrative system that preserves and restores the country's natural heritage, thereby conserving the natural wealth of the nation for present and future generations. At the economic level, a vibrant natural heritage offers a platform on which to build eco-tourism, a low-impact brand of tourism suited to small-scale service developments that provide employment and benefits to rural communities often living in remote areas. Hence the economic developments associated with eco-tourism, though small compared to some other sectors, are important because of their focus on alleviating rural poverty and engendering economic sustainability. The rural economy also relies extensively on the utilization of wild living resources.

Whilst the use of many wild living resources may be small in economic terms, they still contribute immensely to the diversity of culture, livelihoods and lifestyles. Furthermore, wild living resources may have an appreciable economic impact through the livelihoods afforded to small-scale users with associated benefits from their contribution to the nutrition, health and leisure of the rural populations.

A key issue impacting on successful implementation of the strategy is ministerial rivalry. Otherwise, the main uncertainty over implementation is whether there is sufficient interest of the Government to drive through the necessary institutional reforms and the steps designed to build capacity.

## ANNEX VI.G: CHEMICALS SECTOR

Scope and approach

The general approach consists of identification of EU Legislation on chemicals to be covered, perform the first priority among these EU Directives, usage of different analyses tools in order to perform gap analysis, drafting all actions needed for a full approximation, validation of the key findings by the Chemicals Working Group, combining validated actions into groups of action (institutional development, technical assistance, and capital investments), and logic prioritization. Within the process of developing this Sector Approximation Strategy (SAS) there was an active involvement of all stakeholders except the Ministry of Health (MoH), and proper consideration was also taken to the existing national strategies and plans dealing with the chemicals issue.

In parallel with the drafting process of this SAS there was an ongoing EU process of adopting the new EU legislative framework policy REACH, which are entering into force on 1 June 2007. The REACH will replace over 40 existing directives and regulations. At the time the gap analysis was performed on this project, REACH was still in a draft version and it was agreed with the Ministry of Environment and Physical Planning (MoEPP) to base the SAS on the EU legislation in force. However, the main obligations and requirements of the EU legislation in force at that time are basically adopted in REACH and are therefore still applicable.

The EU directives covered in this SAS are the Classification, Packaging and Labelling of Dangerous Substances Directive (67/548/EEC) as amended, Ozone-Depleting Substances Regulation (EC 2037/2000) as amended, Animal Experiments Directive (86/609/EEC) as amended, Asbestos Directive (87/217/EEC) as amended, Risk Assessment Regulation (EC 793/93) as amended, Import and Export of Dangerous Chemicals Regulation (EC 304/2003) as amended, Biocides Directive (98/8/EC) as amended, and Classification, Packaging and Labelling of Dangerous Preparations Directive (1999/45/EC).

Present situation

As there is no framework law on chemicals in the Republic of Macedonia, the development of a new Law on Chemicals was started up in 2006 and is currently ongoing. Also ongoing is the establishing of a sound chemicals management system in order to prepare the Republic of Macedonia for the new REACH Chemicals Management System.

The country has been a party to the Stockholm Convention on Persistent Organic Pollutants (POPs) from March 2004. Prior to the ratification, a National Implementation Plan on the Reduction and Elimination of POPs was prepared. The Vienna Convention and Montreal Protocol and its amendments have also been ratified. The Country Programme for Phase-Out of Ozone Depleting Substances has been implemented during the past 8 years (reducing 90% of the total consumption of ozone depleting substances in the country). The country has not acceded to the Rotterdam Convention on Prior Informed Consent (PIC).

The distribution of competences concerning the management of chemicals among involved institutions is at present not clearly defined. The MoEPP is responsible for chemical management and for establishing and regularly updating the register of pollutants and their characteristics. The MoH is responsible for the management of toxic substances and for issuing permits for import of poisons, and decides on the list of poisons to be released for trade. Registration of poisons is approved by the Poisons Commission (within the MoH), and the Agency of Drugs (within the MoH) is responsible for accepting notifications, risk assessment and classification of chemicals. The evaluation and classification of drugs is made upon proposal of the Committee on Chemicals. The Agency of Drugs is planned to be responsible for accepting notifications on new substances which have not been previously registered and for monitoring the quantities of chemicals being placed on the market. The Ministry of Agriculture, Forestry and Water Economy (MAFWE) is responsible for pesticides used for plant protection. They also publish the List of Plant Protection Materials approved for circulation within the country and keep registration of the plant protection products. Faculties and Institutes are responsible for toxicity assessment for all chemicals and substances used in agriculture sector (pesticides) as a pre-sales condition and perform legal and technical assistance. The Republic Institute for Health Protection performs chemical analyses of chemical substances. The laboratory within the Faculty of Pharmacy is accredited for chemical analysis and performs laboratory analysis of poisons and issues a decision on the categorization of the poisonous chemical substances in the poisons group. The Faculty for Agricultural Science and Food / Institute on Agriculture issue opinion for biological efficiency for pesticides used for plant protection. The private sector is responsible for the implementation of all requirements by the legislation and is giving suggestions in relation to drafting laws and by-laws within the chemicals sector.

There is no framework law on chemicals regulating the management of chemicals in line with EU legislation, but there is specific legislation on inflammable and explosive substances and on precursors. There is no specific legislation on biocides and the national legislation also needs to be aligned with EU legislation on import and export of chemicals and transposing the Rotterdam Convention on Prior Informed Consent. Therefore, the preparation of a Law on Chemicals was started and is currently underway with the aim to fully align with the EU legislation.

Transposition of the Dangerous Substance Directive (67/548/EEC) and the Dangerous Preparation Directive (1999/45/EC) is still at a very early stage. The legal transposition of the Asbestos Directive (87/217/EEC) is also at an early stage, even though there is a new Rulebook on Asbestos Waste Management and Waste Products that Contain Asbestos. The obligations and requirements of the Biocides Directive (98/8/EC) concerning the placing of biocides products on the market are not yet transposed. The draft Law on Chemicals needs to be amended, but it provides only in some cases a legal basis for secondary legislation. No provisions are found in the draft Law on the provisions related to protection of animals in accordance with the Animal Experiment Directive (86/609/EEC).

Major efforts will be needed to implement and enforce the chemical legislation effectively. There is no official register of chemicals meeting EU requirements, although there is a register of poisons and a list of plant protection materials, both of which, however, need to be aligned with the requirements of the acquis. There is no Competent Authority for the notification of "new" substances. There is no single data collection and risk assessment procedure for chemicals in conformity with EU legislation, and there is a lack of integrated chemicals management. The distribution of responsibilities concerning the management of chemicals among the involved institutions is not clearly defined.

The implementation of the Dangerous Substances Directive (67/548/EEC), Dangerous Preparations Directive (1999/45/EC) and Biocides Directive (98/8/EC) has not started yet, but some institutions are responsible for functions more or less similar to those mentioned in these directives. It is planned which ministries will be responsible for some of the obligations of these directives whilst other obligations are not planned yet. It is planned to present a draft act to the parliament covering these directives (mid-2007). More progress has been accomplished in respect to the Ozone Depleting Substances Regulation (EC 1037/2000). A national programme for the elimination of substances that deplete the ozone layer was adopted in 1996, but there is no regulation for managing ozone depleting substances or for enforcement, and no system for placing ozone depleting substances on the market or for inspecting ozone depleting substances. It is planned to draft a Regulation on Ozone Depleting Substances (end-2007). No implementation has been taken place on the Asbestos Directive (87/217/EEC), Animals Experimental Directive (86/609/EEC), Risks of Existing Substances Regulation (EEC 793/93), and Export and Import of Dangerous Chemicals Regulation (EEC 2455/92).

Investment in this sector has not yet started in earnest, except for the Ozone-Depleting Substances Regulation (EC 1037/2000). There is presently an 'Ozone and POP unit' (6 people) within the MoEPP preparing and implementing the country's response to ozone-depleting substances funded by the Multilateral Fund of the Montreal Protocol, which has also funded a refrigerant management plan and a project for the phasing out of methyl bromide in the agriculture sector. The Swedish SIDA has been considering funding a technical assistance twinning project, which will include many capacity-building activities necessary for the implementation of the legislation on chemicals.

Priorities for transposition

In the light of the adoption of REACH, it is recommended to adjust the current draft Law on Chemicals to REACH in the areas of evaluation, classification and labelling of chemicals and take into account the reverse burden of proof that lies with the producer. The effects of the implementation of REACH should be carefully assessed before adoption of the legislation, and it is important to provide the necessary institutions adjustment time, training and awareness. The short term priorities are the adoption of the draft Law that will provide the basis for the further transposition of the chemicals legislation. Definitions, allocation of responsibilities, main principles and general obligations are best fitted in the primary legislation. Thereafter, appropriate legal basis should be included in the Law that will enable the adoption of secondary legislation.

Annexes as well as detailed technical procedures should be transposed through secondary legislation. Due account should be taken to avoid conflicts or overlaps with other existing legislation. The Swedish Chemicals Agency (KEMI) has provided to the MoEPP their recommendations on the draft Law on Chemicals taking into account the adoption of the REACH proposal and the new Globally Harmonized System for the classification and labelling of substances. Their recommendations are to revise the base for Chapters I - IV of the draft legislation, to revise Chapter IV in relation to the exports of biocides products to the Republic of Macedonia from the EU, and to revise Chapter II (it contradict the REACH legislation). During the drafting and finalization of the draft Law the directives 1999/45/EC, 76/769/EEC and 2002/95/EC should be taken into account.

Priorities for implementation

The main implementation priorities are to designate the Competent Authorities; establish a procedure for the notification of new substances by manufacturers, importers and distributors and for authorisation of new biocides; establish measures to ensure that preparations are not placed on the market unless they comply with the EU legislation; establish a mechanism to ensure that all substances, preparations and biocides are packaged and labelled in accordance with the EU legislation and that manufacturers, importers and distributors provide safety data sheets; provide manufacturers, importers and distributors the required information to fulfil the requirements; establish a procedure for carrying out risk assessments; establish criteria for placing temporary restrictions on substances; and establish procedures and criteria for maintaining industrial and commercial secrecy.

KEMI has also provided some recommendations on the implementation of the REACH. In the approximation process it must be ensured that the country's manufacturers and importers fulfil future duties under REACH regarding deliveries of test data, evaluation, exposure scenarios and registration, and that industrial users get their use and exposures of substances identified. It has to be found out how to integrate the implementation and enforcement of REACH as the country cannot afford to get a full system meant for the whole EU to work within its domestic market. The establishment of a REACH imitating system could hamper approximation efforts if enforced. Industry and trade have to adapt to information based chemicals management before succeeding with efforts that approximate them to REACH. A first priority is to secure that harmonized systems for classification, labelling and safety data sheets gets into operation, which is a prerequisite for the breakthrough of chemicals risk management. Manufacturers and importers need to start to build up capacity and consciousness, sort out details of obligations, mobilize competences, etc. Chemicals users have to get aware of chemicals regulation and the obligations that are placed on their suppliers. Such a preparatory stage will be decisive for the success of enforcement of the chemicals legislation as a whole. The Global Harmonised System of classification and labelling should be established. The industry has to be acquainted to chemicals risk management and a vast numbers of small enterprises have to get alerted to its basics. A preparatory regulation for REACH could be introduced in due time before EU accession, establishing substance registration of a transitional nature. It could possibly be limited to the identity of the substance and of the company, the yearly volume of manufacture or import and a notification if a substance appears new to the EU. Importers should inform if imports are from the EEA or of another origin. Provisions could differentiate between substances that are possible to phase-in subsequent to the REACH-schedule and substances that are not. This regulation could lay the floor for industry and raise its awareness about substance registration. It would provide the industry and administration with an overview of manufacturers of chemical substances, importers of substances / substances in mixtures. It would also catch identities of substances in trade and their downstream use in a way that prepares industry for the REACH-system. Registry demands have to be proportional and should place a descent load on industry and administration although ensuring a necessary hold on the market situation. The proceedings of the EU should be

monitored and its authorisation decisions incorporated. EU restrictions and bans on marketing and use, replaced but repeated by REACH, should be incorporated.

Priorities for investment

The total costs of legal transposition and implementation of the EU legislation within the Chemicals Sector are €4.9 million in capital (one-off) costs and €14.5 million in operating (recurrent) costs. The overall costs are not particularly high which is partly because the country has only a modest chemicals industry. It is notable that the annual operating costs are in excess of the capital/one-off costs, which is because the most costly technical measures will be the increased cost of demolishing buildings as a result of the requirements relating to the removal and disposal of asbestos. Only a very small proportion of the total costs (about €300,000) are attributable to the legal transposition, one-third for technical assistance to the legislative drafting and two-thirds for personnel-related costs related to 12 person-years of input. Personnel-related implementation costs amount to about €600,000 p.a. in salaries and salary-related costs (corresponding to 22 persons), together with a one-off expenditure of €1.5 million for training and equipment. Technical assistance projects with a value of some €3.1 million will be required to support implementation. All the one-off costs are mainly attributable to the MoEPP and the MAFWE. Industry will sustain mainly recurrent costs (falling on the building industry) in connection with the demolition of buildings containing asbestos. The implementation can be completed over a three-year period with most of the one-off costs arising in the third year. The operating costs build up rapidly and will continue for many years until the legacy of asbestos in old buildings has been completely removed and safely disposed of.

The approach to financing will depend on the type of cost involved. All operation costs of government departments and temporarily employments will have to be met from the state budget. For technical assistance grant funding should be sought from the international donor community (e.g. IPA). One-off costs related to new personnel should be bundled-in as part of the various capacity building projects and funded by the international donor community. For capital items, potential grant funding should be sought, otherwise these costs will have to be met from the state budget. Operating costs for the industry (mainly building industry) will have to be met from the operating budgets of the industry concerned, but can be passed on in the prices paid by those commissioning the building works.

Sector approximation plan

The overall plan to obtain full approximation consists of legal transposition and implementation (including enforcement) actions). The legal transposition is composed of 16 actions, and the implementation (including enforcement) is composed of 30 actions. The milestones of the overall sector approximation plan are given in the table below (starting in year 0 – actual start will be determined in the National Environmental Approximation Strategy).

| Directive | Overall Approximation Plan | Start (year) | End (year) |
|---|---|---|---|
| Dangerous Substances Directive (67/548/EEC) | Legal Transposition | 0002 | 0005 |
| | Implementation and Enforcement | 0000 | 0004 |
| Biocides Directive (98/8/EC) | Legal Transposition | 0002 | 0005 |
| | Implementation and Enforcement | 0000 | 0004 |
| Asbestos Directive (87/217/EEC) | Legal Transposition | 0002 | 0005 |
| | Implementation and Enforcement | 0000 | |
| Animal Experiments Directive (86/609/EEC) | Legal Transposition | 0002 | 0005 |

| | | | |
|---|---|---|---|
| | Implementation and Enforcement | 0000 | 0002 |
| Dangerous Preparations Directive (1999/45/EC) | Implementation and Enforcement | 0000 | 0004 |
| Ozone Depleting Substances Regulation (EC 2037/200) | Implementation and Enforcement | 0001 | 0001 |
| Risk Assessment Regulation (EC 793/93) | Implementation and Enforcement | 0001 | 0002 |
| Import/Export of Dangerous Chemicals Reg. (EC 304/2003) | Implementation and Enforcement | 0001 | 0002 |

The implementation of the EU chemicals legislation will introduce a management system enhancing safe handling of chemicals (including asbestos) and thereby improving protection of the environment and human health from the hazards of chemicals. The implementation of the good laboratory principles will help avoid the creation of technical barriers to trade and will further improve protection of the environment and human health.

The governmental responsibilities in this sector are shared mainly between the MoEPP and the MoH. It is important that it is well defined which obligations lie on which ministry, and to establish good cooperation between the two said ministries.

## ANNEX VI.H: GMO SECTOR

Scope and approach

The general approach consists of identification of EU Legislation on GMOs to be covered, perform the first priority among these EU Directives, usage of different analyses tools in order to perform gap analysis, drafting all actions needed for a full approximation, validation of the key findings by the GMO Working Group, and carry out logic prioritization. There was an active involvement of stakeholders through the GMO Working Group, and proper consideration was also taken to the existing national strategies and plans dealing with the GMO issue.

The EU directives covered in this SAS are the Deliberate Release on GMOs Directive (2001/18/EC) and Contained Use of GMMs Directive (90/219/EEC). Also taken into account were the Decision 2002/812/EC and Decision 2002/813/EC, establishing the summary information formats relating to the placing on the market of GMOs and for notifications on the deliberate release into the environment of GMOs for purposes other than for placing on the market.

Present situation

Until now, the abatement and reduction of the risk from the use of GMO as a result from the modern bio-technology were not giving much of attention in the Republic of Macedonia, which is the main reason why there is no specific legislation on GMO. As an obligation deriving from the ratified Convention on Biological Diversity Convention, the National Strategy and the Action Plan on Biodiversity Conservation and Sustainable Use have been developed and adopted (January 2004). The Action Programme for Adopting EU Legislation and the Action Plan for European Partnership indicates the need for a specific Law on GMOs and for the ratification of the Cartagena Protocol on Bio-safety (was signed in 2000). Also the preparation of a national framework for bio-safety has been completed, and a new Law on GMOs is currently under preparation and envisaged to be adopted in 2007. Thus the country is in a starting phase of establishing a legal and administrative system on bio-safety.

The MoEPP is responsible for protection of the environment, for information to the public and for involving the public in the decision making, whilst the Ministry of Health (MoH) is responsible for food safety and pharmaceutical drugs. The Ministry of Agriculture, Forestry and Water Economy (MAFWE) is responsible for plant protection products, seeds materials and new breeding stocks, and the Ministry of Economy (MoE) is responsible for consumer safety and issues related to the World Trade Organisation.

There is at present no national legislation which regulates issues of bio-safety and more particular issues related to GMO management and products containing GMOs, deliberate release of GMOs into the environment, or placing (products containing) GMOs on the market, as well as import, export and transboundary movement of GMOs. The same applies for the case of GMMs. Legislation and approval measures must thus be put in place in order to properly deal with deliberate releases of GMOs or GMMs and in order to provide for proper risk assessments prior to approval of experimental or commercial releases of GMOs or GMMs into the environment. Steps must also be taken to deal with risk management in regard to the use of GMOs in research and industrial facilities.

The Law on Nature Protection defines the measures and activities that are necessary to prevent the negative impacts of GMOs on the preservation and the sustainable use of biological diversity, on human health and on the environment. The Law on Safety of Food and Products and Materials in Contact with Food defines food which contains or consists of GMOs as "food produced by innovative technology, not available for wider consumption." The Law prohibits the production and sales of unsafe food, but this stipulation does not relate to GMOs issues. The Law on Pharmaceutical Drugs, Supplementary Treatment Substances and Medical Devices requires that outer packaging and labelling of the medicine that contain GMOs should bear instructions for its use as well as a warning about the degree of exposure of the health care staff and other persons that may handle it. Also the Law on Environment, the Law on Plant Protection, the Law on Stockbreeding contains elements related to GMOs, but without specific mentioning of GMOs.

In 2005 a National Bio-Safety Framework was developed and a working group set up to prepare a draft Law on GMOs. The draft Law on GMOs (version February 2005) has been the basis for the legal gap analysis, which showed that the status of transposition of both main the directives is very low pending the finalization of the draft Law on GMOs and subsequent legislation.

The main requirements necessary for fulfilment of the implementation of the EU requirements within the GMO Sector are apparent from the two GMO directives. Requirements are also found in other EU directives within the GMO sector but these do not contribute significantly to the fulfilment of the EU requirements. At the moment the formal steps to be taken towards implementation of the EU directives within the GMO Sector awaits the legislation to be adapted. No implementation of the two GMO directives has been accomplished so far, except some of the requirements in the directives seem to be fulfilled already through the National Bio-safety Framework. Furthermore, the main part of the laboratories has a bio-safety level, which complies or nearly complies with the mentioned directives.

There are no persons in the MoEPP with exclusive responsibility for GMOs, and except for the project 'Development of National Bio-safety Framework for the Republic of Macedonia', which provided the status of biotechnology and a strategy for establishing a bio-safety system in the country, there has not been any significant investment in implementing the EU legislation on GMOs and GMMs.

Priorities for transposition

As there is no current legal framework to regulate and transpose the two GMO directives, the first priority is to make amendments to the current draft Law on GMOs and adopt it. This Law will enable partial transposition of these directives. As a second priority, appropriate legal basis should be included in the Law on GMOs that will enable the adoption of secondary legislation. It is suggested that annexes found in the Directives as well as detailed procedures are transposed through secondary legislation. Due account should be taken to avoid conflicts or overlaps with other existing legislation. The preparation of secondary legislation on the appropriate legal basis provided by the Law will be a third priority. As there are a lot of implications for the country there will be needed some time to complete transposition (2 - 3 years). It is planned to adopt the

appropriate by-laws to regulate the following issues: criteria on contained use of GMO; compulsory management and other conditions related to import and export of GMOs; scope of the risk assessment for contained use and deliberate release of GMOs into the environment; methodology, elements and scope of risk assessment for placing a product on the market; labelling and packaging of products; content and scope of the monitoring program; forms, content, methodology and manner of running a register as well as the amount of material expenses for giving data.

Full legal transposition is foreseen to be completed in 2010. The actions needed comprise mainly the preparation and adoption of secondary legislation. The main responsibility lies with the MoEPP, but the preparation and adoption of the secondary legislation will be carried out jointly with other Ministries such as the Ministry of Health (MoH) and the Ministry of Agriculture, Forestry and Water Economy (MAFWE). The MoEEP could also liaise with other Ministries in the drafting process and consultations might be useful with other ministries.
It is recommended to use legal instruments that enable the preparation and adoption jointly by more than one Ministry. In this case either a Rulebook or a Governmental Decree will be the most appropriate legal acts to be used as they provide for wider consensus of the implicated relevant Ministries. However due account should be taken of technical issues that need to be amended in light of technical and scientific developments.

Priorities for implementation
The main strategy to achieve full implementation and enforcement of the EU legislation within the GMO Sector is to carry out the following elements: determination of institutional and administrative structures of MoEPP and other stakeholders, assessment of the potential size of the GMO industry in country, evaluation of the institutional capacity building needs, establishment of a Clearing House Mechanism, establishment of a National GMOs Monitoring Database, establishment of Committees for deliberate release of GMOs and for placing products on the market, establishment of mechanisms for risk assessment and safety assessment, introduction of enhanced monitoring and enforcement mechanisms, performing training programmes, and recruitment of additional staff.

The main requirements for the implementation of the EU legislation within the GMO Sector can be compiled into three main groups of actions, namely establishment of a Competent Authority, establishing of a GMO register, and implementation of a system for inspection and control. The Competent Authority should be implemented first whereas the register and the system for inspection and control could be implemented in parallel.

Priorities for investment
The total costs of legal transposition and implementation of the EU legislation within the GMO Sector are €2 million in capital (one-off) costs and €1 million in operating (recurrent) costs. The overall costs are not particularly high, which partly is because there is only modest activity in the bio-technology and transgenic industries in the country. Only a small proportion of the total costs (< 10%) are attributable to the legal transposition. These costs relate mainly to technical assistance and training to support the necessary legislative drafting and the costs of legal drafting personnel. The recurrent costs are dominated by the salaries and other salary-related costs amounting to €129,000 p.a., corresponding to additional human resource requirements of 5 persons. Initial training and equipment account for a further €200,000. Technical assistance projects with a value of €1.5 million will be required to support implementation. All the one-off costs are attributable to the Competent Authority (MoEPP). Industry will sustain mainly recurrent costs related to risk assessments required for applications, monitoring programmes, and the costs of consulting the public and providing public information. The implementation can be completed over a four-year period with most of the one-off costs arising in the first year, when considerable technical assistance is needed. In the first year the one-off and startup costs predominate, but in

the second year operating costs begin to rise, and by the end of year 2 are the dominant costs.

The approach to financing will depend on the type of cost involved. All operation costs of government departments and temporarily employments will have to be met from the state budget. For technical assistance grant funding should be sought from the international donor community (e.g. IPA). One-off costs related to new personnel should be bundled-in as part of the various capacity building projects and funded by the international donor community. For capital items potential grant funding should be sought, otherwise these costs will have to be met from the state budget. Operating costs for the industry, research community, etc. will have to be met from the operating budgets of the institutions concerned.

Sector approximation plan

The overall plan to obtain full approximation consists of legal transposition and implementation (including enforcement) actions. The legal transposition is composed of 8 actions, and the implementation (including enforcement) is composed of 22 actions. The milestones of the overall sector approximation plan are given in the table below (starting in year 0 – actual start will be determined in the National Environmental Approximation Strategy).

| Directive | Overall Approximation Plan | Start (year) | End (year) |
|---|---|---|---|
| Directive on Deliberate Release on GMOs (2001/18/EC) | Legal Transposition | 0000 | 0003 |
| | Implementation and Enforcement | 0000 | 0004 |
| Directive on Contained Use of GMMs (90/219/EEC) | Legal Transposition | 0000 | 0003 |
| | Implementation and Enforcement | 0000 | 0004 |
| Decisions 2002/812/EC & 2002/813/EC establishing the summary information formats relating to the placing on the market of GMOs and for notifications on the deliberate release into the environment of GMOs for purposes other than for placing on the market | Implementation and Enforcement | 0000 | (0004) (some activities to be imple-mented after accession) |

The enforcement of the future legislation is likely to be divided by several ministries, and the work so far indicates the will to cooperate. It is essential that the different ministries involved continue the cooperation and id addition the border control should be involved. It's important that sufficient staff is allocated to the Competent Authority, so it is able both to keep a high level of professionalism and be able to respond the industries within the deadlines defined in the two GMO directives.

## ANNEX VI.I: NOISE SECTOR

Scope and approach

The general approach consists of identification of EU Legislation on noise to be covered, perform the first priority among these EU Directives, usage of different analyses tools in order to perform gap analysis, drafting all actions needed for a full approximation, validation of the key findings by the Noise Working Group, and carry out logic prioritization. There was an active involvement of stakeholders through the Noise Working Group.

The EU directives covered in this SAS are the three main noise directives: Directive on Assessment and Management of Environmental Noise (2002/49/EC), the Directive on the Noise Emission in the Environment by Equipment for Use Outdoors (2000/14/EC), and Directive 92/97/EEC amending the Directive on Permissible Sound Level and the Exhaust System of Motor

Vehicles (70/157/EEC).

Present situation

Currently, the issue of noise abatement and control is given little attention in the country, and it is at the early stages of planning, mainly addressed through general instructions. There is no systematic surveying amongst the population about noise nuisance. However, the Government adopted lately the draft National Programme for Approximation of the EU legislation (dated March 2006 and updated in January 2007) giving attention to the Noise Sector within the EU integration process.

The Ministry of Environment and Physical Planning (MoEPP) is currently in general responsible for noise abatement, but some activities will be carried out either jointly/or in cooperation/or consultations with other Authorities, in particular other relevant Ministries, City of Skopje and the Municipalities. The Ministry of Labour and Social Policy is responsible for noise control within working premises. According to the new draft Law on Environmental Noise, the Ministry of Health will be responsible for assessing noise levels and determining harmful effects of noise levels, and the Ministry of Economy will have an overall responsibility for implementing provisions relating the permissible sound level and the exhaust system of motor vehicles. The City of Skopje and Municipalities will be responsible for preparation of the strategic noise maps and action plans.

The drafting process of a new Law on Environmental Noise started in 2005, which is incorporating the EU Directives referring to noise. The proposal for adoption of the new Law (first reading) has been adopted by the Government and Parliament (Assembly) in February 2007. The MoEPP will organize a public hearing at the beginning of April 2007 and the second reading is expected in May 2007 and the adoption in June 2007. In general, the scope of the Directive on the Assessment and Management of Environmental Noise (2002/49/EC) is covered with the draft Law, but a few definitions are missing. Regarding the transposition of the Directive on the Noise Emission in the Environment by Equipment for Use Outdoors (2000/14/EC), only one provision is found fully in accordance with the Directive and the draft Law needs to be reviewed by an acoustician in order to be in line in technical terms. The transposition of the Directive 92/97/EEC amending the Directive on the Permissible Sound Level and the Exhaust System of Motor Vehicles (70/157/EEC) is in a very early stage (only one provision is partly regulated).

The Competent Authority designated for implementation of the Directive on the Assessment and Management of Environmental Noise (2002/49/EC) and Directive on the Noise Emission in the Environment by Equipment for Use Outdoors (2000/14/EC) is the MoEPP. However, the Ministry of Health, the Ministry of Transport and Communication, and the Ministry of Internal Affairs will be consulted in certain noise related areas covered by the Former Directive, and the Ministry of Transport and Communication, the Ministry of Economy, the Ministry of Labour and Social Policy and the Ministry of Health will be consulted about noise issues covered by the latter Directive.

National noise indicators are defined in a Government Decision, which are stating limit values for rooms in certain buildings and permissible noise values for certain areas. Indicators exist also in a Rulebook on General Measures and Norms for noise protection during work and in working premises. However, the noise indicators laid down in the Directive on the Assessment and Management of Environmental Noise (2002/49/EC) has not been established, neither has any assessment methods for noise indicators and harmful effects. According the draft Law, the harmful effects from noise on human health will be assessed using the dose-effect relations by the Ministry of Health. The identification of areas for which strategic noise maps and action plans will be developed in accordance with the requirement of the said Directive has not been made yet. Only the more general identification of agglomerations in the country has been made within the draft Law. There are no systems established for the preparation of the strategic noise maps as well

as for the preparation of the action plans.

The institutions that measure and monitor the level of noise in the country are the Central Laboratory of the MoEPP (ad-hoc measurements upon request), using state-off-the-art technology, and the Public Health Institute, which perform measurements on 14 monitoring stations in Skopje and the 4 monitoring stations in Bitola. The data from the measurement and monitoring of noise levels are submitted to the Macedonian Environmental Information Centre (MEIC) within the MoEPP, where such data is stored, processed and annual reports on noise monitoring figures published. The existing database of MEIC does not meet the requirements of the Directive on the Assessment and Management of Environmental Noise (2002/49/EC), but it can be a starting point for the coming database needed to be established in order to include information on noise indicators, noise maps, action plans and Annex VI information. There is no national database or any information system with data/information on the noise emission levels from all types of the national fleet or/and imported vehicles, except data on the registration of the vehicles. A system have been established that ensure compliance with type-approval sound level values for new/imported motor vehicles prior to put them on the market. When vehicles are imported, information about the vehicle sound level is provided to the authorized body for performing a mandatory attesting of the technical (including sound level values) characteristics of the vehicle.

There are only few competent national experts and institutes that can response on the requirements of all three main directives regarding noise work and monitoring. According the draft Law on Environmental Noise, all bodies who shall perform noise work and monitoring must be authorized by the Minister of the MoEPP, must have two persons with relevant qualifications employed and must have all necessary approved equipment for the work. Universities and laboratories with accreditation are expected to be involved in the noise work, especially in assessment methods and supplementary noise indicators determination.

There is no established system for making information available to the public about the strategic noise maps, proposals and decisions on action plans and public consultation on such proposals. There is an existing system for public consultation during the drafting process for the draft Law on Environmental Noise and the public hearings have been organized discussing the proposed Law (March 2007).

It has not been possible to identify any recent projects, studies or technical assistance in the Republic of Macedonia on noise in recent years, and at present very little of the infrastructure needed for the implementation of the EU noise legislation (personnel, equipment, systems) is in place.

Priorities for transposition

The identification of the responsible authority (ies) is of great importance, and there will be a need to close liaise all the responsible actors during the preparation of the Law on Environmental Noise and the subsequent legislation. The legal framework within the Noise Sector should also comprise guidelines for national certification of conformity, for noise emission labelling programmes, test procedures, as well as identification of certified institutions for performing tests for noise certification for type approval.

The short term priorities comprise the adoption of the Law on Environmental Noise and enactment of secondary legislation that will deal with the transposition of the Directive on Assessment and Management of Environmental Noise (2002/49/EC). The final adoption of the Law on Environmental Noise will enable to introduce a legal framework that will comply with the EU directives of the Noise Sector and provide for obligations that need to be included in the primary legislation. The medium term priorities consist of the continuation of adoption of secondary legislation to enable the full transposition of the Directive on the Assessment and

Management of Environmental Noise (2002/49/EC) and Directive on the Noise Emission in the Environment by Equipment for Use Outdoors (2000/14/EC). In addition, voluntary standards developed either by the International Organisation for Standardisation (ISO) or standards adopted by the European Standardisation Organisation (CEN) have to be given specific attention. Both national standards and international standards can be referred to in the national law.

Priorities for implementation

The adoption of the new Law on Environmental Noise will facilitate an overall approach of the management of environmental noise and major roles and responsibilities within the sector will be defined securing a more efficient implementation.

Very few of the technical activities implemented so far within the sector are of any specific value for the approximation process, and the level of employment and expertise within noise is very low. There is therefore a big need for new employment and training of new and existing staff through technical assistance projects to get better acquainted with the EU noise legislation and its implementation.

With respect to the practical implementation of the EU obligations and requirements within the sector, there is a logical sequence of implementation to be followed: Identify areas for the work, identify Competent Authorities to do the work, train the Competent Authorities, establish necessary provisions, execute tasks, and monitor activities and establish databases for data handling.

Regarding the 'Assessment and Management of Environmental Noise' category, institutional strengthening is foreseen for all stakeholders, including employment of new staff. A 5 years period of training and learning by doing will be necessary during the first sequence of preparing strategic noise maps and action plans. This is expected to give sufficient experience to national experts so the following 5 years sequences of reviewing/revising the strategic noise maps can be done using national experts. For the 'Noise Directives Concerning Motor Vehicles' category institutional strengthening is also foreseen for all stakeholders, including employment of new staff. A 3 years period training and learning by doing will be necessary to achieve full implementation. For all other noise issues, it is supposed that the main part of the required institutional strengthening is obtained through the above mentioned activities in the first couple of years after which some further institutional strengthening is foreseen to begin.

Priorities for investment

The total costs of legal transposition and implementation of the EU legislation within the sector are €3.1 million in capital (one-off) costs and €0.2 million in operating (recurrent) costs. Less than 10% of the total costs (€260,000) are attributable to the legal transposition, most of which is for technical assistance to support the necessary legislative drafting. Personnel-related implementation costs amount to approximately €200,000 p.a. in salaries and salary-related costs (corresponding to 8 new persons), together with a one-off expenditure of about €400,000 for training and equipment. Technical assistance projects with a value of an estimated €2.3 million will be required to support implementation. There is no significant capital expenditure other than small amounts for computers, database software licences, etc. Costs accrue not only to the MoEPP, but also to municipalities / cities (> 100,000 inhabitants). Implementation can be completed within 6 years of commencement.The total cash flow peak in year 2, before settling down in year 5 to their ongoing level of about €200,000 p.a.

The approach to financing will depend on the type of cost involved. All operation costs of government departments and temporarily employments will have to be met from the state budget. For technical assistance grant funding should be sought from the international donor community (e.g. IPA). One-off costs related to new personnel should be bundled-in as part of the various capacity building projects and funded by the international donor community. For capital items

potential grant funding should be sought, otherwise these costs will have to be met from the state budget. Operating costs for the Local Self-Government Units will have to be met from the municipal budgets.

Sector approximation plan
The overall plan to obtain full approximation consists of legal transposition and implementation (including enforcement) actions. The legal transposition is composed of 8 actions, and the implementation (including enforcement) is composed of 31 actions. The milestones of the overall sector approximation plan are given in the table below (starting in year 0 – actual start will be determined in the National Environmental Approximation Strategy).

| Directive | Overall Approximation Plan | Start (year) | End (year) |
|---|---|---|---|
| Directive on the Assessment and Management of Environmental Noise (2002/49/EC) | Legal Transposition | 0000 | 0002 |
| | Implementation and Enforcement | 0000 | 0005 |
| Directive on the Noise Emission in the Environment by Equipment for Use Outdoors (2000/14/EC) | Legal Transposition | 0002 | 0002 |
| | Implementation and Enforcement | 0001 | (accession) |
| Directive 92/97/EC amending the Directive on Permissible Sound Level and Exhaust System of Motor Vehicles (70/157/EEC) | Legal Transposition | 0002 | 0002 |
| | Implementation and Enforcement | 0000 | (accession) |
| Other directives within the sector | Implementation and Enforcement | 0001 | (accession) |

Beneficial effects by decreasing noise levels may be expected to a larger extend in human health and thereby less absence from work which will have a positive effect on the national economy. Another benefit is possibility for better future planning (new built-up areas can be placed away from noisy activities and new roads, railways and airports can be placed where noise impact on the population is lowest).

Key issues are to increase the number of noise experts working with the approximation process and the level of expertise within noise in the country.

# ANNEX VII: STEERING COMMITTEE AND WORKING GROUPS

## ANNEX VII.A: MEMBERS OF THE PROJECT STEERING COMMITTEE

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Imer Aliu |
| Ministry of Environment and Physical Planning | Dejan Panovski |
| Ministry of Environment and Physical Planning | Daniela Stefkova |
| Ministry of Environment and Physical Planning | Menka Spirovska |
| Ministry of Environment and Physical Planning | Gordana Kozuharova |
| Ministry of Environment and Physical Planning | Kaja Sukova |

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|---|---|
| The Government of the Republic of Macedonia - Secretariat for European Affairs | Olja Petrusevska Tomeva |
| The Government of the Republic of Macedonia - Legislative Secretariat | Elenka Stojanoska |
| Ministry of Finance | Tahir Sakiri |
| Ministry of Local Self-Government | Valentina Ruskovska |
| Ministry of Agriculture, Forestry and Water Economy-Water Economy Directorate | Blagoja Stoilov |
| Ministry of Transport and Communications | Jovan Gjorgievski |
| Chamber of Commerce | Dzoko Kungulovski |

## ANNEX VII.B: MEMBERS OF THE NSEA WORKING GROUP

### MEMBERS of the NSEA CORE GROUP for prioritization

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Tanja Paunovska |
| Ministry of Environment and Physical Planning | Katerina Nikolovska |
| Ministry of Environment and Physical Planning | Fani Hristovska |
| Ministry of Environment and Physical Planning | Marionka Vilarova |
| Ministry of Environment and Physical Planning | Lence Kurcieva |
| Ministry of Environment and Physical Planning | Vlado Karovski |
| Ministry of Environment and Physical Planning | Teodora Obradovic-Grncarovska |
| Ministry of Environment and Physical Planning | Marija Direlevska-Calovska |
| Ministry of Environment and Physical Planning | Daniela Stefkova |
| Ministry of Environment and Physical Planning | Ljupka Dimoska-Zajkov |
| Ministry of Environment and Physical Planning | Dragana Cerepnalkovska |
| Ministry of Environment and Physical Planning | Menka Spirovska |
| Ministry of Environment and Physical Planning | Kaja Sukova |
| Ministry of Environment and Physical Planning | Jadranka Ivanova |
| Ministry of Environment and Physical Planning | Gordana Kozuharova |

### MEMBERS of the NSEA GROUP for prioritization and drafting the NSEA Report

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Tanja Paunovska |
| Ministry of Environment and Physical Planning | Katerina Nikolovska |
| Ministry of Environment and Physical Planning | Fani Hristovska |
| Ministry of Environment and Physical Planning | Marionka Vilarova |
| Ministry of Environment and Physical Planning | Lence Kurcieva |

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|---|---|
| Ministry of Environment and Physical Planning | Vlado Karovski |
| Ministry of Environment and Physical Planning | Teodora Obradovic-Grncarovska |
| Ministry of Environment and Physical Planning | Marija Direlevska-Calovska |
| Ministry of Environment and Physical Planning | Daniela Stefkova |
| Ministry of Environment and Physical Planning | Ljupka Dimoska-Zajkov |
| Ministry of Environment and Physical Planning | Dragana Cerepnalkovska |
| Ministry of Environment and Physical Planning | Menka Spirovska |
| Ministry of Environment and Physical Planning | Kaja Sukova |
| Ministry of Environment and Physical Planning | Jadranka Ivanova |
| Ministry of Environment and Physical Planning | Gordana Kozuharova |
| Ministry of Environment and Physical Planning | Valerij Penev |
| Ministry of Environment and Physical Planning | Vesna Petrusevska |
| Ministry of Environment and Physical Planning | Joze Jovanovski |
| Ministry of Environment and Physical Planning | Vlatko Trpeski |
| Ministry of Environment and Physical Planning | Jasmina Trpevska |
| Ministry of Economy | Jane Sapardanovski |
| Ministry of Health-Food Directorate | D-r Lence Jovanovska |
| Ministry of Health-Food Directorate | Iskra Jovanovska |
| Faculty of Agricultural Science | Blagica Dimitrievska |
| Faculty of Agricultural Science | Zoran Popovski |
| Ministry of Agriculture, Forestry and Water Economy | Pejo Todevski |
| Ministry of Economy | Jeton Kuci |

## ANNEX VII.C: MEMBERS OF THE SECTOR WORKING GROUP

### MEMBERS of the HORIZONTAL LEGISLATION WORKING GROUP

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Dragana Cerepnalkovska |
| Ministry of Environment and Physical Planning | Kaja Sukova |
| Ministry of Environment and Physical Planning | Svetlana Gjorgjeva |
| Ministry of Environment and Physical Planning | Saso Sekulovski |
| Ministry of Environment and Physical Planning | Daniela Stefkova |

| | |
|---|---|
| Ministry of Environment and Physical Planning | Zoran Bosev |
| Ministry of Environment and Physical Planning | Izabela Mladenova |
| Project CARDS 2004 | Biljana Vukovic |
| Ministry of Environment and Physical Planning | Biljana Siderovska |
| Ministry of Environment and Physical Planning | Angelina Jovanovic |
| Ministry of Transport and Communications | Rada Filipovska |
| Ministry of Economy | Tome Velkovski/Mira Blazevska |

MEMBERS of the AIR QUALITY WORKING GROUP MEMBERS of the WASTE MANAGEMENT WORKING GROUP

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Marijonka Vilarova |
| Ministry of Environment and Physical Planning | Aneta Stefanovska |
| Ministry of Environment and Physical Planning | Aleksandra Nestorovska Krsteska |
| Ministry of Environment and Physical Planning | Teodora Grncarovska-Obradovik |
| Ministry of Environment and Physical Planning | Vlado Karovski |
| Ministry of Agriculture, Forestry and Water Economy-Hydro Meteorological Directorate | Liljana Todorova Talevska |
| Ministry of Economy | Marija Nikolova |
| Refinary OKTA | Jasmina Denkovska |
| OHIS | Roza Kalajdziska |
| JSC Electric Power Generators of Macedonia - Branch REK Bitola | Blagoj Petrovski/Simon Atanasov |
| Institute for Healh Protection-Veles | Vera Ristova |
| ALKALOID | Lidija Dimitrovska |
| TEHNOLAB | Magdalena Trajkovska Trpevska |
| JSC Electric Power Generators of Macedonia - Branch REK Oslomej | Cvetanka Poposka |
| Chamber of Commerce | Tasko Rizov |
| Republic Institute for Healh Protection | Mihail Kocubovski |
| Cement plant TITAN | Nadica Gocieva/Katja Evrosimovska |
| MAKSTIL | Elena Ivanovska Vidinova |
| FENI INDUSTRI | Boris Ristov |

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Lence Kurcieva |
| Ministry of Environment and Physical Planning | Vlado Karovski |
| Ministry of Environment and Physical Planning | Sokol Klincarov |
| Ministry of Environment and Physical Planning | Emilija Kupeva |

| | |
|---|---|
| Ministry of Environment and Physical Planning | Nada T. Arsova |
| Ministry of Environment and Physical Planning | Slavco Ristov |
| Ministry of Environment and Physical Planning | Darko Blinkov |
| Ministry of Economy | Jane Sapardanovski |
| Ministry of Transport and Communications | Slobodan Stojanovski |
| Association of the Units of the Local Self-government of the Republic of Macedonia | Zika Stojanovski |
| Ministry of Finance | Elena Trpkovska |
| Project CARDS 2004 | Liljana Peeva |
| Project CARDS 2004 | Gjorgji Velevski |
| Regional Environmental Center for Central and Eastern Europe-Country Office Macedonia | Ana Petrovska |
| Chamber of Commerce | Hrisanti Angelovska |
| Chamber of Commerce | Stojmirka Tasevska |
| Chamber of Commerce | Marija Petroska |
| Assosiation of public communal enterprises of Macedonia ADKOM | Vlatko Sazdov |
| Assosiation of public communal enterprises of Macedonia ADKOM | Biljana Jovcevska |
| PE Komunalna Higiena | Milco Biljanovski |
| PE Komunalna Higiena Sector Drisla | Branko Nikolovski |
| Ecologist's movement of Macedonia | Rate Savev |
| Republic Institute for Healh Protection | Vladimir Kendrovski |
| Faculty on Civil Engineering | Katerina Donevska |
| INOS | Vasil Gacevski |

MEMBERS of the WATER QUALITY WORKING GROUP MEMBERS of the IPC WORKING GROUP MEMBERS of the NATURE PROTECTION & FORESTRY WORKING GROUP

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Ljupka Dimoska-Zajkov |
| Ministry of Environment and Physical Planning | Nada Arsova |
| Ministry of Environment and Physical Planning | Menka Spirovska |
| Ministry of Environment and Physical Planning | Slavco Ristov |
| Ministry of Environment and Physical Planning | Liljana Riskovska |
| Ministry of Environment and Physical Planning | Mileva Tagasovska |
| Ministry of Environment and Physical Planning | Dimitar Mladenovski |
| Ministry of Local Self-Government | Valentina Ruskovska |
| Ministry of Economy | Jeton Kuci |

| Institution/Organisation | Name |
|---|---|
| Ministry of Agriculture, Forestry and Water Economy-Hydro | Radmila Bojkovska |

| | |
|---|---|
| Meteorological Directorate | |
| Ministry of Agriculture, Forestry and Water Economy-Hydro Meteorological Directorate | Vasko Stojov |
| Ministry of Agriculture, Forestry and Water Economy-Water Economy Directorate | Blagoja Stoilov |
| PE for Water supplay and sewerage system Vodovod i kanalizacija - Skopje | Stojan Srbinovski |
| The Government of the Republic of Macedonia-Legislative Secretariat | Elenka Stojanoska/Magdalena Filipovska |
| Ministry of Transport and Communications | Ilija Nikolovski |
| Public Health Institute | Mihail Kocubovski |
| Public Health Institute | Mirjana Dimovska |

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Filip Ivanov/Fani Hristovska |
| Ministry of Environment and Physical Planning | Fatos Baliu |
| Ministry of Environment and Physical Planning | Nazim Aliti |
| Ministry of Environment and Physical Planning | Vlatko Trpeski |
| Ministry of Environment and Physical Planning | Darko Blinkov |
| Ministry of Environment and Physical Planning | Ana Karanfilova Maznevska |
| Republic Institute for Healh Protection | Igor Spiroski |
| Ministry of Transport and Communications | Stevce Gjurcevski |
| Ministry of Economy | Jane Sapardanovski |
| The Government of the Republic of Macedonia-Legislative Secretariat | Nikola Nikolic |
| Chamber of Commerce | Tasko Rizov |
| MAKSTIL | Elena Ivanovska Vidinova |
| Refinary OKTA | Sonja Cvetkovic Colakova |
| OHIS | Dobrila Mladenova |
| JSC Electric Power Generators of Macedonia - Branch REK Bitola | Blagoj Petrovski/Simon Atanasov |
| ALKALOID | Lidija Dimitrovska |
| Institute for Healh Protection-Veles | Vera Ristova |
| JSC Electric Power Generators of Macedonia - Branch REK Oslomej | Cvetanka Poposka |
| TEHNOLAB | Magdalena Trajkovska Trpevska |
| Project CARDS 2004 | Bosko Nikov |
| JSC The District Heating System of the City of Skopje | Nadica Lokvenec Pejkovska |
| FENI INDUSTRI | Boris Ristov |
| Republic Institute for Healh Protection | Mihail Kocubovski |
| Cement plant TITAN | Nadica Gocieva/Katja |

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|---|---|
| | Evrosimovska |

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Daniela Stefkova |
| Ministry of Environment and Physical Planning | Smiljka Teneva |
| Ministry of Environment and Physical Planning | Vasil Anastasovski |
| Ministry of Environment and Physical Planning | Saso Jordanov |
| Ministry of Environment and Physical Planning | Robertina Brajanovska |
| Ministry of Environment and Physical Planning | Valentina Cavdarova |
| Faculty of Natural Sciences and Mathematics | Ljupco Melovski |
| Public Institution National Park GALICICA Ohrid | Andon Bojadzi |
| Public Institution National Park MAVROVO | Cane Petrevski |
| Public Institution National Park PELISTER Bitola | Slavko Damevski |
| Faculty of Forestry | Kole Vasilevski |
| Ministry of Agriculture, Forestry and Water Economy | Pejo Todevski |
| Ministry of Agriculture, Forestry and Water Economy | Mila Miladinovic |
| National Institution Museum of Natural Sciences of Macedonia | Vladimir Krpac |
| Ministry of Agriculture, Forestry and Water Economy | Goran Licovski |
| Institute for Biology | Slavco Hristovski |
| Ministry of Agriculture, Forestry and Water Economy-Veterinary Directorate | Svetlana T.Mickovska |
| Ministry of Agriculture, Forestry and Water Economy-Veterinary Directorate | Jadranka Ivanovska |
| Ministry of Environment and Physical Planning- PIS | Casle Tosevski |
| Ministry of Environment and Physical Planning- Environmental Administration | Mile Jakimovski |

MEMBERS of the CHEMICALS WORKING GROUP MEMBERS of the GMO WORKING GROUP MEMBERS of the NOISE WORKING GROUP

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Teodora Grncarovska-Obradovic |
| Ministry of Environment and Physical Planning | Emilija K.Nedelkova |
| Pharmaceutical Faculty | Lidija Petrusevska-Tozi |
| Ministry of Agriculture, Forestry and Water Economy-Plants Protection Directorate | Roza Nakova |
| Chamber of Commerce | Zorica Meskova |
| ADING | Ljiljana Drvosanova |
| ALKALOID | Lidija Dimitrovska |
| OHIS | Todor Gavrilov |
| Customs Administration of the Republic of Macedonia | Natasa Radulovska |

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|---|---|
| Ministry of the Interior | Mile Manevski |
| Customs Administration of the Republic of Macedonia | Tanja Veselinov |
| Pharmaceutical Faculty | Zoran Kavrakovski |
| Customs Administration of the Republic of Macedonia | Natalija Krusarovska |
| Ministry of Transport and Communications | Sonja Kostovska |
| Ministry of the Interior | Gabriela Koskoska / Tihomir Serafimovski |

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Marija Dirlevska-Calovska |
| Ministry of Environment and Physical Planning | Dragana Cerepnalkovska |
| Republic Institute for Healh Protection | Gordana Ristovska |
| Faculty of Agricultural Sciences and Food | Zoran Popovski |
| Consumers Organization of Macedonia | Lidija Petrusevska-Tozi |
| Ministry of Agriculture, Forestry and Water Economy-Veterinary Directorate | Melita J.Trajkovska |
| Faculty of Veterinary Medicine | Risto Prodanov |
| Ministry of Health-Food Directorate | Lence Jovanovska |
| Ministry of Agriculture, Forestry and Water Economy-Plants Protection Directorate | Roza Nakova / Viktor Arsov |
| Ministry of Agriculture, Forestry and Water Economy | Irena Kamenjarska |
| Ministry of Agriculture, Forestry and Water Economy-Phytosanitary Directorate | Biljana Bojkovska Zlatevska |
| Customs Administration of the Republic of Macedonia | Darko Dulik |
| Ministry of Economy | Jasmina Trajanoska |
| Ministry of Agriculture, Forestry and Water Economy - Sector for European Integration | Pance Nikolov |
| Institute for Agriculture | Gordana Popsimonova |
| Faculty of Agricultural Sciences and Food | Biljana Dimitrievska |
| Ministry of Environment and Physical Planning-State Environment Inspectorate | Darko Blinkov |
| Republic Institute for Healh Protection | Olga Kirovska Cigulevska |
| Macedonian Academy of Science and Arts | Katarina Davalieva |

| Institution/Organisation | Name |
|---|---|
| Ministry of Environment and Physical Planning | Tanja Paunovska |
| Ministry of Environment and Physical Planning | Katerina Nikolovska |
| Ministry of Environment and Physical Planning | Darko Blinkov |
| Ministry of Environment and Physical Planning | Gabriela Dudanova-Lazarevska |
| Republic Institute for Healh Protection | Gordana Ristovska |

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|---|---|
| Ministry of Transport and Communications | Mihajlo Vasik |
| Ministry of the Interior | Goranco Petrusevski |
| Republic Institute for Healh Protection | Peco Simjanoski |
| Construction Institute MAKEDONIJA | Lence Janeva |
| City of Skopje | Liljana Oncevska Nadzinska |
| Ministry of defence - Military Hospital | Branko Stepanovski |
| Institute for Sociological, Political and Legal Research | Natasa Gaber Damjanovska |
| Faculty of Mechanical Engineering | Ljubica Todorovska Azievska |
| Ministry of Economy | Jane Sapardanovski |
| MZT Oprema Inzenering | Avelino Percan |
| PE Macedonian Railways | Vladimir Trajkovski |
| National expert for Noise | Stefan Gjorcev |
| Health Home Skopje-Occupational Medicine Institute | Julijana Petrovska |
| Bureau for Material Testing | Jovan Pejoski |
| Fund for National and Regional Roads | Dimitrija Tasevski |

# ANNEX VIII: PROJECT TEAM

## ANNEX VIII.A: INTERNATIONAL CONSULTANTS

| Name | Function/Sector |
|---|---|
| Valerie Fernandez | Project Director |
| Benny Rud Hansen | Team Leader |
| Thisvi Ekmetzoglou | International Key Legal Expert |
| Jonathan Pearse | International Key Economics/Finance Expert |
| Svend Erik Andersen | International Expert/GMO, Chemicals |
| Peter Martin Nuttall | International Expert/Water, Waste |
| Hugo Lyse Nielsen | International Expert/Noise, IPC |
| Knud Erik Poulsen | International Expert/Air, IPC |
| Palle Grevy | International Expert/Horizontal |
| Martyn Murray | International Expert/Nature |
| Jesper Ansbaek | International Expert/Horizontal |
| Paul Dax | International Econocmics/Finance Expert |

## ANNEX VIII.B: NATIONAL CONSULTANTS

| Name | Function/Sector |
|---|---|
| Slavjanka Pejcinovska Andonova | Deputy Team Leader |

| | |
|---|---|
| Dejan Atanasovski | National Finance Expert |
| Snezana Jovanovska | Project Assistant |
| Ana Popova Manasievska | Interpreter |
| Beti Milososka | Interpreter |
| Igor Ristovski | Junior technical expert/Horizontal,IPC,Noise |
| Aleksandar Ivanovski | Junior technical expert/Nature,Water |
| Joze Jovanovski | Junior technical expert/Water,Waste |
| Goran Angelovski | Junior technical expert/GMO,Chemicals |
| Milena Manova | Junior technical expert/Air, Waste |
| Iskra Stojanova | Junior Legal expert |
| Katerina Paketcieva | Junior Legal expert |
| Liljana Peeva | Natonal Expert/IPC, Waste |
| Gjorgji Velevski | Natonal Expert/Waste |
| Vladimir Stavrik | National Expert/Water |
| Magdalena Trajkovska Trpevska | National Expert/Air |
| Ljupco Melovski | National Expert/Nature |
| Antoaneta Bukleska Ralevska | National Expert/Horizontal |

# ANNEX IX: RELEVANT DOCUMENTS USED IN DEVELOPING THE NSEA

## ANNEX IX.A: NATIONAL DOCUMENTS


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2005, 2005;
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R. of Macedonia (First National Report) , 2003;

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