NATIONAL ACTION PLAN (NAP)

FOR SLOVENIA

for the Protection of the Mediterranean Sea against Pollution from Land-based Sources

Document prepared for the Mediterranean Action Plan (MAP)

in the framework of the Strategic Action Plan (SAP)

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Content:

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PREFACE

The Contracting Parties to the Barcelona Convention adopted in 1997 a Strategic Action Programme (SAP MED) to address pollution from land based activities. The SAP MED identifies the major pollution problems of the region, indicates the possible control measures, shows the cost of such measures and establishes a work plan and timetable for their implementation. The immediate objectives of the SAP MED which have been agreed upon are: to protect the marine environment and coastal zones through prevention of pollution and by reduction and, as far as possible, elimination of pollutant inputs, whether chronic or accidental; and to develop and implement national programmes of action for the protection of the marine environment from land based sources. The formulation of the National Action Plan (NAP) represents the operational long-term aim of the SAP MED, as the NAP is expected to make use of the results of the individual activities identified in the SAP MED. In the NAP, pollution from land based sources is addressed, including the adoption of the targets and activities identified in the SAP MED. Nevertheless, the NAP can only be implemented successfully if extensive bilateral, regional and international cooperation is achieved.

EXECUTIVE SUMMARY

The National Action Plan (NAP) is an important output of the Strategic Action Programme (SAP MED). The Baseline Budget (BB) and the National Diagnostic Analysis (NDA) for Slovenia, prepared in 2003, served as the basis for the preparation of the NAP. The NAP thus includes a review on the existing pollution from land based sources, adoption of targets, foreseen activities, priority actions and other legislative aspects for the implementation of the NAP with the final aim to reduce and/or eliminate pollution form land based sources.

Insufficiently treated municipal waste waters are issue of primary concern at the Slovenian coast. The agreed priority actions are thus focused on construction and modernization of waste water treatment plants and public sewage systems to achieve appropriate treatment of municipal waste waters. In addition, solid and hazardous wastes are also of concern. Although a principle system on collection and recycling of these wastes is already built up, a further work is needed to upgrade it, in order to achieve a convenient solid and hazardous waste management system. The issue of wastewaters and solid wastes from industrial installations is only of modest concern. In addition, emissions of pollutants from these sources will be further reduced, when the Integrated Pollution Prevention and Control (IPPC) directive will enter into force (by October, 2007), and therefore all industrial installations in Slovenia will have to meet emission limits in accordance with the emissions of the Best Available Technique (BAT) in the respected field. Other issues, such as heavy metals and organohalogens are only of minor or no concern. Some specific activities on the national level are also foreseen in this field to reduce and eliminate emissions of these pollutants.

Finally, it is important to say that emissions of pollutants from land based sources are to be in agreement with the existing Slovenian and European directives and rules. The implementation of the NAP will therefore be easier and more effective, since several concrete projects are already developed. Nevertheless, a wide bilateral, regional and international cooperation is still needed to effectively reduce pollution, and improve and further protect the marine environment in whole Gulf of Trieste.

1. SCOPE

1.1. OVERVIEW OF THE NATIONAL ISSUE RELATED TO LBS PROTOCOL AND SAP

The Republic of Slovenia, as the signatory to the Convention for the Protection of the Mediterranean Sea against Pollution and other pertaining protocols, is included in the activities of the MED POL programme "Research of the sea quality" comprising the monitoring of the coastal sea pollution in the eastern part of the Golf of Trieste.

Within the Mediterranean Action Plan a research and monitoring programme was developed after the Protocol on Protection of the Mediterranean Sea against Pollution had been adopted. The pilot form of this programme, known as MED POL-PHASE I, took place during the period 1975-1980. The experiences gained from this programme laid the grounds for the "Long-term research and monitoring programme for the Mediterranean sea pollution", known as MED POL - PHASE II. MED POL - PHASE II, is organised at 4 different levels: monitoring of pollution sources, monitoring of coastal areas including the river outflows, monitoring of the high seas (reference area) and monitoring of pollution via the atmosphere.

The National monitoring Programme, MED POL - PHASE III, was established and implemented in 1999. This monitoring includes the monitoring of land-based sources of pollution, monitoring of pollution hot spots (estuaries of rivers, wastewater outfalls, port and marina sites), the compliance monitoring of recreational waters and waters used for mariculture, the analysis of the status of coastal ecosystems including supporting measures (data quality assurance co-ordination and information systems). The monitoring of the ecological status of the marine environment includes the monitoring of contaminant levels in biota and sediments in order to follow long-term changes of the chemical status of coastal waters (monitoring along the pollution gradients, polluted and reference areas), biomonitoring, trend monitoring and monitoring of wetlands.

At the regional level, the significance ascribed to water makes the cooperation of the states in the water protection very important. The Republic of Slovenia actively participates in the implementation of the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols applying to Slovenia as from 1994. Recently, Slovenia has gained an important role in the implementation of the Mediterranean Action Plan (MAP), which is reflected in particular in the implementation of the Contingency Plan for Dealing with Pollution Incidents in the North Adriatic Sea and the Agreement between Slovenia, Italy and Croatia on the implementation of this Plan. Slovenia plans to sign this Agreement in 2005 or as soon as the conditions for the signature have been fulfilled. By 2005, a coastal area management plan (CAMP) for the Slovene coast will be drawn up, too. The goal of this programme is to reduce the pressure and impacts on the marine environment.

The Republic of Slovenia supports the Secretariat of the Barcelona Convention by participation in the preparation of the Marine Protection Strategy, which is being prepared by the European Commission with a view to integrating European environmental policy into various sector policies.

As an active signatory to the Barcelona Convention, the Republic of Slovenia succeeded in its candidature for the organisation of the 14th regular meeting of the signatories to the above-mentioned Convention, which will be held in November 2005. As a host to the meeting and presiding over the Mediterranean Action Plan in the period 2005-2007, Slovenia will continue to strive for the best possible interconnection of the states, regions and local communities for the

realisation of sustainable development principles through the implementation of concrete programmes and projects for preservation of good ecological status of the Adriatic water body.

When deciding on the ratification of the international agreements, Slovenia follows the EU programme in this area.

1.2. NATIONAL JURISDICTION

1.2.1. The Water Act

The adoption of the EU Water Framework Directive, which is a binding piece of legislation for the Republic of Slovenia as an EU member state, has clarified some important fundamentals for the design of water management policy and activities in the future.

The Water Act, which has been adopted in year 2002, represents the fundamental legislation for the implementation of water policy, confirms the main principles and purposes of the Directive, which are to ensure high quality of waters and water ecosystems. At the same time, it exceeds the requirements of the Directive by laying out the basis for water management, with regard to the protection of people and material goods from waters.
The main objectives of the Act are:

- the protection and use of waters in order to ensure the sustainability of this natural resource;
- water management on the basis of integral hydrographical areas, i.e. river basins;
- the introduction of an economic price for the use and pollution of waters;
- public participation in water management.

The main objectives in the area of water management are:

- the protection of wetland and coastal areas in order to ensure sufficient space for water and its dynamics;
- the limitation of development in areas which are endangered by floods;
- the appointment of public service providers who will be required to work in the public interest.

The objectives and contents of the Water Act should be interpreted and implemented in close connection with the Environment Protection Act and the Nature Protection Act as well as with other relevant regulations. The most important future activities in this area are:

- the definition of new organisational, financial and expert foundations for water management;
- preparation of legal provisions and standards for water management;
- preparation of fundamental strategic documents (the National Water Action Plan and the Strategy for the Preparation of Water Management Plans);
- preparation of regional water management plans (an international obligation);
- preparation of water management plans for individual river basins as the basis for implementation of water policy.

1.2.2. The Spatial Planning Act

The Spatial Planning Act, which has been adopted in year 2002, represents the fundamental legislation for the implementation of spatial planning policy.

The basic principles of the Spatial Planning Act are:

- a clear division of competencies regarding spatial planning and permits for spatial interventions between the State and local communities;
- preservation of an adequate hierarchy of documents; clear relation and hierarchy between the national and local spatial documentation;
- determination of a clear structure of spatial documentation with a systematic division between the standards and individual projects;
- greater developmental dynamics and flexibility within spatial documents through the introduction of a special form of regulation plan (currently the spatial implementation act), which acts as a sort of a project programme, encompassing the so-called spatial measures such as the pre-purchase right of local communities, commassation, expropriation and various compensations. It should be used particularly for the needs of the public sector, and for the regulation of areas with unsuitable real estate structure, degraded natural or urban environment, etc.;
- implementation of a system of compensation for modifications of current spatial rights, which should decrease the pressure upon local and State administration, diminish investments risks, and make possible an effective partnership between public and private developments;
- greater care by the State and local communities for a positive and directed development of spatial structures, particularly settlements. The law introduces a development area within a settlement as a spatial reserve for that settlement's long-term development, where the original use of space is being preserved until adequate spatial documents are adopted, albeit conditioned by settling needs and demands;
- an initiative for planning and realisation of spatial regulations and spatial interventions should be a legitimate incentive to modify spatial plans but, contrarily to the current practice, these initiatives should be considered periodically;
- spatial intervention permit procedures should be clearer and more rational than the current ones. The law preserves the location permit in which all planned matters connected to the public interest are to be checked on the basis of a location project. The permit should also serve as a basis for the realisation of the administrative procedure (requests of consenting parties, eventual neighbours' complaints, etc.). The current construction permit, which is not subject of this law, is being replaced by a revision of construction plans;
- spatial planning (general and particular) should be performed by a regulated profession, whilst spatial documents, except for the national spatial plan, should be executed by companies and individuals, united in a spatial planners' chamber.

1.2.3. The Maritime Code

The Slovenian Maritime Code was adopted by the National Assembly in March 2001. It regulates the sovereignty, jurisdiction and control of the Republic of Slovenia over its sea. Further, it regulates the navigation safety in Slovenian territorial and internal seawaters, the protection form sea pollution from boats, the regulation of ports, contracts and other law matters related to marine transport, the register of boats, collision rules, etc.

The Code stipulates that the sovereignty of the Republic of Slovenia over its sea extends over the coast, the internal seawaters to the territorial seawaters, the air above it and the bottom of the territorial sea and its underground. The Republic of Slovenia prevents pollution in internal and territorial seawaters, preserves and promotes the improvement of marine environment.

The Code ensures also the conditions for navigation routes in the territorial seawaters, the conditions for safety objects, ports, boats, crews, etc. and it regulates the inspection for prevention of pollution from boats.

1.2.4. Legislative Framework of Environmental Protection

The national and municipal legislation affects the development prospects of the State and municipalities. By strict regulations, the State or municipalities can open and close the room for the entry and development of new enterprises and settlement.

The National Legislation and Its Stipulations
The fundamental document regulating the environmental protection is the **Constitution of the Republic of Slovenia**, which assures healthy living environment to everyone and it obliges the citizens to protect the natural and cultural heritage.

The Constitution compels the legislative body – the National Assembly – to establish the environmental protection by law which may restrict economic and other activities and establish under which conditions and to what extent the responsible for damages to the living environment are obliged to provide compensation.

Another important document, which establishes the protection of environment, is the **Penal Code of the Republic of Slovenia.** It regulates criminal offence against the environment, space and natural assets. According to the Penal Code, imprisonment is threatened for burdening and destruction of the environment and space, for environment deterioration caused by motor vehicles, input of hazardous substances from abroad, illegal disposal of hazardous substances, contamination of drinking water, foodstuffs and fodder, illegal acquisition of immovable property, destruction of plantations by hazardous substances, destruction of forest, torturing of animals, illegal hunting and illegal fishing.

Based on the **Environmental Protection Act**, the fundamental goals of environmental protection are lasting conservation of natural vitality, biodiversity, autochthonous biotic species, their habitats and ecological balance, preservation of the diversity and quality of natural goods and the natural gene pool, conservation of soil fertility, preservation and recovery of diversity and cultural and aesthetic values of the landscape and the natural wealth, and reduced use of natural resources, materials and energy.

As regards the preparation of the regional development programme and in particular the part on the environmental protection, the fundamental principles of environmental protection such as the principles of integrity, cooperation and prevention, the principle of polluter's responsibility, the polluter-pays principle, the principle of compulsory insurance, the principle of compulsory subsidiarity, the principle of promotion, the principle of publicity and the principle of the protection of the rights.

Protection of the nature is regulated by the Nature Conservation Act and other laws, which regulate particular natural areas. The law regulates the conservation of biodiversity, protection of natural wealth, programming of the preservation of nature, guidelines for and approaches to the preservation of nature, monitoring of the conditions, organization of the nature preservation, financing of the nature preservation, control and penalty provisions for breaking of the law. The

Act regulates the preservation of biodiversity, natural balance and the protection of natural wealth.

In addition to the abovementioned environmental protection laws, the following acts should be mentioned: the Act on Forests, the Agricultural Land Act, the Water Act, the Spatial Planning Act, Freshwater Fisheries Act, Marine Fisheries Act, the Act Regulating the Protection, Breeding and Hunting of Deer and the Management of Hunting, the Energy Act, etc.

Regulation Acts
The regulation acts concerning the environmental protection regulate the following areas:
In the area of **air protection,** the regulation acts stipulate the limiting, warning and critical input and emission values of substances in the air as well as the tax on air pollution, measurements and operational monitoring and dealing with ozone depleting substances.

The regulation acts determine the taxes on **water** pollution and discharge of hazardous substances and plant fertilizers into soil, the monitoring of groundwater pollution by hazardous substances, health and hygiene safety of drinking water, price formation of requisite local water supply and transport public services and the use of toxic substances used for the preparation of plant protection products.

Management of **wastewater** is regulated by the acts dealing with the emission of substances and heath generated during the discharge of waste water from the pollution sources, emission of substances during the discharge of waste water from municipal wastewater treatment plants, price formation of requisite local public services for discharge and treatment of waste water and the water from precipitations, the first measurements and operational monitoring of waste water and the conditions of its implementation.

Undoubtedly, the decree that stipulates the emissions of substances from immovable sources of pollution is very important for the **economy**.

The acts regulating the **protection of soil** stipulate the input of hazardous substances and vegetal substances into the soil, the limiting, warning and critical input values of hazardous substances into the soil and the operational monitoring of the input of hazardous substances and vegetal substances into soil.

The Nature Conservation Act and other acts relating to the **protection of nature** have provided the basis of various decrees regulating the natural wealth, i.e. the Decree on Sečovlje Saltpans Landscape Park, the Decree on the Prohibition of Disturbing the Endangered Animals at the Karst Edge, the Decree on Provisional Protection of Fossil Vertebrate at Kozina and the Decree on Proclaiming the Area of Notranjski Snežnik a Natural Monument.

The regulations acts stipulate also the **control of noise** in natural and living environments, the noise generated by road and rail transport, the first measurements and operational monitoring of noise at the sources and the conditions of its implementation.
In the field of **waste management** there are regulations that control the waste disposal, treatment of waste oils, packaging and packaging waste, the methodology for price formation of requisite local public services dealing with municipal waste management and disposal of waste residue.

Electromagnetic radiation is regulated in natural and living environments and the regulations stipulate the first measurements and the operational monitoring of the sources of electromagnetic radiation and the terms of its implementation.

There are many important regulation acts regarding the environmental protection in the area of **agriculture and forestry**. Namely, the most important are the Decree on the Input of Hazardous Waste and Vegetal Substances into the Soil, the Rules on Operational Monitoring of the Input of Hazardous Waste and Vegetal Substances into the Soil, the Rules on Forest Protection, The Rules for Organic Farming and Food Processing and the Guidance on When a Farmer can be Considered a Good Manager and many others.

1.2.5. The National Environmental Action Programme (NEAP)

The new National Environmental Action Programme (hereinafter referred to as NEAP) has been adopted in 2004 and prepared on the basis of the Environmental Protection Act and complies with the European Community environmental programme dealing with the key environmental goals and priority tasks requiring Community guidance. NEAP thus meets the obligations of transposing the acquis communautaire into the Slovene national law, and on the other side makes the goals and measures laid down in the European Community joint documents operational.

NEAP lays down key environmental goals and priority tasks based on the assessment of the state of the environment and prevailing trends. The tasks and goals have to be realised prior to the expiry of the programme unless otherwise provided. NEAP represents a starting point for the environmental dimension of the Strategy for the Development of Slovenia, which defines the vision of Slovenia's future as well as orientations and measures for realisation of this vision by 2013.

The basic orientation of the environmental protection policy, which was defined already in the Environmental Protection Act and the first National Environmental Action Programme (NEAP, 1999), is to ensure sustainable development in contrast to the usual method of solving environmental problems by using technical solutions to limit the pollution. The concept of sustainable development is increasingly applied in the international community and the EU Member States as a development, which allows future generations to survive and meet their needs, and emphasises, in addition to the concern for prevention and reduction of the pollution at source, lower and more rational use of natural resources and preservation of biodiversity. In the environmental area, sustainable development represents organisation of economy, infrastructure, settlement and lifestyle within the framework of the carrying capacity of the environment and natural resources. Therefore the programme takes into account also the measures provided in the Implementation Plan, which was adopted by numerous states at the World Summit on Sustainable Development (Johannesburg, 2002) and aims at the promotion of integration of environmental contents into other sector policies in accordance with the integration principle.

The programme comprises a period of four years following its adoption (presumably as from the end of 2004 to 2008 inclusive) and contains the orientations for the future, since goals and measures for certain areas have been set for a longer run. Suitable incentives for reaching the set goals in different areas of policy are composed of a number of measures, including consistent implementation of legislation, strategic orientations and instruments.

Goals and measures have been defined within the framework of four areas, namely: climate changes, nature and biodiversity, quality of life, and waste and industrial pollution. The above-mentioned areas have been transposed and thus comply with the EU environmental programme, with the exception of the "industrial pollution", which has been added due to important measures related to the implementation of the Directive on the Integrated Pollution Prevention and Control

and to the introduction of the environmental licence. In this chapter, NEAP summarises also those measures, which have already been defined in the adopted operational programmes.

The basic goals according to individual areas are:

- to emphasise climate changes as an important challenge in the following years and to reduce the greenhouse gas emissions and thus contribute to the long-term goal of stabilisation of greenhouse gas concentrations in the atmosphere, as well as to reduce the emissions of ozone depleting substances;
- to protect and preserve natural systems, habitats, wild fauna and flora with a view to preventing the loss of biodiversity, genetic diversity and further land degradation;
- to contribute to a high quality of life and to social welfare of citizens by providing the environment, in which the pollution degree does not have harmful effects on the public health and the environment, and by encouraging sustainable development in towns;
- waste management and use of renewable and non-renewable natural resources, which allow sustainable production and consumption, contribute to the reduction of environmental pollution and energy use so that they do not exceed the carrying capacity of the environment.

NEAP also lays down the principal operators in the area of environmental protection, namely public and local administration, providers of state and municipal public utilities for the environmental protection, and non-governmental organisations, their role and the main orientations. The orientations and priority tasks have been defined also in the area of international activities with a view to integrating environmental protection requirements also into the foreign policy and development cooperation, providing efficient implementation and enforcement of international agreements concerning the environment, as well as accelerated cross-border cooperation with the neighbouring states and regions. The measures in the area of communication with the public and education on the environmental protection are key support measures for successful implementation of the programme and can contribute to changing of social habits, system of values, and non-sustainable lifestyle. In this context, it is necessary to provide access to environmental information, public participation in environmental policy making, public information and public awareness, and environmental education, which will ensure the conditions and circumstances for equal and longer-lasting reduction of negative impacts on the environment.

The main orientation for reaching the programme goals is the already quite established fundamental principle of environmental protection, i.e. "polluter-pays principle". Therefore, the programme defines economic instruments and environmental taxes as the main source of funds. Besides that, it lays down further orientations in the system of financing environmental protection. The programme stipulates the funds for programme implementation only indicatively, since these are more precisely defined in the operational programmes.

Regarding the monitoring of the implementation and the evaluation of the programme, the last chapter specifies the tasks and deadlines for their realisation as well as a number of indicators for international comparability with regard to the realisation of goals and the state of the environment.

1.2.6. The Act on the Promotion of Balanced Regional Development

This Act defines the aims, principles and organisation for the promotion of regional development, the allocation of development incentives and the eligibility criteria for the areas

with special development problems. The promotion of balanced regional development is a constituent of regional development policies.

The promotion of balanced regional development is based on the following goals:
- promoting balanced economic, social and spatial aspects of development;
- diminishing the differences in levels of economic development and in living conditions among areas, stressing an overall approach to the development of rural areas;
- preventing the emergence of new areas with major development problems;
- retaining settlement over the entire territory of the Republic of Slovenia according to the polycentric system of settlement;
- promoting the development of environmental-friendly production and the protection of natural resources, the natural and cultural heritage and other public goods.

The principles of the promotion of balanced regional development are:
- integral implementation of regional structural policies over the entire territory of the Republic of Slovenia;
- partnership in the form of co-operation between the state and local communities and co-operation between public and private sectors;
- co-ordination among individual ministries and local communities in planning incentives for balanced regional development in the context of the national budget;
- subsidiarity, which determines that in the planning, implementation, monitoring and evaluation of programmes, higher territorial authorities perform only those tasks which cannot be performed more efficiently on a lower level;
- programming of development incentives aimed at balanced regional development programmes and projects;
- evaluation of the effects of development incentives by monitoring the legality of procedures of their allocation and spending and by evaluating their success according to comparable European statistical methods;
- co-financing balanced regional development from municipal budgets, the state budget, private and other sources.

1.2.7. National Institutional Structure

The Slovenian Council for Sustainable Development

In 1997, the Government of the Republic of Slovenia created the Slovenian Council for Sustainable Development as a consultative body. The Council assists the Government with the realisation of sustainable development in Slovenia. The Council adopts guidelines and recommendations for sustainable development in Slovenia, evaluates the documents related to sustainable development and provides inputs in accordance with the principles of sustainable development to the National Environmental Protection Programme and other sector strategies.

The members of the Council are: the Prime Minister of the Republic of Slovenia who presides over the Council, the Ministers of the Environment and Spatial Planning, of Science and Technology, of Economy, of Transport and Communications, of Agriculture, Forestry and Food, of Finances, of Education and Sports, of Health, of Labour, Family and Social Affairs, of Economic Relations and Development, and representatives of the Government Office for Women's Policy, the Council for Environmental Protection, the Slovenian Academy of Science and Arts, the University of Ljubljana, the University of Maribor, the Slovenian Chamber of Economy and the Chamber of Crafts as well as three representatives of environmental non-governmental organisations.

The activities of the Council are divided among several working groups in the following areas:
- integration of sector policies and programmes into the framework of sustainable development;
- monitoring and evaluation of sustainable development;
- co-operation with the UN Commission for Sustainable Development (UN CSD);
- "green" tax reform – the environmental reform of public funding;
- education, promotion, institutional reinforcement and research in the area of sustainable development.

The Council for Environmental Protection

The Council for Environmental Protection of the Republic of Slovenia (CEPRS) was founded in 1993 by the Parliament of the Republic of Slovenia in accordance with the Article 90 of the former Law on the Environmental Protection. The tasks of the Council are to monitor the quality and the protection of the environment in Slovenia, to assure participation of Slovenia in global environmental actions elsewhere, and to influence public awareness in Slovenia through its statements, recommendations and suggestions.

The members of CEPRS are all experts and researchers in various fields of science, which enables comprehensive estimation of phenomena and conditions of the environment from the viewpoint of protection of the national natural wealth and its sustainable management. The Council has standing orders, office space, and other amenities that enable intensive work on the aforementioned issues.

The CEPRS operates professionally and independently; it is neither a governmental nor an executive agency, but it can lead discussions with these agencies or project councils and other institutions. It expects constructive co-operation from everybody involved in environmental issues. The views and evaluations given by the Council can only be of a professional nature; political evaluations and decisions are the responsibility of the Parliament and other political bodies. The Council, however, does not retreat from the estimations of social interest in, and influences on the environment.

The Ministry of the Environment, Spatial Planning and Energy

The responsibilities and activities of the Ministry of the Environment, Spatial Planning and Energy relate to the protection of the environment and nature; spatial planning and ensuring that various acts passed by local communities are in line with national legislation; water and water management; primary and transformed energy; acquiring energy resources and rational management of these resources; strategy for the management of mineral resources, irrespective of whether they are metal, non-metal or used for energy; the possible opening of new mines and the functioning of the existing ones, with the exception of those which are in the process of closing or have already stopped functioning, as specified by law; geological, seismological, meteorological and other geophysical and natural phenomena; nuclear safety; environmental intervention and construction work, except where connected with building materials; housing affairs; development strategy in the setting up and linking of spatial information systems at the national and local levels; geodesy; and the control by inspectors of activities in all of these areas.

The Environmental Agency

The Environmental Agency of the Republic of Slovenia is a body within the Ministry of the Environment, Spatial Planning and Energy. It is the main national expert institution, which is responsible for implementation of the administrative and expert tasks related to the integrated protection of the environment and natural assets. These include the conservation of nature, the protection of air and soil, environmental impact assessment, protection from noise, water

management, the distribution of concessions for use of waters, the monitoring of meteorological, hydrological and ecological parameters, assessment of the state of geological, seismological and other geophysical phenomena, etc. They were organised into units: the Environmental Office, the Office for General Affairs, the Monitoring Office, the Seismological Office and the Meteorological Office. The Agency was established in order to enhance the effectiveness of the organisation (including the delivery of information), through rationalisation of administrative procedures. The Agency was established in 2001.

The Agency for Efficient Use of Energy
The Agency carries out professional tasks relating to:

- preparation of national programmes for rational use of energy and for elaborating and developing promotional programmes in this field;
- analyses of energy consumption in Slovenia according to technical, structural, financial, legal and behavioural nature;
- monitoring and evaluating all promoting and supporting activities for energy efficiency;
- preparation of the proposals for regulation, related to energy efficiency, and the proposals for fiscal and financial measures on the national level for supporting energy efficiency;
- information and awareness building programmes;
- energy advisory network for households;
- energy advisory scheme for large energy consumers in industry and public sector;
- energy auditing programmes;
- local energy concepts;
- energy efficiency investment scheme;
- small financial incentives scheme for households.

The Inspectorate for the Environment and Spatial Planning:

- supervises the implementation of laws, other regulations and general acts which govern environmental protection and conservation, and ecological monitoring at the state border;
- water regime, and water management and use;
- land and settlement issues, alterations to the landscape and the construction of buildings;
- housing issues;
- geodesic activities.

The Inspectorate of the RS for the Environment and Spatial Planning carries out the monitoring of the search for and the exploitation of all types of raw minerals, electrical energy, thermal energy and the rational use of energy. Until now two independent inspectorates have been in charge of these areas, the Energy Inspectorate of the RS and the Mining Inspectorate of the RS.

Maritime Transport Administration
The Maritime Transport Administration (the Maritime Office) is a part of the Ministry of Transportation. It is in charge of:

- some tasks related to the development of port infrastructure (which is property of the Republic of Slovenia);
- supervision on the navigation safety and implementation of port order and order in other parts of the territorial sea and internal waters;
- organisation of 24 hours radio service;
- issuing of port operation certificates;
- regulation of sea traffic;
- supervision and regular maintenance of navigation safety buildings and objects, of port infrastructure, and of regular ship waste collection;

- issuing permits related to navigation safety for building or reconstruction of buildings on the coast or on the sea;
- issuing of permits for different activities on the sea in the area of the port;
- issuing of pilot licenses and keeping the pilot register;
- different tasks concerning port towing;
- issuing of permits for ship trial trips;
- issuing permits for permanent anchoring,
- issuing permits for lifting of sunken objects,
- keeping the ship register and performing other administrative tasks related to navigation safety.

The National Agency for Regional Development

The National Agency for Regional Development (hereinafter NARD) is closely related to the Ministry of Economy. Its aim is to co-ordinate, promote and implement the regional structural policy for balanced and sustainable regional development in the Republic of Slovenia. It encourages interregional, cross-border and cross-sectoral co-operation.

On the national and international levels, the NARD co-ordinates and implements:

- preparation of regional development strategy;
- preparation of the National Development Plan 2001–2006;
- preparation and implementation of PHARE programmes of economic and social cohesion (PHARE programmes including Cross-Border Co-operation which is complementary to Interreg IIIA);
- advise to the Council for Structural Policy on the RD policy issues.

On the regional level, the NARD:

- co-operates in the preparation of regional development programmes;
- assists with setting up regional development agencies on the NUTS III level;
- assesses the impacts of funding instruments for regional policy;
- monitors regional, state and international aids;
- assures conformity with the EU and national requirements;
- prepares reports for the relevant national and EU institutions on the progress made in the regions.

The Agency for the Agricultural Markets and Rural Development

The Agency is closely related to the Ministry of Agriculture, Forestry and Food and it was established for:

- implementation of the program of pre-accession assistance in agriculture and SAPARD;
- implementation of the program of agricultural policy reform in Slovenia; and
- implementation of the adaptation to the common EU agricultural policy.

The Agency performs tasks related to the implementation of actions in agriculture, forestry, fisheries and food processing in co-ordination with the common EU agricultural policy. Its activities comprise also financial intervention for the development and preservation of agriculture, food processing and rural development are performed.

1.2.8. Local Institutional Structure

The most important actors in the local institutional structure are the municipalities. The municipalities autonomously perform the tasks of local public significance that have been appointed by general municipal act or the national law.

In particular, according to the law, the municipalities are expected to:

- manage the municipal wealth;
- provide conditions for economic development and to perform tasks in the fields of catering industry, tourism and agriculture;
- perform spatial planning, interventions in the environment, building and to ensure the public service of building land management;
- enable conditions for apartment building and increase the housing stock;
- regulate, manage and take care of local public services;
- take care of air protection, soil protection, water resources, noise protection, collection and deposit of solid waste and other activities of environmental protection;
- regulate and maintain municipal water and energy objects;
- build, maintain and regulate local public roads and streets, recreational and other public surfaces, municipal traffic, etc.;
- take care of fire protection and rescue teams;
- organise aid and rescue in cases of elementary disasters;
- adopt municipal statutes and other general acts;
- organise municipal administration;
- promote social security services, services of pre-school children protection and elementary protection of children, families, socially vulnerable persons, handicapped and older people;
- promote sport and culture; and
- regulate and promote other activities of local significance.

In addition, the municipalities perform statistical, record and analytic functions.
The city municipalities (for example Koper and Nova Gorica) have additional tasks and responsibilities. These tasks are:

- organisation of public transport (also inter-city);
- regulation of opening and closing hours of restaurants and bars;
- geodetic services;
- establishment of the network of secondary schools and colleges; and
- provision of health service on the secondary level.

With the prior consent of the municipality, the State can (by law) delegate some tasks to the municipality, but only if the tasks can be more efficiently and rationally performed by the municipality.

1.3. DEVELOPING THE SAP/NAP: STRATEGY AND APPROACH

The strategy and approach to the preparation of SAP/NAP follows the efforts of the Republic of Slovenia as the EU Member State to attain a high level of environmental protection while taking into account the fundamental principles of environmental protection and preservation. The Republic of Slovenia transposed the acquis communautaire into its national law already during its accession activities. The changes are reflected also in the new environmental legislation, which closely follows the EU references and endeavours to meet the environmental, market and other requirements.

In accordance with the Strategy for the Development of Slovenia, in the period from 2005 to 2013, Slovenia will have to achieve the expected economic progress and increased welfare hand in hand with more efficient use of natural (environmental) capital, nature conservation and increased quality of residential environment. After 2010, the depletion of environmental sources and unacceptable use (globally and locally) of natural resources in terms of sustainability as well as burdening per inhabitant will require a more decisive transition to a developmental-environmental model of strengthened sustainability and optimum preservation of the environmental capital in Slovenia, too.

Upon transposing the acquis communautaire into its national law, the Republic of Slovenia amended its environmental policy and implemented it in the national sectoral rules. Due to more efficient goal realisation, the implementation of sectoral rules is defined by national sectoral programmes for a shorter period of time and by orientations for a longer period of time.

The approach to the preparation of SAP/NAP thus arises from the adopted national sectoral programmes for individual environmental areas.

1.4. METHODS OF IDENTIFICATION AND ASSESSMENT OF ISSUES

For the preparation of the NAP, the National Diagnostic Analysis (NDA) and Baseline Budget (BB) reports (both completed in 2003) were primary used for identification and assessment of issues. The NDA includes all national conditions and issues, such as contaminants and sources of degradation, physical alterations and destruction of habitats, significance of impacts and spatial areas of concern. The BB on the other hand enables to fix a reference level of pollutant releases in the administrative regions and on a national level. In addition, several other studies on pollution and pollution sources in coastal area as well as relevant guidelines and local programmes for environment protection were reviewed during the preparation of the NAP and taken into consideration in order to complement the NAP outputs with the most recent findings and information. Cadastral register of sources of pollution in the community of Koper was made in year 2004. Sources of air and liquid pollutants, noise and hazardous waste were included in the study. Since the data were obtained from the Environmental Agency of Slovenia, the same sources were listed and evaluated in the study as was the case in the NDA and BB. In the year 2004 study focused on the Bay of Koper was started. The Bay was evaluated as a possible “Hot spot” and all aspects of pollution, such as waste waters, solid wastes, contamination of soil, underground and surface waters, sea, sediments and industrial pollution were taken into consideration. The Bay of Koper was indeed recognized as a national “Hot spot” and several actions have been proposed in the study for the recovery of environment, i.e. the priority actions should be focused on completion of the Central waste water treatment plant Koper and public sewage system, reduction of industrial pollution, and reduction of pollution from sources in the

hinterland (settlements and agriculture). In contrast, local programme of environment protection for Slovenian Istra contains the state of environment with major issues, a plan of actions for improvement of environment and a vision of the future development of the whole Slovenian Istra. The programme emphasizes that waste water treatment and solid waste management is on the priority list of communities for future actions at the Slovenian coast. Overall, it was found that conclusions of these studies are in accordance with the previously prepared NDA and BB, while environmental priorities of local communities are in agreement with the issues that are included in NAP.

1.4.1. Marine areas endangered from land based activities

The Bay of Koper

The Bay of Koper is a small bay with a surface area of around 17 km^2. It has been considered a sensitive area, since it is endangered by industrial and domestic land based activities and pollution sources along the coast and its watershed as well as by polluted waters of the Gulf of Trieste.

A wide variety of economic activities are running in and along the Bay of Koper. Most of its coastline is constructed and urbanized. The central port of Slovenia, the Port of Koper, is located in the bay. Activities in the port are increasing every year and it currently handles around 10 million tons of cargo per year. The area is also industrially developed. Metal manufacturing, production of chemicals and food industry are the main branches of industry that are situated in this area. Tourism and recreation also exerts a pressure on the environment and is particularly massive in summer months.

Municipal wastewaters are an important source of pollution in the bay. They are primary treated and discharged in the estuary of the Rižana river. Around 122 tons of TN and 17 tons of TP are annually discharged to the sea from the Koper wastewater treatment plant. River effluents are additional important source of pollution. The Rižana and Badaševica rivers supply the sea with nutrients and other harmful pollutants from the coastal area and the watershed. It has been estimated that around 585 tons of TN, 8 tons of TP and 619 tons of suspended solids have annually entered the bay from the Rižana and Badaševica rivers.

Nevertheless, the Bay of Koper can be also endangered by polluted waters, entering the bay from the other parts of the Gulf of Trieste. Some areas on the Italian coast are highly industrialized and urbanized and consequently polluted. In addition, effluents of the Soča river are discharged to the Gulf and their impact can be also seen on the Slovenian part of the Gulf. All these factors can thus enhance the deterioration of the waters and the coastline of the Bay of Koper.

The Bay of Piran

The Bay of Piran, a small bay located in the southernmost part of the Gulf of Trieste that borders on Croatia, has been also considered as a sensitive area. It is mainly endangered by domestic sources of pollution.

The shoreline of the Bay of Piran is highly urbanized and constructed. The area is industrially less developed but some industry, such as food industry can be found. Intensive aquaculture is additionally observed in the bay, while the Sečovlje salt-pans are still used for salt production. Nevertheless, tourism and recreation are one of the main economic activities in this area, since Portorož and Piran are highly developed tourist centres.

Municipal wastewaters from Piran exert major impact on the environment. They receive primary treatment but it has been estimated that around 99 tons of TN and 10 tons of TP are annually discharged to the sea. Due to the use of diffuser, only the water layers close to the location of diffuser are generally polluted. Under specific wind weather conditions, a wider area can be however polluted. The Dragonja and Drnica rivers are also substantial contributors of nutrients and agricultural effluents from the watershed. It has been estimated that around 61 tons of TN, 1 ton of TP and 52 tons of suspended solids have been annually emitted to the Bay of Piran from these two rivers.

Table 1: Ranking of endangered marine areas at the Slovenian coast according to their effects (1 – no effect; 6 – extreme effect) on public health, drinking water quality, aquatic life, recreation, other beneficial uses, welfare and economy (UNEP/WHO, 1999).

	Location	Pollution	Public health	Drinking water quality	Aquatic life	Recreation	Other beneficial use	Welfare and economy
The Bay of Koper	Rižana river	Domestic, Industrial	3	1	3	5	4	5
	Badaševica river	Domestic, Industrial	3	1	3	4	4	3
	Izola	Domestic, Industrial	3	1	3	5	4	4
The Bay of Piran	Piran	Domestic	3	1	3	4	3	1
	Dragonja river	Domestic, Agricultural	2	1	2	2	2	2

1.4.2. Issues/Impact matrix

Since issues of different relevance are included in the NDA, an impact/issue matrix was therefore prepared to preliminary assess the relative importance of various issues on the coastal area. These environmental issues were scored according to their impact on human health, marine environment, socio-economic aspect and global environment. Individual impacts were initially attributed (by the international SAP team) with their own weights, and then each impact was scored by the national NAP team according to the contribution of the respective issue. The calculated final score of the issue reflects severity of environmental problems due to the respective issue. Additionally, final scores served for help in selecting the priority issues at the national level that will be solved during/after the implementation of the NAP.

Impact matrix for Slovenia is included in Appendix I.

2. NATIONAL ISSUES

Slovenia has many sources of pollution at the coast and its watershed. Liquid pollutants as well as air pollutants are emitted from these sources. A regular monitoring network, measuring emissions of various pollutants (as directed by the law) from these sources, was set up and is regulated by the Environmental Agency of the Republic of Slovenia. The list of all point sources of pollutants at the Slovenian coast and in the watershed area that are registered at the Environmental Agency of the Republic of Slovenia and emitted liquid pollutants without any pre-treatment is included in the NDA.

At the moment, wastewaters are an issue of primary concern at the Slovenian coast. Municipal wastewaters in Koper and Piran receive only primary treatment, while municipal wastewaters in Izola have no treatment at all. Other issues are mostly of moderate or minor concern. The principal industries in the coastal region thus include metal manufacturing, production of chemicals and food industry. In addition, the Port of Koper has become one of the most important export-import ports in the Central Europe. Its activities are increased every year. It currently handles around 10 million tons of cargo per year.

Some regions in the watershed are also strongly industrialized, especially the region along the Soča river. The main industries in the watershed include cement, lime and metal manufacturing, timber and food industry. Pollutants emitted in the watershed are widespread by air and waters. The Soča river is the main input of pollutants to the Gulf of Trieste from the northern and central part of its watershed. Since it partly flows on the Italian territory, both pollutant emissions, Slovenian as well as Italian are discharged to the Gulf via the Soča river. The Reka river is an outlet to the Gulf for pollutants emitted in the southernmost part of the watershed.

Non-point sources of pollution via atmospheric deposition, surface run-off and submarine groundwater discharges also exist. In addition, transboundary pollution is an issue in the Gulf of Trieste. However, these sources have received little attention until now and limited data on pollutant inputs are available.

Transboundary pollution is an issue in the Gulf of Trieste. Considerable source of pollution, affecting the water quality, is the nearby town of Trieste, with its population and industry. Moreover, conditions in the Gulf of Trieste are also determined by general conditions of the whole northern Adriatic basin and reflect different coastal zone managements of the existing parties.

2.1. IDENTIFICATION AND ASSESSMENT OF ISSUES

2.1.1. Sewage management

Municipal wastewaters are important sources of pollution. The municipal systems on the Slovenian coast are mixed, collecting wastewaters and also storm waters. Koper, Izola and Piran, the three largest towns on the coast, have wastewater treatment plants to discharge municipal wastewaters to the sea. However, their wastewater treatment plants differ in the level of treatment of municipal wastewaters. Municipal wastewaters in Koper (yearly effluent volume of about 4.3 10^6 m^3/year, Table 2) have primary treatment and are discharged in the estuary of the Rižana river and subsequently to the Bay of Koper. In contrast, municipal wastewaters in Izola (yearly effluent volume of about 2.5 10^6 m^3/year) are discharged directly to the sea, around 300

m from the coast. Municipal wastewaters in Piran (yearly effluent volume of about 3.4 10^6 m^3/year) also receive primary treatment. The effluent is discharged to the sea through a 3450 m long submarine pipeline ending with about 100 m long diffuser. A well designed diffuser can effectively dilute wastewaters. Yearly fluxes of some pollutants are presented in Table 2. Municipal wastewaters in Piran are predominantly household wastewaters. Nevertheless, industrial wastewaters are also collected, comprising up to 1/3 of the total yearly effluent of Koper and Izola municipal wastewaters. Unfortunately, there are still several small direct outlets along the Slovenian coast that are not connected to any wastewater treatment plant and discharge directly to the sea without any treatment.

In the watershed area, wastewater treatment plant in Ajdovščina is the largest, with a yearly effluent volume of about 2.8 10^6 m^3/year. In contrast, the other wastewater treatment plants are of smaller size, with their yearly effluent volumes being less than 1 10^6 m^3/year (Table 2). These wastewater treatment systems are also mixed, thus collecting wastewaters as well as storm waters. Household wastewaters are predominant municipal wastewaters, but industrial wastewaters are also collected.

Nutrients are major pollutants released through the wastewater treatment plants. 318 tons of total nitrogen (TN) and 49 tons of total phosphorus (TP) are released in the coastal and watershed region. The three coastal wastewater treatment plants have the major impact on the environment in nutrient emissions. The wastewater treatment plants in Koper, Izola and Piran emit 97 % of the total TN load and 88 % of the total TP load.

Table 2: Fluxes of nutrients from the wastewater treatment plants at the Slovenian coast and its watershed, for the year 2001 (NDA Slovenia, 2003).

	Flow rate [10^6 m^3]	**BOD_5 [tons]**	**TN [tons]**	**TP [tons]**
WWTP Koper	4.3	635	122	17
Izola†	2.5	641	88	16
WWTP Piran	3.4	320	99	10
WWTP Ajdovščina	2.8	256	4.2	3.0
WWTP Dobrovo	0.06	67	0.2	0.1
WWTP Idrija	0.9	2.5	0.4	0.8
WWTP Sežana	0.2	1.3	2.1	1.1
WWTP Tolmin	0.3	4.9	2.1	0.6
	14.5	1928	318	49

Source: Environmental Agency of the Republic of Slovenia

† estimation

Treatment plants

Liquid

BOD5	1927065 kg
Total nitrogen	317973 kg
Total phosphorus	48531 kg

2.1.2. Urban solid waste

Approximately 650 kg of solid waste per capita is disposed off yearly in Slovenia, giving a total weight of around 1,275,000 tons. Around 196,000 tons or 15 % of the total weight is disposed off in the coastal and watershed region. The structure of urban solid wastes is presented on Fig. 1. Household wastes comprise nearly 50 % of the total weight that is deposited off in the region. Construction wastes, being the second important waste fraction, constitute 38 % of the total weight of solid wastes. The other fractions, such as industrial wastes and sludge from wastewater treatment plants contribute each less than 10 % to the total weight of solid wastes in the region. An increased trend of solid waste disposal is observed. It is predicted that the amount of household and industrial solid wastes will increase by approximately 18 % by 2010.

Figure 1: Structure of urban solid wastes

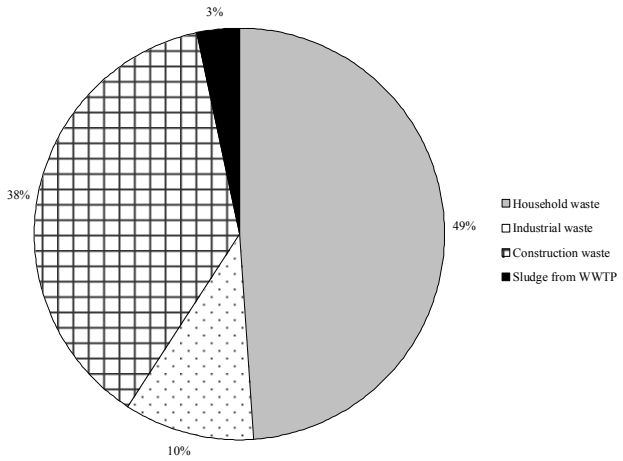

Table 3: Source of waste, that can be recycled and the portion of recycled waste (data from the State of the environment, 2002)

	Source of waste		Recycling [%]	
	Municipal	**Non-municipal**	**2001**	**2007**
Paper	57	43	43	70
Glass	80	20	36	50
Plastic	74	26	5	20
Metal	72	28	16	35
Wood	19	81	10	35

Some recycling activities are already running in Slovenia. Approximately 15 % of paper, glass and metals are currently being recycled (2001). Nevertheless, it is planned that at least 50 % of waste, that allows recycling, will be in fact recycled by 2007. The composition of waste, that can be recycled and trends of recycling activities are presented in Table 3.

2.1.3. Pollution caused by Hg, Cd, Pb

Electroplating and electric industry are the major sources of liquid emissions of heavy metals to the environment at the Slovenian coast and its watershed. In general, liquid emissions of heavy metals by these land based point sources are scarce and therefore of slight concern. Detailed liquid emissions of mercury (Hg), cadmium (Cd) and lead (Pb) are summarized in Table 4.

Table 4: Liquid emissions of mercury (Hg), cadmium (Cd) and lead (Pb) at the Slovenian coast and its watershed, for the year 2001 (NDA Slovenia, 2003)

Pollutant	**[kg]**
Cadmium (Cd)	0.1
Lead (Pb)	1.4
Mercury (Hg)	0.1

Source: Environmental Agency of the Republic of Slovenia

In contrast, riverine input is an issue of concern, since substantial amount of heavy metals is contributed to the marine environment via this path. It was shown that the polluted rivers of Rižana and Badaševica are the main sources of heavy metals in the Bay of Koper, while the Dragonja river is the main source for the Bay of Piran. It has been estimated that riverine loads of heavy metals are at least one order of magnitude higher than industrial loads. Yearly inputs were also estimated and ranged around 0.5 kg of mercury (Hg) and 231 kg of lead (Pb). In addition, the Soča river drains the two already closed mining areas but increased concentrations of mercury (Hg) and lead (Pb) are still observed in the Gulf of Trieste.

In the study (ERICo, 2002), it was concluded that there are no significant emissions of mercury (Hg) from land based point sources in Slovenia, having an impact on the environment. Nevertheless, it was also found that the already closed Idrija Hg mine is still burden for the environment. Decommissioning activities in this mine, including ecological rehabilitation above and below the ground, are currently in progress and are to be finished by 2006. It has been estimated that the Gulf of Trieste receives yearly around 1,500 kg of mercury (Hg) through the riverine input of the Soča river that drains the Idrija Hg mine. Therefore, mercury (Hg), as a critical contaminant in the Gulf of Trieste, has been studied thoroughly in several other studies. Data showed that even 10 years after the closure of the Idrija Hg mine, mercury (Hg) concentrations in river sediments and waters were high and no decline of mercury (Hg) concentration in the Gulf was observed. The major source of inorganic mercury (Hg) is still the Soča river. In contrast, the highly toxic compound methyl mercury is mainly contributed by the bottom sediments in the Gulf, since its concentration was higher in the bottom waters. Additionally, it has been shown that 26 % of the total mercury (Hg), of which up to 25 % is in the methylated form, is annually recycled and released from the sediment-water interface.

2.1.4. Organohalogens

PCB

Although the use of PCB in Slovenia is prohibited since the mid-1980s, a danger with the PCB pollution still exists, due to the PCB content in transformers and capacitors that started to operate before the enforcement of the law. In the year 2001, data on the PCB content were collected in all enterprises and companies that have more than 500 mg of PCB/kg in various PCB containing devices. In Slovenia, a total amount of 118,503 kg of PCB was reported for the devices (mostly transformers and capacitors) that are still in use. 9 % of the total Slovenian amount of PCB, i.e. 10,765 kg is located in the devices at the coast and in its watershed. Furthermore, a total load of 55,960 kg of PCB was exported abroad in 2001 for a proper destruction, since there is no decontamination/destruction unit for PCB in Slovenia.

In addition, there is around 650,000 kg of small capacitors widespread throughout the country, with a content less than 500 mg PCB/kg. It has been assessed that these small capacitors contain around 215,000 kg of PCB, and thus also represent a substantial source of PCB.

Organohalogened Pesticides

At the moment, there are no data available on liquid emissions of organohalogened pesticides, neither for Slovenia nor for its coast and the watershed.

Agriculture is probably the main source of organohalogened pesticides to the environment. There is an increasing trend of use of pesticides in Slovenia. In 2000, 1,602 tons of pesticides were used, corresponding to 3.1 kg/ha of agricultural land. Fungicides and bactericides comprised 55%, herbicides 27%, insecticides 12 % and others 6 % of the total pesticide load. Nevertheless, the use of nine pesticides that are included in the Protocol on Persistent Organic Pollutants (i.e., aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex, and toxaphene) is strongly prohibited in Slovenia and these pesticides had been banned.

Nevertheless, PCB and pesticides were measured in the surface sediments in the Gulf of Trieste. It was found that the PCB and pesticide concentrations were lower in the more open sea than in the near-shore area. The highest PCB and pesticide concentrations were observed in the Bay of Koper and were related to the wastewater and industrial effluents that discharge into this bay.

2.1.5. Wastewater and solid waste from industrial installations

The principal industries in the coastal region include metal manufacturing, production of chemicals and food industry. These industries are mostly located around Koper and Izola. In addition, the Port of Koper has become one of the most important export-import ports in the Central Europe. Its activities are increased every year. It currently handles around 10 million tons of cargo per year.

Some regions in the watershed are also strongly industrialized, especially the region along the Soča river. The main industries in the watershed include cement, lime and metal manufacturing, timber and food industry and are located close to Nova Gorica. Pollutant emissions are widespread by air and waters. The Soča river is the main input of pollutants to the Gulf of Trieste from the northern and central part of its watershed. Since it partly flows on the Italian territory,

both pollutant emissions, Slovenian as well as Italian are discharged to the Gulf via the Soča river. The Reka river is an outlet to the Gulf for pollutants emitted in the southernmost part of the watershed. The main centre there is the basin of Ilirska Bistrica with timber and food industry. However, this region is less industrially developed.

Low loads of nutrients from point sources are observed and presented in Table 5. In total, 19 tons of total nitrogen (TN) and 6.5 tons of total phosphorus (TP) are loaded in the environment. Dairy industry is the most important source of nutrients, emitting 75 % of TN and 80 % of TP loads. Substantial contributors of nutrients are also fish processing industry, industry of non-alcoholic beverages, slaughterhouse and farming of animals. However, these contributors are of minor importance.

Table 5: Nutrient emissions from point sources at the Slovenian coast and its watershed, for the year 2001 (NDA Slovenia, 2003)

	BOD_5 [tons]	**TN [tons]**	**TP [tons]**
Dairy industry	327	14.2	5.2
Fish processing	92.1	2.1	NA
Non-alcoholic beverages	30.4	NA	NA
Farming of animals	4.4	1.1	1.2

TN: total nitrogen; TP: total phosphorus; NA – not analyzed
Source: Environmental Agency of the Republic of Slovenia

Nevertheless, riverine inflows are the main contributors for TN, TP and suspended solids in the Gulf of Trieste. It has been estimated that in total around 645 tons of TN, 9 tons of TP and 671 tons of suspended solids have entered the Gulf through the riverine inputs and effluents.

2.1.6. Lubricating oil, hazardous chemicals and obsolete chemicals stockpiles

Lubricating oil

Waste oils in Slovenia are discharged in accordance with the Rules on waste oil management. It is generally accepted that at least 50 % of waste oils can be collected, while the other half is lost during their use. Approximately 15 % of the total collected lubricating oils in Slovenia are collected at the coast and its watershed (Table 6).

Table 6: The fate of waste oils, for the year 2001 (NDA Slovenia, 2003)

	Slovenia [kg]	**Coast and watershed [kg]**
Collected lubricating oils†	3,176,660	480,260
All collected lubricating oils	4,681,801	
Formed lubricating oils	2,575,828	
Removed lubricating oils	2,784,491	
Recovered lubricating oils	1,066,041	

† collected at the official sites
Source: Environmental Agency of the Republic of Slovenia

It is assumed that around 12,800,000 kg of lubricating oils is formed yearly in Slovenia, 60 % being used as automotive oils and 40 % as industrial oils. Since 4,681,801 kg of lubricating oils was in total collected in Slovenia in 2001, more than 60 % of the lubricating oil load is still not being controlled. In addition, only 68 % of all collected lubricating oils in Slovenia are collected at the official sites (Table 6). The rest is collected at the sites without a proper license. In total, 3,850,532 kg of lubricating oils was removed or recovered, thus representing 82 % of the total collected lubricating oils.

Batteries and accumulators

Waste batteries and accumulators are collected and recycled in accordance with the Rules on the management of batteries and accumulators containing dangerous substances.

Table 7: The fate of waste batteries and accumulators in Slovenia, for the year 2001 (NDA Slovenia, 2003)

	Pb [kg]	**Ni – Cd [kg]**
Available	4,163,384	12,781
Collected	1,205,336	640
Recycled	1,212,402	-

Pb: Lead; Ni – Cd: Nickel – Cadmium
Source: Environmental Agency of the Republic of Slovenia

The data on collection of waste batteries and accumulators is only available for Slovenia. It is assessed that around 4,200,000 kg of Lead (Pb) containing and around 12,800 of Nickel – Cadmium (Ni – Cd) containing batteries and accumulators was placed on the Slovenian market in 2001 (Table 7). Approximately 30 % of the total available Lead (Pb) batteries and accumulators and only 5 % of the total available Nickel – Cadmium (Ni – Cd) batteries and accumulators were collected. It is also important to stress that some major collectors of waste batteries and accumulators did not report their amounts of collected batteries and accumulators. There are some recycling activities of waste batteries and accumulators running in Slovenia. Lead (Pb) batteries and accumulators are recycled on the premise in Črna na Koroškem (northern Slovenia). 1.212.402 kg of Lead (Pb) containing batteries and accumulators was recycled, thus representing around 30 % of the total amount that was put on the market. Nevertheless, this number also includes some Lead (Pb) batteries and accumulators that were imported from other countries. Nickel – Cadmium (Ni – Cd) batteries and accumulators are not recycled in Slovenia and need to be exported abroad.

Other hazardous chemicals and obsolete chemicals stockpiles

According to the NDA, there are neither other hazardous chemicals nor obsolete chemicals stockpiles at the Slovenian coast and in its watershed.

2.1.7. Physical alteration and destruction of habitat

Shoreline construction / alteration
Since the Slovenian coastline is very short, the coastal area is highly urbanized, densely populated, and various business sectors (industry and tourism) have also developed. Coastal habitats have been thus altered and destructed and it is of primary concern to preserve the coast that is still present in its natural state and to prevent these areas from numerous direct and indirect impacts from anthropogenic activities.

Mineral and sediment extraction / alteration
There are no mining activities in the watershed. However, the Idrija Mercury (Hg) and Predil Lead (Pb) mines that have been closed in the 1990s, still exert a pressure on the Gulf of Trieste reflected in increased concentrations of these heavy metals, due to effluents of the Soča river that drains these two mining areas.

Wetland and saltmarsh alteration
Destruction and alteration of Slovenian coastal wetlands and saltmarshes is of minor concern, since all these habitats are protected by law, and thus anthropogenic activities are limited. Nevertheless, the salt-pans are still used for salt production, while the Škocjan inlet still recovers from industrial degradation and disposal of mud in the 1980s and low inflow and circulation of water. As a consequence, these vulnerable habitats for marine fauna and flora are still being slowly altered.

Marine waters and coastal watershed alteration
Degradation of marine waters is observed in the inner parts of the Bay of Koper and the Bay of Piran. Inputs of organic matter and nutrients from insufficiently treated municipal and industrial wastewaters, as well as effluents of the Rižana, Badaševica, Dragonja and Drnica rivers are issues of the highest concern and have locally deteriorated marine waters along the Slovenian coast.

Biological alteration (invasion of non-indigenous species)
Biological alteration is an issue of minor concern, since only a few non-indigenous species have been introduced in the Slovenian coastal sea, and until present there is no detailed information about their negative impact on the sea. Nevertheless, introduction of non-indigenous species could badly affect marine flora and fauna, as well as people and economy.

2.2. IDENTIFICATION OF PRIORITIES ACTIONS

2.2.1. Sewage management

Identification of priority actions refers to the following adopted national programmes and national programmes in course of preparation:

1. National Environmental Action Programme, 2004.
2. Operational Programme for the Collection and Treatment of Urban Waste Water (for the period from 2005 to 2017 with the emphasis on the programme measures, which will be implemented by December 31, 2008), 2004.
3. Operational Programme for the Collection and Treatment of Urban Waste Water with the Programme of Water Supply Projects, 1999.
4. Operational Programme for the Reduction of Surface Water Pollution Caused by Priority Substances and Other Dangerous Substances, 2004.
5. Report on the State of the Environment in Slovenia, 2002.

The enforcement of the acquis communautaire in the area of urban waste water collection and treatment refers to the implementation of the provisions of the Council Directive 91/271/EEC concerning urban waste water treatment and to the EU common positions on the negotiating positions in the environmental area (CONF- SI11/01).

Notwithstanding the provisions of the Council Directive 91/271/EEC and the deadlines for harmonisation with this Directive to be met by the Republic of Slovenia, the measures for urban waste water collection and treatment have to meet also the following obligations arising directly from the Water Framework Directive 2000/60/EC of the European Parliament and of the Council and from the directives joined within its framework:

- fulfilment of the requirements concerning the achievement of good chemical status of surface water and groundwater by 2013,
- fulfilment of the requirements concerning the prescribed quality standards for surface water and groundwater, if these are intended for drinking water supply,
- prevention of surface water eutrophication in sensitive areas, and
- fulfilment of the requirements concerning environmental quality standards for surface water, which apply to bathing water.

The area of urban waste water collection and treatment is regulated by the regulations issued on the basis of the Environmental Protection Act, Public Utilities Act, Waters Act and Spatial Planning Act. Among the more relevant are the following regulations:

1. Rules on the Collection and Treatment of Urban Waste Water and Meteoric Water (Official Gazette of the RS No. 105/02).
The Rules lay down the requirements for collection and treatment of urban waste water and meteoric water, which have to be met when providing services of obligatory municipal public service for collection and treatment of urban waste water and meteoric water.

2. Decree on the Emission of Substances and Heat in the Discharge of Waste Water from Pollution Sources (Official Gazette of the RS No. 35/96).
For the pollution sources from which waste water is discharged, the Decree lays down:

- limit values for the emission of substances into flowing surface water and coastal water,
- limit values for the emission of heat into flowing surface water,
- assessment of the emission of substances and heat,

- prohibitions and other measures for the reduction of emission into water and ground through the discharge of waste water.

3. Decree on the Emission of Substances in the Discharge of Waste Water from Small Urban Waste Water Treatment Plants (Official Gazette of the RS No. 103/02).
The Decree lays down special requirements regarding the emission of substances in the discharge of waste water from small urban waste water treatment plants:

- limit values for waste water parameters,
- limit values for waste water treatment efficiency,
- special requirements regarding own control of operation of small urban waste water treatment plants and monitoring of emissions from small waste water treatment plants.

4. Decree on the Emission of Substances in Waste Water Discharged from Urban Waste Water Treatment Plants (Official Gazette of the RS No. 35/96, 90/98, 31/01 and 62/01).
The Decree lays down special requirements regarding the emission of substances in the discharge of waste water from urban waste water treatment plants (Table 7):

- limit values for waste water parameters,
- limit values for waste water treatment efficiency,
- special measures with regard to planning and operation of urban waste water treatment plants,
- deadlines for the construction of public sewage system facilities.

Table 7: Limit values for new urban waste water treatment plants and plants under reconstruction in sensitive areas.

			treatment efficiency according to PE			
Parameter	***Mark***	***Unit***	***< 2.000***	***> 2.000 and <10.000***	***>10.000 and <100.000***	***>100.000***
suspended solids		mg/l	-	60	35	35
ammonium nitrogen	N	mg/l	-	10	10	10
KOD	O_2	mg/l	150	125	110	100
BOD_5	O_2	mg/l	30	25	20	20
total nitrogen	N	mg/l	-	-	15	10
nitrogen treatment efficiency		%	-	-	70	80
total phosphorus	P	mg/l	-	-	2	1
phosphorus treatment efficiency		%	-	-	80	80

5. Rules on Initial Measurements and Operational Monitoring of Waste Water and on Conditions for their Implementation (Official Gazette of the RS No. 35/96).
The Rules lay down the types of waste water parameters, which are subject of initial measurements and monitoring of waste water (emission monitoring), the methodology of sampling and measuring of waste water parameters and quantities, the contents of the report on initial measurements and emission monitoring, and the method and form of communicating the data to the minister competent for environmental protection. The Rules also lay down the conditions to be met by the person conducting initial measurements or emission monitoring.

6. Decree on the Water Pollution Tax (Official Gazette of the RS No. 41/95, 44/95,8/96,124/00,49/01).
The Decree lays down the amount, the method of calculation, assessment and payment of the tax for water pollution caused by the discharge of waste water into fresh surface water and groundwater, which are, regarding the form of their appearance, spring water, groundwater and

surface water, flowing and standing water, and into the territorial sea. The Decree also lays down the criteria for the tax reduction and tax exemption.

In accordance with the Rules on the Collection and Treatment of Urban Waste Water and Meteoric Water and with the Operational Programme for the Collection and Treatment of Urban Waste Water, the following measures were laid down:

1. Agglomerations with a population equivalent of more than 10,000 have to be provided with a public sewage system and an urban waste water treatment plant by December 31, 2008. By that time, at least 95% of the burden caused by waste water in these areas has to be connected to the public sewage system.
2. Agglomerations with a population equivalent of between 2,000 and 10,000 have to be provided with a public sewage system and an urban waste water treatment plant by December 31, 2015. By December 31, 2017, at least 95% of the burden caused by waste water in these areas has to be connected to the public sewage system.
3. Agglomerations or their parts with a population equivalent of between 50 and 2,000 and a density of more than 20 PE/ha and more than 10 PE/ha, when an agglomeration or part of an agglomeration lies in a sensitive or water protection area, have to be provided with a public sewage system and an urban waste water treatment plant by December 31, 2015. By December 31, 2017, at least 80% of the burden caused by waste water in these areas has to be connected to the public sewage system.

The responsibility and competence for the implementation of the Operational Programme for the Collection and Treatment of Urban Waste Water and Meteoric Water are divided among the municipalities and the Ministry of the Environment, Spatial Planning and Energy.

The municipalities have to:

- prepare land development programmes in accordance with the regulations in the area of spatial planning and with the operational programme guidelines by the end of year 2004,
- prepare and adopt development programme plans for the implementation of land development programmes and provide a closed financial construction in accordance with the operational programme guidelines,
- ensure realisation of investment and investment in maintenance of public sewage system in accordance with the plans and programmes,
- connect themselves for the purpose of implementing joint projects and meeting the operational programme goals and thus allow the available funds to be evenly distributed over the entire period of the operational programme implementation. Joint programmes should primarily involve municipalities in the same river basin or municipalities polluting with waste water the same groundwater aquifer.

The Ministry of the Environment, Spatial Planning and Energy has to:

- prepare the methodology for determining the amount of funds raised for the operational programme implementation on the basis of the calculation of the public service prices,
- direct the state budget funds and earmarked funds from the European Union budget to those areas, where specific circumstances hinder raising of municipalities' own funds,
- ensure a consistent calculation of the environmental pollution charge,
- check technical and economic soundness of investment and investment in maintenance of the public sewage system within the framework of the operational programme,
- prepare the orientations for the most economic implementation of municipalities' joint programmes, and
- continuously check the availability of financial resources and feasibility of operational programme goals.

2.2.2. Urban solid waste

Identification of priority actions refers to the following adopted national programmes and national programmes in course of preparation:

1. National Environmental Action Programme, 2004.
2. Report on the State of the Environment in Slovenia, 2002.
3. Operational Environmental Protection Programme in the Waste Management Area – Operational Programme for Urban Waste Management for the Period 2001 to 2005.
4. Operational Programme for the Waste Disposal with a view to Reducing the Quantities of Disposed Biodegradable Waste by the End of 2008.

In the urban waste area, the notion and the meaning of urban waste was more precisely defined during the preparation and adoption of a number of implementing acts. A significant share was contributed by the waste classification list.

The area of urban waste is regulated by the regulations issued on the basis of the Environmental Protection Act, Public Utilities Act, Waters Act and Spatial Planning Act. Among the more relevant are the following regulations:

1. Rules on the Landfill of Waste (Official Gazette of the RS, No. 5/2000, 41/2004, 43/2004)
The Rules lay down the obligatory practice and other conditions for waste disposal as well as conditions and measures regarding planning, construction, operation and closure of landfills. Waste management plan comprises the data on the type and quantity of waste to be disposed, on the type and quantity of biodegradable waste subject to disposal, on the foreseen methods for the reduction of the disposed quantities of biodegradable waste, on the planned disposal procedures, on the landfill equipment and capacity, on the possible technological procedures for pre-treatment of waste, on the manner of operation and the foreseen methods of implementing operational monitoring, on the control over environmental pollution, and on the measures to prevent uncontrolled impacts on the environment. The Rules on the Landfill of Waste classify the landfills according to the intended function and suitability for the disposal of individual type of waste and according to their hazard properties into landfills for inert waste, non-hazardous waste and waste, which could pose a certain risk to the environment, i.e. hazardous waste.

2. Decree on the Waste Disposal Tax (Official Gazette of the RS, No. 70/2001, 9/2004)
The Decree lays down entities liable to pay the tax, the payment method and the calculation of the tax amount. It lays down the soil pollution tax, which depends on the landfill type and represents target taxation of that part of waste, which is biodegradable. The tax can be spent when investment programmes have been prepared and confirmed for the construction of facilities reducing the quantity of the disposed waste as well as for the landfill infrastructure, including capture and use of landfill gas, which represents a return effect of the greenhouse gas emission tax.

3. Order on the Management of Separately Collected Fractions in the Public Service of Urban Waste Management (Official Gazette of the RS, No. 21/2001)
The Order lays down the method of collecting separated fractions of urban waste (paper and cardboard, glass, packaging, etc.). It defines the system of collection of separately collected fractions, including hazardous urban waste fractions, and lays down minimum standards with regard to the provision of an area with waste collection stations and waste collection centres. Separately collected waste packaging can be delivered by public service providers to a packaging company free of charge. Public service providers carry out collection and preparation according

to a prepared programme, they keep a record of collected and delivered separately collected fractions as well as of hazardous urban waste fractions, and report to the ministry competent for environmental protection. The Order lays down obligatory separate collection of urban waste fractions through the network of waste collection stations and the so-called mobile waste collection stations, waste collection centres and waste sorting facilities.

One of the basic orientations in the area of waste management is the highest possible share of reuse and recovery of waste. However, this orientation has its limitations. These dwell in the possibility of separate collection at source, which is never completely feasible, since the separation potential always lags behind the quantities of waste, this being the most characteristic of urban waste. Not even in the long run is it realistic to expect elimination of waste generation, since also modern technologies for waste recovery and recycling have their by-products in the form of waste. This could not be avoided, not even in the long run. Individual materials are more or less suitable for production of the same or new products and stand only a certain number of processing cycles. It is therefore necessary to take into account these objective facts in waste management at all levels and time horizons. Waste disposal will thus represent an integral part of the entire waste management system also in the long run.

At the implementing level, the efficiency of the waste management system depends, among others, on the waste management facilities and their networks. The operational programme identifying orientations and priorities is project-oriented to construction of modern and efficient infrastructure. Technical and technological as well as economic properties of waste management facilities, in particular for waste recovery and disposal, demand, with regard to urban waste, provision of infrastructure in the form of regional or intermunicipal waste management centres.

The new urban waste management programme is in course of preparation and planned to be adopted by the end of 2004. According to the National Environmental Action Programme, the urban waste management goals are the following:

1. to put up waste collection stations for separated urban waste fractions per every 500 inhabitants in agglomerations,
2. to put up waste collection centres for collection of separated urban waste fractions according to domestic waste sorting system, as a rule, in every municipality, in every agglomeration with more than 8,000 inhabitants and in large agglomerations per every 80,000 inhabitants,
3. to provide waste collection stations for hazardous urban waste fractions in every agglomeration with more than 25,000 inhabitants and in large agglomerations per every 60,000 inhabitants,
4. to provide a supplementary system for collection of urban waste fractions by means of mobile waste collection stations,
5. to provide a collection system for organic kitchen waste from catering industry and households and its biological processing,
6. to ensure biological processing of biological kitchen waste from households in house composters and in small urban composting facilities in agglomerations with more than 10 inhabitants/ha and more than 500 inhabitants, and to assume and provide biological processing in more densely populated areas and in large areas,
7. to direct in the procedures preceding waste disposal at least 65% or more of generated urban waste quantities and to use them (in net amount) materially at least 42% or more,
8. to separate all kitchen waste and subject it to biological processing,
9. to treat the remaining waste so that the total organic carbon (TOC) content will not exceed 5%,
10. to subject to heat treatment the remaining waste, where the limit value of 5% TOC cannot

be attained by other procedures, as well as organic waste, where such treatment is necessary,
11. to reduce the quantities of disposed biodegradable waste from 47% in the structure of the disposed waste to 16% by 2013 or 2015, or by 5% a year on average,
12. to reduce the potential of greenhouse gas generation and emissions by 1162 kt CO_2 equivalents by 2012,
13. to process 50% of total weight of waste packaging by the end of 2007 (of which 25% of total weight of the following materials: paper and cardboard, plastic, wood, metal and glass, of which at least 15% of weight of an individual material)
14. 60% recovery by weight by the end of 2012 (55 – 80% recycling by weight, of which glass 60%, paper and cardboard 60%, metal 50%, plastic 22.5% (exclusively recycling back to plastic), wood 15%.

The measures, which will allow the realisation of the goals, are:
1. closure of the existing landfills, where adjustment to the applicable regulations is economically unjustified or technically very exacting,
2. reconstruction and extension of the existing landfills, which will remain in operation until the end of 2008,
3. construction of new infrastructure for waste treatment, recovery and disposal, primarily as regional waste management centres and state facilities for heat treatment.

The costs of setting up and carrying out the system of separate collection of waste packaging, which represents urban waste, are covered by local communities (municipalities), namely by the price of providing local public service of urban waste collection and by the municipal budget funds for investment in environmental urban infrastructure for urban waste management, with part of the funds being foreseen also in the state budget.

Active landfills, which will remain in operation after 2003 and are planned to be closed by the end of 2008, have to adjust to the statutory technical requirements. Time schedule of the required adjustments of active landfills, which will be in operation in the period between 2003 and 2008, is presented in Table 8. Technical adjustments listed in Table 8 represent a component part of the adjustment programme, which had to be drawn up by December 31, 2003 at the latest for all existing landfills, which will remain in operation after 2004. The adjustment programme drawn up in accordance with the legislative requirements is also a condition for obtaining a licence for waste disposal after 2003. The existing landfills, which will remain in operation after 2008, have to adjust to all other requirements in the waste disposal area, with the exception of the provisions referring to landfill planning.

Table 8: Deadlines for adjustment of the existing landfills, which will operate after December 31, 2003, to technical requirements

Adjustment requirement	**Adjustment (implementation) deadline**
To provide capture and treatment of the resulting leachate	December 31, 2004
To cover the filled up parts of a landfill body	December 31, 2004
To provide a degassing system, including gas flaring or its energy utilisation	December 31, 2005

During the landfill operation, it is necessary to provide control over the emissions of hazardous substances from the landfill into water and air, to control the state of the landfill body and to carry out certain procedures concerning the landfill covering. The required amount of monitoring depending on the year of termination of landfill operation is shown in Table 9.

Table 9: Amount of operational monitoring with regard to the foreseen date of termination of landfill operation.

	Beginning of operational monitoring for the landfills, which will end operation by:	
Segment	*December 31, 2003*	*December 31, 2008*
Meteorological parameters	January 1, 2002	January 1, 2002
Groundwater	January1, 2002	January 1, 2002
Landfill body	January 1, 2002	January 1, 2002
Surface water	No	January 1, 2004
Leachate	No	January 1, 2004
Emissions of substances into the air	No	January 1, 2005
Requirements regarding the landfill covering	In accordance with the legislative provisions	by April 31, 2004

According to the Programme, the quantities of disposed waste should decrease by 20% by 2010 in comparison to year 2000, with a goal of a 50% reduction by 2050.

2.2.3. Pollution caused by Hg, Cd, Pb

Identification of priority actions refers to the following adopted national programmes and national programmes in course of preparation:

1. National Environmental Action Programme, 2004.
2. Protocol on Heavy Metals, 1998.
3. Operational programme for the reduction of pollution caused by mercury from diffused sources in the Republic of Slovenia, 2004.

Heavy metals are included in the National Environmental Action Programme. The objective of the National Environmental Action Programme is to reduce emissions of mercury (Hg), cadmium (Cd) and lead (Pb) in accordance with the provisions of the Protocol on heavy metals.

The Protocol aims to cut emissions from industrial sources (iron and steel industry, non-ferrous metals industry), combustion processes (power generation, road transport), and waste incineration. It sets limits for emissions from stationary sources and suggests best available techniques, such as special filters, scrubbers, or mercury-free processes, to achieve these limits. The Protocol requires countries to phase-out leaded petrol (gasoline) and introduces measures to lower emissions of mercury from products such as batteries.

Targets of the Protocol on heavy metals:

1. reduce emissions of these three metals from existing facilities below their levels in 1990 (or an alternative year between 1985 and 1995)
2. control lead content in gasoline and mercury content in alkaline batteries
3. develop and maintain emission inventories for these three metals

Although there are no significant emissions of mercury (Hg) from land based point sources in Slovenia, the Operational programme for the reduction of pollution caused by mercury from diffused sources in the Republic of Slovenia was adopted, focusing specifically on mercury emissions released by draining of the closed Idrija Hg mine. It is agreed that additional scientific research on mercury transformation in water, including metal mercury, methyl and dimethyl mercury, and biological availability of mercury is needed and will be stimulated and supported by the responsible Slovenian ministries.

2.2.4. Organohalogens

Identification of priority actions refers to the following adopted national programmes and national programmes in course of preparation:

1. National Environmental Action Programme, 2004.
2. Protocol on Persistent Organic Pollutants, 1998
3. Operational programme for the disposal of PCBs and PCTs for the 2003-2006 period, 2003
4. Operational programme for water pollution prevention with chlorinated hydrocarbons from diffuse sources, 2004

According to the National Environmental Action Programme, the current state of contamination with organohalogens will be analyzed but practical objectives will only be determined for affected areas.

The Republic of Slovenia also adopted the Protocol on persistent organic pollutants. Sixteen (16) substances are the declared targets of a first step, i.e. eleven pesticides, two industrial chemicals and three by-products/contaminants. Emissions of these substances should be either controlled or reduced. The ultimate objective is to eliminate any discharges, emissions and losses of persistent organic pollutants.

Targets of the Protocol on persistent organic pollutants:

1. immediate ban of the production and use of some products (i.e., aldrin, chlordane, chlordecone, dieldrin, endrin, hexabromobiphenyl, mirex and toxaphene)
2. DDT, heptachlor, hexaclorobenzene, PCB are scheduled for elimination at a later stage
3. severe restriction of the use of DDT, HCH (including lindane) and PCB
4. provisions for dealing with the wastes of products that will be banned
5. reduce emissions of dioxins, furans, PAH and HCB below their levels in 1990 (or an alternative year between 1985 and 1995)

Specific limit values are also laid down for the incineration of municipal, hazardous and medical waste.

Additionally, two specific operational programmes on organohalogens were adopted in Slovenia. The operational programme for the disposal of PCBs and PCTs for the 2003-2006 period, aims to decontaminate or eliminate all PCB containing devices, having more than 500 mg PCB/kg by 2010. In addition, a complete plan on collection and decontamination of PCB containing devices, having less than 500 mg PCB/kg is to be prepared by 2006. For details, see 2.3.10.

The operational programme for water pollution prevention with chlorinated hydrocarbons from diffuse sources was also adopted. According to the programme, chlorinated hydrocarbons are classified into the three groups. The first group includes chlorinated hydrocarbons listed and ruled by the Protocol on Persistent Organic Pollutants.

The second group includes chlorinated hydrocarbons that are present in negligible amounts in Slovenia, thus having no significant impact on the environment. Additional measures are therefore unnecessary.

The programme thus focuses on the third group of chlorinated hydrocarbons that are present in considerable amounts in Slovenia i.e., trichloroethane, tetrachloroethane and trichloromethane. Emissions of all chlorinated hydrocarbons have to be in accordance with the existing Slovenian and European directives and rules.

2.2.5. Wastewater and solid waste from industrial installations

Identification of priority actions refers to the following adopted national programmes and national programmes in course of preparation:

1. National Environmental Action Programme, 2004.
2. Report on the State of the Environment in Slovenia, 2002.
3. Operational Programme for the Reduction of Surface Water Pollution Caused by Priority Substances and Other Dangerous Substances, 2004.

The main industrial plants emitting wastewaters with nutrients are listed in Table 10. These sources emit 95 % of the total industrial BOD load.

Emissions of pollutants from industrial installations are subject to the Integrated Pollution Prevention and Control (IPPC) directive. The IPPC directive in Slovenia is to be fully implemented by October 31, 2007, unless an extension is requested. In the case that an extension is granted by the Ministry of the Environment, Spatial planning and Energy, the IPPC directive is to be implemented by October 31, 2011, the latest. So far, only two industrial plants located at the Slovenian coast and in its watershed, emitting substantial amounts of nutrients, are in a process of implementing the IPPC directive, i.e. Fructal and Perutninarstvo Pivka. At the time when the IPPC directive will be fully operational in these two industrial plants, their emissions of pollutants will be in accordance with emissions of the Best Available Technique (BAT) in the respected field. Therefore, the two industrial plants are not included in the NAP, since their emissions cannot be reduced any further.

Table 10: List of industrial plants with the type of industry at the Slovenian coast and in its watershed, emitting untreated wastewaters and their implementation plan for the IPPC directive.

Name of the Installation	Type of Industry	IPPC directive*
MIP	Dairy industry	NO
Delamaris	Fish processing	NO
Kras Pršutarna Šepulje	Dairy industry	NO
Fructal	Non-alcoholic beverages	YES
Perutninarstvo Pivka	Dairy industry	YES
Frigomar	Fish processing	NO

*: the IPPC directive in none of these installations is fully operational yet

In contrast, four other industrial plants, i.e. *MIP*, *Delamaris*, *Kras Pršutarna Šepulje* and *Frigomar* are included to the NAP and their emissions have to be further reduced.

To obtain the environmental licence, the above-mentioned installations will have to demonstrate

management of the environmental pollution with the best available techniques (BAT) – these are industrially established production procedures most appropriate to the environment. When introducing changes in the existing installation, the managers will have to acquire the environmental licence prior to the beginning of operation, and in case of new installations, prior to the beginning of construction. For the environmental quality standard to be fully achieved, it is also necessary to take into account various aspects of the environment, such as technical properties of an individual plant, its geographic position, local conditions in the environment, and at the same time, to ensure exchange of information and access to it as well as public participation in the procedure of issuing uniform environmental licence.

2.2.6. Lubricating oil, hazardous chemicals and obsolete chemicals stockpiles

Lubricating oil

Identification of priority actions refers to the following adopted national programmes and national programmes in course of preparation:

1. National Environmental Action Programme, 2004.
2. Operational Programme for Waste Oil Management for the Period from 2003 to 2006 (2003).

Slovenia has known the organised method of waste oil collection for many years, however, the waste oil management system has been additionally strengthened by the requirements of new regulations in this area from 1998. During the past three years, the level of collected waste oil rose from approximately 20% of generated waste oil quantities in 2001 to as high as 35%, i.e. approximately 4,680 tonnes a year, there being taken into account also recorded quantities of collected waste oil (around 10%) by some companies without a licence or their direct delivery to processors/removers. The quantities of sludge and emulsions from the installations for separation of waste oil and water are recorded as well and these add nearly 4,000 tonnes to the total collected quantities of waste oil. Regardless of the above-mentioned, around 8,000 tonnes (more than 60% in 2003) of generated waste oil remain uncontrolled. If these are added to the quantities of lubricants placed on the market, which reach the environment directly (according to estimates, 7% of the quantities placed on the market or around 1,600 tonnes) and to the quantities, which result from the discharges, remains of lubricating oils in filters and remains in machines and vehicles, which themselves become waste, in total 13% to 15% or 3,000 tonnes a year, and actually represent a problem of direct environmental pollution, the measures in this area are undoubtedly necessary.

Waste oil is mostly collected in small quantities at individual delivery points, while the system of waste oil collection stations has not yet been uniformly regulated. The existing waste oil delivery points organised in accordance with the regulations are most frequent at gas stations, while the delivery points in garages and industry do not yet fully meet the requirements. In waste oil collection centres, waste oil is mostly prepared for use as a fuel. The majority of recorded collected quantities of waste oil is currently still used as a fuel in industrial furnaces.

Priority tasks in the upgrade of waste oil management system aim at improving the integration (information) of the target public, with a special emphasis on the areas of agriculture, industry and households, at the upgrade and operation of information centre (clearing centre), and at the preparation of uniform standards concerning equipment of facilities for waste oil management.

By the end of 2006, the primary goal is the upgrade of the existing waste oil management system in Slovenia, i.e. setting up of additional facilities for delivery and collection of waste oil with a

view to increasing the level of recorded quantities of collected waste oil from the present 35% to 50% of the generated waste oil quantities.

Other hazardous chemicals and obsolete chemicals stockpiles
According to the NDA, there are neither other hazardous chemicals nor obsolete chemicals stockpiles at the Slovenian coast and in its watershed.

Batteries and accumulators
Identification of priority actions refers to the following adopted national programmes and national programmes in course of preparation:

1. National Environmental Action Programme, 2004.
2. Operational Programme for waste batteries and accumulators for the period from 2003 to 2006 (2003).

2.2.7. National regulations on sewage discharges to the sea and rivers

Adopted national regulations on sewage discharge to the sea and rivers (i.e. waters) are described in chapter 1.2.1. and 2.3.1.

2.2.8. Establishment of a system of previous authorisation for works which cause physical alterations on the natural state of the coastline or the degradation of coastal habitats

System of previous authorisation by competent national authorities for works which cause physical alterations on the natural state of the coastline or the degradation of coastal habitats is already established and well implemented.

The Convention on Biological Diversity stipulates that its parties have to adopt a strategy for the conservation of biodiversity as a programme document that lays the foundations for the implementation of the measures provided for in the Convention. The National Environmental Action Plan, drawn up pursuant to Articles 47 and 48 of the Environmental Protection Act, lays down that the Ministry for the Environment and Spatial Planning has to draw up a national biodiversity conservation strategy. Pursuant to Article 21 of the Government of the Republic of Slovenia Act the Government is the body responsible for the adoption of such strategy.

The main principles for implementation of previous authorisation for works which cause physical alterations on the natural state of the coastline or the degradation of coastal habitats are addressed primarily in the Nature Conservation Act, the Environmental protection Act and the Animal Protection Act. The key executive acts concerning biodiversity conservation are the Decree on the protection of endangered animal species, the Ordinance on the protection of rare or endangered plant species and the Decree on the protection of wild fungi. There are however additional decrees, mainly linked with the Nature Conservation Act.

Concerning the marine and coastal environment, and on the basis of the former Law on Natural and Cultural Heritage, several municipal decrees, declaring protected areas, were adopted in the beginning of the nineties. More than 10% of the coast, with almost all typical habitat types, associations and species, were included in the following protected areas:

- Debeli rtič - natural monument (marine and coastal),
- Strunjan - nature reserve (marine and coastal),
- Stjuža - natural monument (coastal lagoon),

- Rt Madona - natural monument (marine),
- Sečovlje - salt-works landscape park (salinas) – Ramsar site from 1993,
- Škocjanski zatok - nature reserve.

Following the guidelines of the Rio Convention on Biological Diversity and taking into account the need for efficient implementation mechanisms for nature protection, the Slovenian parliament adopted in June 1999 the Nature Conservation Act (Official Gazette of the RS No. 56/1999). The Nature Conservation Act thus, among other issues, includes provisions on:

- biodiversity conservation (plant and animal species, genetic material, ecosystems),
- protection of valuable natural features,
- nature protection guidelines, which have to be taken into account in the physical planning process, the use of natural resources and the protection of cultural heritage,
- permits and nature protection consents for activities that could have an impact on biodiversity, valuable natural features or protected areas.

Concerning the protection of valuable natural features the Nature Conservation Act defines:

- the acquisition of status (national or local importance),
- measures for the protection of valuable natural features (substitute state action, contract on protection, contract of stewardship, protection, temporary protection, restrictions of activities or use, restoration, right of pre-emption, restrictions on legal transactions, expropriation, property right restrictions and compensation, compensation for damage caused by animals of protected species),
- protected areas and their management (natural monuments, strict nature reserves, nature reserves, national, regional and landscape parks),
- minerals and fossils (definition and ownership, protection, finds, exploration, export),
- endangered plant and animal species (determination of endangerment, measures of protection).

One of the most important tools provided by the Nature Conservation Act is the obligatory acquisition and inclusion of nature protection guidelines in physical plans and documents and plans for the use of natural resources. The inclusion and especially the consideration of the nature protection guidelines is the condition for issuing the nature protection consent to further activities based on the above mentioned plans and documents.

As the marine environment is concerned, six marine (coastal) protected areas were declared in 1990, covering slightly more than 10% of the Slovenian coastline and an important governmental decree on the protection of endangered animal species was adopted in 1993. The decree includes numerous animal marine species, among them also species listed in the Annexes II and III of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

The EU Community Biodiversity Strategy as a programme document was adopted by the European Parliament in 1998. It provides guidelines for achieving compliance in the fulfilment of objectives and international obligations arising from the conventions signed by the European Union. The current EU legislation and policies are considered in the Community Strategy and Slovenia is obliged by the Association Agreement to implement them. The main documents are the integral common policies - Agenda 2000, sectoral policies - Common Agricultural Policy, Common Fisheries Policy and Rural Development Policy and the EU policy concerning the protection of nature, the environment and genetic resources determined in particular by the Directive on the conservation of wild birds, Directive on the conservation of natural habitats and of wild fauna and flora, Directive establishing a framework for Community action in the field of

water policy, Council Regulation on the conservation, the characterisation, the collection and the utilisation of genetic resources in agriculture and various biodiversity conservation action plans focused on the conservation of natural resources, agriculture, fisheries and on economic and development co-operation.

2.2.9. Phasing out the use of the nine pesticides

Identification of priority actions refers to the following adopted national programmes and national programmes in course of preparation:

1. National Environmental Action Programme, 2004.
2. Regulation on Persistent Organic Pollutants (850/2004/EC).

The Regulation on persistent organic pollutants (850/2004/EC) was adopted by the European Parliament and is directly applicable in all member states. As such, it entered into force also in Slovenia. The Regulation aims to align the Community legislation with the requirements of the two international legally binding instruments on POP; the Protocol to the regional UNECE Convention on Long-Range Transboundary Air Pollution (CLRTAP) and the global Stockholm Convention. At the same time, it goes further than the international obligations by emphasising the aim to eliminate the production and use of the internationally recognised POP. As both international agreements on POP allow further substances to be listed, the Regulation also foresees amendment of the substance lists through a regulatory committee procedure.

The nine pesticides (i.e. aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex, and toxaphene) are included in the Regulation on persistent organic pollutants and their production, placing on market and use is banned.

2.2.10. Prohibition of the manufacture, trade and new uses of PCBs.

Identification of priority actions refers to the following adopted national programmes and national programmes in course of preparation:

1. National Environmental Action Programme, 2004.
2. Rules on elimination of polychlorinated biphenyl in polychlorinated triphenyl (Official Gazette of the RS, No. 15/2000, 54/2002, 18/2003, 41/2004).

The use of PCB is prohibited for the last 20 years, a threat with PCB pollution still exists, due to PCB content in old transformers and capacitors.

Owners of installations containing PCBs or waste PCBs must assure decontamination or removal of installations containing PCBs as sun is possible but at least till December 31, 2010. It is not allowed:

- fill up or add PCB in transformer,
- reusing of waste PCB,
- extracting PCB with recycling or from waste PCB,
- more than 24 month temporarily store housing PCB, waste PCB or installation with PCB before is assured removal or decontamination of installation,
- burning PCB or waste PCB on the vessel.

According to the National Environmental Action Programme (2004), goals are the following:

- till year 2010 remove PCB installations containing PCB and decontaminate installations which containing PCB if concentration of PCB is more than 500 mg/kg,
- till end of the year 2006 build comprehensive plan for collecting and disposal of installations and equipment where concentration of PCB is less than 500 mg/kg.

2.3. SETTING GOALS AND MANAGEMENT OBJECTIVES

Reduction of Emitted pollutants in relation with actual releases is included in Appendix II.

Comparison of proposed actions with the SAP targets is included in Appendix III.

2.3.1. Sewage

By 2008, a central wastewater treatment plant for Koper and Izola with a capacity of 85,500 Population Equivalents (PE) will be constructed. The wastewater treatment plant in Piran will be also modernized by 2008. All coastal wastewaters will be tertiary treated. The nearby villages and agglomerates will be also connected on the two wastewater treatment plants, with the exception of only about 1,000 PE that will have no connection but will have their own treatment of wastewaters (such as cesspits). According to the Rules on the collection and treatment of urban waste water and meteoric water (Official Gazette of the RS, No. 105/2002), all wastewaters in Slovenia are to be treated and cleaned (denitrificated and dephosphated) by the end of 2017, thus having virtually no effect on the environment in the future. In the period 1998-2003, wastewater treatment plants with a total capacity of 89,000 PE were constructed in the coastal area and the watershed.

2.3.2. Urban solid wastes

Urban solid wastes are an issue of modest concern. Population share, included in the system of regular collection and removal of urban waste, increased from 76% in 1995 to 94% in 2001. So far, 70% of providers of public service for urban waste management have begun to carry out separate waste collection. The data on the quantities of disposed hazardous waste show that their quantity reduced by approximately 14% in 2002 in comparison to year 2000.

Approximately 15 % of waste that allows recycling is currently being recycled. However, this portion is expected to rise to at least 50 % by 2007.

2.3.3. Pollution caused by Hg, Cd and Pb

Liquid emissions of these heavy metals by point sources of pollution are scarce. In contrast, riverine input is an issue of concern, since substantial amounts of heavy metals are contributed to the marine environment on this way. In addition, the Soča river drains the two already closed mining areas but increased concentrations of Mercury (Hg) and Lead (Pb) are still observed in the Gulf of Trieste.

2.3.4. Organohalogens

Organohalogens are an issue of modest concern. Although the use of PCB is prohibited for the last 20 years, a threat with PCB pollution still exists, due to PCB content in old transformers and capacitors. Nevertheless, all PCB containing devices are to be decontaminated or removed by 2010.

2.3.5. Wastewater and solid waste from industrial instalations

Wastewaters from industrial instalations are an issue of slight concern. Emissions of BOD_5, TN and TP to marine waters are observed, due to discharges of insufficiently treated wastewaters from some industrial instalations. By implementing BAT to these industrial plants by 2007, their emissions will be of no concern.

2.3.6. Lubricating oil, hazardous chemicals and obsolete chemicals stockpiles

Hazardous wastes are an issue of concern. Regarding collection and disposal of lubricating oils, more than 60 % of the total lubricating oil load is still not controlled. In addition, only 68 % of the total collected lubricating oils are collected at the official sites, having a proper license.

A collection system for batteries and accumulators is not yet fully operational, as approximately 30 % of the total available Lead (Pb) and only 5 % of the total available Nickel – Cadmium (Ni – Cd) batteries and accumulators are collected.

2.4. ECONOMIC INSTRUMENTS

Fulfilling the targets and measures set out in the Slovene National Environmental Action Programme has in recent years been pursued mainly through the provision of public sources of funding. Increasingly, and particularly over the past three years, private capital interests in investing in the area of environmental protection have become more developed, and this is reflected in the rise in the current and capital costs of commercial companies and in the gradual expansion of the number of partnership agreements concluded for the cooperation of the public and private sectors in constructing municipal infrastructure and providing public services for environmental protection.

Although state budget financing (including national and funding from EU aid programmes) is constantly increasing over recent years, as well as the share of funds earmarked for environmental protection in the total expenditure of municipalities' budgets, implementation of the "polluter pays" principle has become a major source of financing environmental protection policy measures. Both a positive trend and a continuously increasing scope has been recorded. The share of revenue gathered from environmental taxation has been rising year-on-year in all tax revenues of the Slovenian budget, in 2003 the share amounted to 1,6 %, which illustrates the fact that economic instruments in environmental protection is increasingly acknowledged.

After CO2 tax and waste water tax have been introduced in 1998, an increasing number of new economic instruments has been put into place during last five years: landfill tax, tax on end of life vehicles, tax on used oils as well as revision of water abstraction charges. The importance of economic instruments is even greater provided the fact that majority of the sources collected is

earmarked for environmental protection measures, which is extremely important for a country in transition, which Slovenia was in last ten years since its independence in 1991. Earmarked funding of environmental protection measures has been stipulated by a financially highly demanding implementation of environmental protection legislation that Slovenia has adopted in years before accession to EU.

This report includes a description of economic instruments that are to be introduced in environmental protection policy according to New National Environmental Action Programme (adopted by Slovenian Government in October 2004). Furthermore, it is intended to provide a substantive contribution to the international efforts to develop, refine and enhance the use of economic instruments in environmental protection. The report may supplement other surveys as well as provide a possible input into the framing research and policies at national, regional and international levels with its emphasis to address marine pollution from land based activities in the Mediterranean Sea as to fulfil the global goal to improve the quality of the marine environment in the Mediterranean region by a better shared management of land based pollution through improved international co-operation.

2.4.1. Overall development objectives

In line with priority measures to stimulate environmental protection, introducing economic instruments into environmental policy aims at improving efficiency of public funding and setting up of legal and economic framework mechanisms to implement the concept of sustainable development of Slovene economy. Having said that these measures are aimed to be in line with strategic goals of environmental protection policy as defined in national environmental protection legislation as well as in Slovene National Environmental Action Programme. Economic instruments can promote economic efficiency through their impact on relative prices and through their stimulation of innovative, more environmental friendly behaviours of all member of the society. They present a mean to incorporate the costs of environmental services and pollution directly into the costs of goods, services and activities. This internalisation of social costs affects price structures, thereby providing an economic incentive to consumers and producers to change the production and/or consumption patterns in order to safe money. Furthermore, introducing instruments in environmental protection present a good option to manage pollution from diffuse sources, where regulatory measures may be more complex to implement and enforce. Not lastly, they raise revenue that may be used for environmental purposes.

As defined in new National Environmental Action Plan the priority in next short term period should be given to increase efficiency existing economic instruments, including CO2 tax, waste water tax, landfill tax, tax on end of life vehicles, tax on used lubricant oils and water abstraction charges, as well as stimulating sustainable waste management and reducing quantity of waste at source, that should recover the costs of environmental damage caused in recent years and by this way become imperative of sustainable economic development. Further to that high environmental policy goal is given to introduction of economic price of water use in line with sustainable use of water as natural resource.

2.4.2. Key Environmental Objectives

Typically, a particular economic instrument in environmental protection policy would affect more than one environmental medium and more than one economic sector. The bulk of the instruments are targeted at either air or soil or groundwater, but aim to achieve following goals:

- reduce degradation of coastal and marine systems;
- prevent unsustainable exploitation of coastal and marine resources;
- reduce loss of habitats supporting living resources;
- reduce decline in biodiversity, loss of endangered species;
- reduce hazards and risks to the coastal zone and marine environment; and
- improve the local environment in general (landscape, solid waste disposal, air quality, delivery of acceptable water to households).

2.4.3. Key Financial Objectives

Although for most of economic instruments that have been and will be introduced in Slovene environmental policy the key financial objective is to mobilise and raise a certain amount of funds that are than earmarked to finance or re allocated to certain environmental programmes and measures. This subsequent re-allocation may relate directly to the source of the revenue (in the case of tax on end of life vehicles financial sources are used to finance public service of dismantling end of life vehicles) or it may be related to any environmental purpose. Such schemes play an important role in enhancing the acceptability of the taxes and charges in question and in providing funds for environmental expenditures. This argument is particularly justified because financial sources from state budget are below required for implementation of environmental programmes. Recycling raised funds is motivated as well in competitive concerns. Or by use of subsidy schemes that often aim to support environmental objectives.

Schemes for earmarking financial sources raised by introduction of economic instruments include:

- earmarking for specific (types of) environmental projects,
- gathering raised financial sources into environmental funds (Environmental Development Fund – as an institution) with specific environmental objectives,
- redistributing the revenue among those who (individuals, companies) that have paid the tax,
- tax shifting, tax reduction,
- recovering costs of environmentally related services.

According to key financial objectives economic instruments are differentiated or categorised as financial environmental taxes or cost recovery instruments if the purpose of the revenue is to cover the cost of using a specific natural resource or utilising an environmental service.

2.4.4. Key equity objectives

2.4.4.1. Consultations and stakeholders

The Government continuous to keep its strategy on environmental taxation under review. The initiated process of discussion of other stakeholders is continuously practised. At the occasion of series of meetings involving environmental groups, business organisations and governmental departments and agencies the principles underpinning environmental taxation and process of developing tax measures is being discussed in detail. The Government will continue to work with stakeholders as it takes forward its strategy that measures are and will be developed and implemented as effectively and efficiently as possible.

When introducing a new economic instrument scheme following stakeholders will be consulted:

- potential tax payers that will be concerned with economic instrument implementation;
- Ministries within the Government that are responsible in particular elements of the economic instrument scheme (Ministry of Environment as proposer of the economic instrument introduction from environmental purpose, Ministry of Finance as general state institution for tax collection, Ministry of industry when industrial companies are to be concerned by economic instrument introduction or any other member of the Government in relation to the subject concerned (transport, internal affairs…).

2.4.4.2. Administrative and Legal Arrangements

As according to the goal defined in the National Environmental Action Programme, the first round of legal framework will focus on changing the existing legislation as to improve efficiency and moderate the focus of existing, already implemented economic instruments; this would include modification of CO2 tax, waste water tax, (user charges) prices for environmental public services.

Revision of the following legal basis is to be taking place:

- Regulation on waste water tax;
- Regulation on CO2 tax;
- Regulation on criteria to define prices for environmental public services.

In the second phase the priority would be given to introduction of new economic instruments including emission trading, tax on used electronic and electrical equipment, economic price of water use.

2.4.4.3. Design of Economic Instrument

Majority of proposed economic instruments are designed as taxes on particular pollution in order to minimize its negative impact on environment. In the field of climate change mitigation emission trading is foreseen as new concept of economic instrument in Slovene environmental policy. Regarding the fact that a variety of subsidies and soft loans for environmental investments have been developed in recent years, no revision in foreseen in next short term period.

The proposal includes following economic instruments to be introduced in next short term:

- waste water tax revision and modification,
- CO2 tax revision and modification,
- emission trading,
- new tax on used electronic and electrical equipment,
- economic price of water use.

2.4.5. Waste water tax revision and modification

Waste water tax has been introduced in 1996 and has since than been a major financial source for investments in waste water pollution reduction. Waste water tax payers are by definition public service companies for communal waste water and industrial companies for industrial

technological waste water. According to current legislation, tax payer that submits investment or sanation programme resulting in lower water pollution is exempted from paying the tax in accordance with State Aid Rules. Invoiced amount of tax is paid in total, but due to the mentioned tax examptions, tax is redirected directly to realisation of investments. In the field of communal waste water yearly around 300 investments in waste water pollution reduction have been financed, and around 25 to 30 in the field of industrial waste water.

In order to stimulate effectiveness of state budget financial sources a revision of waste water tax is envisaged.

2.4.5.1. Statement of economic instrument

Implementation of legislation framework for collection, treatment and discharge of urban waste water as well as from certain industrial sectors requires both a long time period as well as heavy financial sources as it is very costly. To facilitate programming of measures and financing, Slovenian Government has adopted an Action programme of measures which lays down by which time which investments have to be concluded in order to meet deadlines as laid down with provisions of the legislation in the field of waste water pollution reduction. It is a ten year programme, so it defines the priority investments till 2013, as well as required costs of implementation and foresees financial sources in order to meet the requirements.

As waste water tax has played a major role in financing waste water pollution reduction since its introduction, the revision of this economic instrument is aimed to play the major role as well in implementation of Action Programme on measures for collection, treatment and discharge of waste water.

The revised waste water tax is aimed to be the key financial source for implementation of measures to ensure waste water pollution reduction. The revision includes the prerequisite that tax payers can invest the collected sources only on the provision that the investments are in accordance with priorities identified by Action programme of measures for collection, treatment and discharge of waste water; only on this basis tax reduction is justified and financial sources can be allocated. Each local authority has to adopt local action programme of measures for waste water reduction in line with Action programme of measures for collection, treatment and discharge of waste water adopted by the Government.

2.4.5.2. Timetable

Initial discussions and approval in principle	Started in last quarter of 2003, intensified throughout 2004
Consultations Period	2004
Legal Review and Clearance	2004,2005
Administrative Plan	2005
Design of EI	End 2003, 2004, 2005
Implementation Period	In 2005
Review Period	Till end 2007

2.4.5.3. Objectives of the economic instrument

Hierarchy of objectives	Key Performance Indicators	Monitoring and Evaluation	Critical Assumption
Development Objective	Reduce degradation of coastal and marine waters; Protect the environment from adverse effects due to discharge of waste polluted waters		
Environmental Objective	Reduce waste water pollution through investments incentives	Regular monitoring of waste waters	
Financial Objective	Higher effectiveness of public financing	More clean water for less financial sources	
Equity Objective			

2.4.5.4. Implementation Plan

Activity	Actions/Inputs	Outputs	Critical Assumptions
Consultations	Meetings with representatives of the local authorities, public service companies, Chamber of local authorities, Chamber of Commerce, association of public service companies, Ministry of Economy and Ministry of Finance	Redrafting, reviewing legal proposal	
Administrative Legal Steps	Redrafting, reviewing legal proposal		
Design of EI	Local authority as investor in waste water treatment plant or sewerage systems can invest funds collected with waste water tax; investments have to be defined as priorities in Action programme of measures for collection, treatment and discharge of waste water	Legal proposal adopted by the Government	
Review	Action Programme of measures for collection, treatment and discharge will be revised by end 2008	Legal frame to be revised by end 2008	

2.4.5.5. Budget

Waste water tax should cover approximately 60% on average costs of implementation of measures as defined in Action programme of measures for collection, treatment and discharge of waste waters; the share of tax will fall to 40% after 2008 due to the fact that many investments in waste water plants and sewerage systems will be completed.

2.4.6. CO2 tax revision

CO2 tax has been introduced back in 1997 with the purpose to cover the external environmental costs of air pollution and should as an economic instrument had influence on the reduction of the burdening of environment with CO2 emission and thus contribute to reduction of energy (fuel) consumption and indirectly to reduce CO2 emissions. Tax for the burdening of the air with carbon dioxide emissions represents one of the important economic instruments, provided in National Environmental Protection program, for the achievement of targets laid down in the Kyoto Protocol ratification (reduction of emission for 8% for Slovenian economy in the period 2008-2012). Meanwhile European legislation on restructuring Community framework for the taxation of energy products and electricity as well as legislation on establishment of greenhouse gas emissions trading scheme have been adopted which give reasons that both economic instruments that aim at tackling greenhouse gas emissions are used and act as complementary instruments. The ambition is to use both instruments at the same time in different sectors of the economy covering the totality of the green house gas emissions, and not at the same time within the same sector of the economy as this might give rise to adverse impacts on competitiveness of the whole economy.

Modification of CO2 taxation legislation will follow provisions laid down with the legislation implementing the EU Directive 2003/87/EC on establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC with special emphasis to the fact that both CO2 taxation and emission trading should be implemented as complementary economic instruments for achieving goals set out in national strategies for greenhouse gas emissions reductions. CO2 taxation along with emission trading should act as complimentary economic instruments to tackle greenhouse gas emissions reduction. If the two instruments would be used in the same time to the same sectors of the economy this would adverse impacts on competitiveness.

2.4.6.1. Statement of economic instrument

The key parameters as the definition of the tax payers and tax base will not be modified. The proposal on revision includes criteria for selection of tax reductions and exemptions as well as the criteria to share the revenues.

The proposal on revision includes tax relief for companies for the usage of fuel in the existing installation in operation whose installation operating causes at least 10 t CO2 emissions :

- power plants, which deliver electric power to a high voltage transmissible network,
- installations for supplying settlements with heat or gas for the part of the fossil fuel
- installation or installations according to specification of installations laid down in annex I (located on the end of this letter).
- For installations under point b) in c) Ministry issues a permit to the operator that he is eligible for CO2 tax reduction if the operator is:
    - Energy intensive business (energy extensive business shall mean a business entity where either the purchases of energy products and electricity amounts to at least 3 % of the production value);

- On the basis of agreement included in implementing internationally agreed obligations which as result lead to achievements of environmental protection objectives or to improvements in energy efficiency or is included in the greenhouse gas emission trading scheme on the basis of Environmental Protection Act.

Total quantity of the fuel that the operator is eligible to CO2 tax reduction is defined according to the total quantity of emissions rights (allowances) allocated to particular operator in National Allocation Plan approved by the Government.

2.4.6.2. Timetable

Initial discussions and approval in principle	Started in last quarter of 2003, intensified throughout 2004
Consultations Period	2004
Legal Review and Clearance	2004
Administrative Plan	2004,2005
Design of EI	End 2003, 2004, 2005
Implementation Period	In 2005
Review Period	Till end 2007

Note: as the proposal of the modification of existing CO2 tax includes elements of possible state aid measures the scheme is subject to approval by European Commission, which makes the time scale and thus timetable less precisely definable

2.4.6.3. Objectives of the economic instrument

Hierarchy of objectives	**Key Performance Indicators**	**Monitoring and Evaluation**	**Critical Assumption**
Development Objective	Contribute to ambient air improvement		
Environmental Objective	Reduce green house gas emissions;		
Financial Objective	Stimulate cost effective green house gas emission reduction		
Equity Objective			

2.4.6.4. Implementation Plan

Activity	Actions/Inputs	Outputs	Critical Assumptions
Consultations	Meetings with representatives of the industry, operators of the installations concerned, Chamber of Commerce, Ministry of Economy and Ministry of Finance, European Commission	Redrafting, reviewing legal proposal	
Administrative Legal Steps	Redrafting, reviewing legal proposal		Technical support will be given to Agency of Environment as to screen the implementation
Design of EI	Both energy taxation and emission trading legislation give prerequisite requirements and criteria of economic bodies to which EI is to apply;	Legal proposal adopted by the Government	
Review	Tax reductions will decrease by 8% yearly as to achieve the goal of GHG emissions reduction agreed under Kyoto Protocol; CO2 tax will apply to all fuel users by 2008 without any tax reduction, exemptions will only apply to renewable sources of energy	Legal frame to be revised by end 2007	

2.4.6.5. Budget

Revenues gathered by modification of existing tax introduction will decrease as a result, but those collected will be used to finance management of protected areas.

2.4.7. Scheme for greenhouse gas emission trading

The introduction and implementation of emission trading arises from the need for the European Union to reduce its emissions of green house gases cost effectively and meet its obligations under United Nations Framework Convention on Climate Change and the Kyoto Protocol. With this purpose Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community has been adopted in June 2003.

2.4.7.1. Statement of economic instrument

Operators of the installations that cause green house gas emissions will be required to hold a greenhouse gas emission permit as a condition to undertake any activity in the installations concerned that emit green house gases. The green house gas emissions permit will lay down monitoring, reporting and verification of requirements in respect of direct emissions of greenhouse gases specified in relation to those activities creating the framework for the participation of the installation in the emissions trading scheme. The permit further requires

operators of installations undertaking the activities covered by the scheme to surrender, on an annual basis, sufficient allowances to match their verified emissions of the relevant green house gas emissions for the previous calendar year. A failure to surrender sufficient allowances to match verified emissions would result in impositions of substantial penalties.

These preconditions determine the frame for EU wide trading scheme for allowances. A Community scheme would minimise distortions of competition and potential barriers to the internal market that might otherwise arise as a result of different taxation systems of EU member states. Community wide trading scheme constitutes the key element for harnessing the available cost effective emission reduction potential. Emissions reductions will then be made wherever in the Community it is cheapest to make them. The benefit of these cheapest reductions will be available to others elsewhere in Community who may not as themselves have as thus cheap reductions possibilities. This is why emissions trading is of benefit to those who buy as well as those who sell.

Participating installations that will undertake obligations arising from GHG permits (energy activities, ferrous metals industry like iron and steel, mineral industry like cement, glass and ceramics as well as paper and pulp industry) will be able to sell surplus allowances and buy in additional allowances in the market resulting overall in reduction of compliance costs, which gives business more flexibility than many alternative policies.

2.4.7.2. Timetable

Initial discussions and approval in principle	Started in last quarter of 2003, intensified throughout 2004
Consultations Period	2004
Legal Review and Clearance	2004
Administrative Plan	2004,2005
Design of EI	End 2003, 2004, 2005
Implementation Period	In 2005
Review Period	Till end 2007

2.4.7.3. Objectives of the economic instrument

Hierarchy of objectives	**Key Performance Indicators**	**Monitoring and Evaluation**	**Critical Assumption**
Development Objective	AMBIENT AIR IMPROVEMENT; EI to lower the costs of reducing GHG emissions and thus emissions		
Environmental Objective	higher carbon efficiency, higher energy efficiency, GHG emissions have a price	Monitoring of GHG emissions and reporting by operators is obligatory	
Financial Objective	Cost effective emission reduction; Encourage investments in energy efficiency		
Equity Objective			

2.4.7.4. Implementation Plan

Activity	Actions/Inputs	Outputs	Critical Assumptions
Consultations	Meetings with representatives of the industry, operators of the installations concerned, Chamber of Commerce, Ministry of Economy and Ministry of Finance, European Commission	New Law on Environment Protection	
Administrative Legal Steps	New Law on Environment Protection includes obligations for operators of installations to hold GHG permit for operation of installation and gives legal base for emission trading	Decree on monitoring of GHG emissions and reporting, Decree on registry of trading transactions	Technical support will be given to Agency of Environment as to screen the implementation
Design of EI	Operators of particular installations are obliged to hold a GHG permit as a precondition to operate; GHG permit contains general information on operator and installation, requirement to monitor and report GHG emissions and obligation to surrender allowances equal to total emissions of the installation in calendar year	Legal proposals adopted by the Government	
Review	On the basis of the progress achieved a revision could include other activities and other GHG gas to be included in the scheme	Legal frame to be revised by end 2007	

2.4.7.5. Budget

There will be no financial sources raised with implementation of this economic instrument. The introduction of the instrument should provide for incentive and cost effective reduction of green house gas emissions.

2.4.8. Economic price of water use

With high environmental concerns and limited financial resources the introduction and implementation of economic price of water use the development of sustainable water management and policy decision making should be achieved. To achieve its environmental objectives (i.e. good status for all waters) economic price of water use should include:

- economic principles (polluter pays principle),
- economic approaches and tools (cost effectiveness analysis),
- economic instruments consideration with implementation of incentive water pricing.

2.4.8.1. Statement of economic instrument

As to achieve the overall objective and the final goal; i.e. implementation of economic price of water use to achieve good status of all waters, economic instruments in water sector should be implemented gradually with economic analysis of water use and should take into account the following:

- economic significance of each water use should be identified with respect to the importance of water use as a water consumer and its absolute and relative contribution to the physic and chemical quality of water in the river basin, particularly for the users with "significant impact", such as household supply, agriculture and animal husbandry, industries with large demand of water , hydroelectricity production and industries that are heavy polluters;
- asses pricing system and introduce incentive pricing including institutional set up for cost recovery prices and the contribution of key water uses to the costs of water services;
- forecast analysis if pressures and trends of water demand to identify which economic drivers are important to influence pressures and thus water status;
- evaluate costs and effectiveness of potential measures to reduce pollution of all water bodies, define programme of measures for pollution reduction and remediation.

2.4.8.2. Timetable

Initial discussions and approval in principle	Started in last quarter of 2003, intensified throughout 2004
Consultations Period	2004 - 2006
Legal Review and Clearance	2004, 2005
Administrative Plan	2004,2005
Design of EI	End 2003, 2004, 2005, 2006
Implementation Period	Till 2009
Review Period	Till end 2015

2.4.8.3. Objectives of the economic instrument

Hierarchy of objectives	**Key Performance Indicators**	**Monitoring and Evaluation**	**Critical Assumption**
Development Objective	Achieve good status of all water bodies on cost effective way and introduce incentive pricing of water services		
Environmental Objective	Good status of all waters	Monitoring of groundwater, surface waters is obligatory	
Financial Objective	polluter pays principle cost recovery prices cost effective programme of measures to reduce pollution		
Equity Objective	Each water use (households, industry, agriculture) should pay according to its use		

2.4.8.4. Implementation Plan

Activity	Actions/Inputs	Outputs	Critical Assumptions
Consultations	Meetings with stakeholders on particular river basin, experts and academia, local authorities, non-governmental organisations	River basin management plans, revision of legal base	
Administrative Legal Steps			Technical support will be given to Agency of Environment as to screen the implementation
Design of EI	Integrated and complex approach to include all elements as defined in 4.1.2. Statement of EI	Legal proposals and river basin management plans to be adopted by the Government	Broad data base needed
Review	On the basis of the progress achieved a revision could include other proposals to achieve final goal (good water status of all water bodies) after 2009		

2.4.8.5. Budget

There will be no financial sources raised directly with implementation of this economic instrument. The instrument will set incentive pricing policy in water sector as to achieve sustainable use of all water and thus impact on environment.

2.4.9. Tax on waste electrical and electronic equipment

Following the hierarchy of principles on waste management being: prevention, recycling, energy recovery and safe disposal majority of actions according to strategic documents on waste management focus on waste prevention at the source. Waste management legislation includes various measures to combat certain categories of waste focusing on avoiding waste by improving product design and increasing recycling of waste and re-use of waste.

With the objective of waste prevention and increase the use of recycled materials tax on end of life vehicles, as well as tax on lubricant waste oil and landfill tax have already been introduced in Slovenia; landfill tax was introduced in 2001, tax on used lubricant oil in 2002 and tax on end of life vehicles was introduced in beginning of 2003. Financial sources collected through these taxes are mainly earmarked: landfill tax for investments in waste management centres, funds from tax on used lubricant oils for sanitation of clean up projects and funds from tax on end of life vehicles for management of end of life vehicles (collection, re-use and recycling).

Having achieved good experiences and results related to reduce quantity of waste in general with the fact that tax introduction results in a price to waste disposal, a new economic instrument will be introduced: tax on waste electric and electronic equipment.

2.4.9.1. Statement of economic instrument

With the objective to prevent generation of electrical and electronic waste and to promote reuse, recycling and other form of recovery in order to reduce the quantity of such waste to be eliminated, whilst also improving the environmental performance of economic operators involved in its treatment a tax on waste electrical and electronic will be introduced.
It applies to following categories of electrical and electronic equipment:

- large and small household appliances,
- IT and telecommunications equipment,
- Consumer equipment,
- Lightning equipment,
- Electrical and electronic tools,
- Toys, leisure and sports equipment,
- Medical devices,
- Monitoring and control instruments,
- Automatic dispensers.

Due to the fact that according to legislation framework, producers of electronic and electric equipment must provide for financing of the collection, treatment, recovery and environmentally sound disposal of waste electronic and electrical equipment these required management costs are to be born by the producer and thus covered by the tax imposed.

Tax base is defined as quantity of waste electronic and electrical equipment produced or placed on the market expressed in kilograms; the price for one kilogramme is to be decided by the Government yearly before the end of the current calendar year.

Tax payers are producers of the electronic and electrical equipment in wide sense: not only producers but anyone placing electric and electronic equipment on the market (meaning retailers and importers).

2.4.9.2. Timetable

Initial discussions and approval in principle	Started in second half of 2004, to be intensified throughout 2005
Consultations Period	2004, first half 2005
Legal Review and Clearance	2005
Administrative Plan	2005, 2006
Design of EI	End 2004, 2005
Implementation Period	Till 2006
Review Period	Till end 2010

2.4.9.3. Objectives of the economic instrument

Hierarchy of objectives	Key Performance Indicators	Monitoring and Evaluation	Critical Assumption
Development Objective	prevent generation of waste in general through prevention of electronic and electrical waste		
Environmental Objective	Restrict hazardous substances in order to protect human health and improve environmental performance	Quantity of waste disposed; Degree of recycled and reused waste	
Financial Objective	Finance management of waste electronic and electrical equipment		
Equity Objective			

2.4.9.4. Implementation Plan

Activity	Actions/Inputs	Outputs	Critical Assumptions
Consultations	Meetings with producers, importers, retailers, whole sellers, Chamber of Commerce	Legal proposal	
Administrative Legal Steps	Legal framework for collection, recycling, reuse and appropriate management of waste electronic, electrical equipment		
Design of EI	Tax on quantity of waste electronic and electrical equipment	Legal proposals to be adopted by the Government	
Review			

2.4.9.5. Budget

According to preliminary estimations the price per kilogramme will be set at 0,5 EUR; estimated amount of electronic and electrical equipment to be yearly placed on the market is estimated to 4 kg per inhabitant. Revenues gathered by tax introduction should cover the estimated costs of electronic and electrical equipment waste management.

According to the proposal the price per kilogramme of waste electronic and electrical equipment will decrease through out the time taking into account the fact that electronic and electrical equipment life time if on average 10 years.

2.5. IDENTIFICATION OF CRITERIA FOR EVALUATION OF EFFECTIVENESS

2.5.1. Public information

Comprehensive and timely public information on the activities in the area of environmental protection is a one-sided process, where the receiver usually remains passive and the transmitter gets no feedback information on the reach of the message. Along with suitable assurance of the possibility of access to environmental information, the basic condition for the upgrade represents a transition to a two-way active process: *communication.*

Legal possibilities of access to environmental information are based on:

- Environmental Protection Act, which stipulates that environmental data is public and anyone can access it in accordance with the law;
- Access to Information of Public Character Act, which represents a giant step in the area of access to information of public character. Access to Information of Public Character Act realised the right of an individual to obtain information of public character, in which he has a well-founded interest under law, except in cases provided by the Act, on a principle of public authority openness, it outlined a wide circle of bound bodies, with the exceptions being listed taxatively;
- Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters – Aarhus Convention;
- Directive on access to environmental information, which declares that increased public access to environmental information and its dissemination contribute to better awareness of environmental matters, free exchange of opinion, more efficient public participation in the decision-making procedure on environmental matters and, last but not least, to better environment (it is to be transposed to the national laws of the Member States in 2005).

Legally speaking, a giant step forward was made as regards formalisation of substantive processes of informing and accessing to environmental information. These processes are already underway in Slovenia and at the same time they represent a good legal foundation for further processes and activities to strengthen participative democracy. The state is becoming aware that decisions are predominantly taken in the state of participative deficit, which weakens their power. The experience has shown that decisions reached on the basis of social consensus lead to faster and more efficient implementation. Civil society is thus an important and prospectively necessary participant in social consensus, which was particularly emphasised in the Strategy of the Government of the RS for Cooperation with Non-Governmental Organisations (2003). The Strategy acknowledged important influence, which this organised and registered public has on the "comprehensive and sustainable social development, increased public welfare, quality of life and social security".

In the relation between non-governmental organisations and the state, it is thus important that, on one side, non-governmental organisations have access to information held by the state, and on the other side, that non-governmental organisations inform the state on their perceptions, data and findings.

2.5.2. Public participation

Public participation is of key importance to successful implementation of sustainable development – presuming that mechanisms, infrastructure and legislation allowing this have

been set up on the government side and on the civil side. The balance of economic, social and environmental goals in the sustainable development strategies cannot be defined solely by means of policy and science. Decisions on developmental strategic orientations include evaluation and this requires participation of inhabitants. Therefore, integration of various interest groups is of key importance to the forming of decisions – from their preparation to realisation. It is early public integration and participation in the preparation of developmental strategic documents, which assures that these documents will satisfy the needs of a large number of people, create affiliation, reduce interest conflicts and augment the initiative for realisation of plans.

Goals according public participation:
- open up political area for all civil society operators,
- enhance culture of openness and free access to information,
- ensure active participation of various public in the legislative processes of the Ministry of the Environment, Spatial Planning and Energy,
- link various environmental operators,
- proactive role of environmental operators with regard to mass media,
- upgrade of comprehensive information system of environmental protection.

The goals will be achieved by the following measures:
- interbranch cooperation for implementation of joint projects,
- introduction of regular working meetings of the Ministry of the Environment, Spatial Planning and Energy and NGOs and, where necessary, other interest groups,
- integration of NGOs in the preparation of strategic documents and regulations,
- transfer of public functions to NGOs (e.g. environmental information centre),
- linking the websites of the Ministry of the Environment, Spatial Planning and Energy into a single entry point,
- training and informing civil servants at all levels about the right to access environmental data,
- preparation of instruction on obtaining environmental information.

2.5.3. Environmental education and awareness

Environmental education and training have to be based on the concept of life-long learning, which is the guiding principle in the development of education systems in Europe and worldwide.

In accordance with the key environmental priority tasks of the EU (climate changes, nature and biodiversity, environment, health, quality of life, natural resources and waste) and the vision (Development of Slovenia according to Sustainable Development Principles), the goals of the environmental education and training in formal and informal learning for all age groups in the Republic of Slovenia by 2008 are the following:
- to improve general knowledge of the environment and of the rules of sustainable development;
- to introduce the concept of sustainable development as an integral part of Slovenia's development;
- to ensure system and infrastructure support for the existing environmental programmes, their connection and development of new ones;
- to include environmental programmes and activities in the existing networks and to develop new ones.

Measures to achieve the above-mentioned goals are the following:

- establishment and strengthening of interbranch cooperation (Ministry of the Environment, Spatial Planning and Energy – Ministry of Education, Science and Sports);
- preparation of additional environmental contents and their integration into natural science and social science classes at all levels of education system;
- preparation of an offer of interdisciplinary seminars and workshops for pedagogues;
- defining the contents for transfer of public functions from the area of education and training in formal and informal forms;
- development of the programme of Eco Schools as one of the ways of implementing the contents of the 6th Environmental Action Programme;
- opening of education and training processes outwards, especially at the implementing level,
- preparation and putting up of a special website with a set of activities from the area of education and training.

2.5.4. Non-governmental organizations

Non-governmental organisations represent part of an organised form of the public. Although they cannot fully substitute for public participation, they represent important operators able to contribute a significant share to the preparation, implementation and evaluation of strategic documents, laws and executive regulations.

Non-governmental organisations (NGOs) represent part of a civil society (organised and registered form of the public), which is an important operator of participation in the environmental area, since it involves interest related individuals aware of their social responsibility. Common interest joining people of different professions, expertise and experience allows a broader view of the interest area as well as a broader range of ideas, due to which they can offer innovative and alternative approaches and solutions to problems, while their participation increases legitimacy in the preparation procedures of strategic documents.

In the environmental area, the most important is the operation of environmental non-governmental organisations, i.e. of those which regarding the purpose of their establishment or their operation identify themselves as environmental non-governmental organisations. The purpose of operation of non-governmental organisations in the area of environment and nature is to enforce the principles of environmental and nature protection as well as of sustainable development at all levels of political decision-making and activity. The most important area of operation of environmental and nature protection non-governmental organisations is undoubtedly influence on policy and legislation making in Slovenia as well as at the European Community level, and informing the public on matters related to the environment and sustainable development.

The conditions for operation of non-governmental organisations are expected to further improve due to the strategic documents, such as the Strategy of the Government of the RS for Cooperation with Non-Governmental Organisations and the Strategy for System Development of Non-Governmental Organisations in Slovenia for the Period from 2003 to 2006, prepared by the non-governmental organisations.

The Environmental Protection Act emphasises the role of the general public or non-governmental organisations. A special status is attributed to those non-governmental organisations, which operate in the public interest in the area of environmental protection. In the

procedures of issuing environmental consents and environmental licences for installations, which could cause large-scale environmental pollution, they will assume the position of a secondary participant, thus having the possibility to seek remedies. It is due to this that the Environmental Protection Act provides for a special procedure used to identify this public interest, and the non-governmental organisations will have to meet the prescribed conditions to be granted this status. Pursuant to the Environmental Protection Act, other institutions and institutes can also be granted this status, and not only societies according to the provisions of the Societies Act. In addition to the above-mentioned rights, non-governmental organisations are also granted some other possibilities of participation in decision-taking in the area of environmental protection and environmental policy making. The most important mission of environmental and nature protection non-governmental organisations is thus influence on policy and legislation making in Slovenia as well as at the European Community level, and informing the public on matters related to the environment and sustainable development. Increasing and substantive deepening of cooperation of the state with the NGOs in the environmental area is a necessary and long-term process, where the state will have to pay special attention to the following:

- ensuring the conditions for the NGOs to carry out the participative function;
- extension of the partnership from the state to local communities, other ministries (in particular the ministries competent for education, health, economy, transport, information society), universities and other participation subjects (also cooperation between the NGOs and economic sector, e.g. in the introduction of environmentally friendly technologies);
- mutual understanding of the cooperation process in the preparation and adoption of important documents (programmes, guidelines, laws), which has to take into account the provisions of the Aarhus Convention, in particular with regard to the provision of all necessary information relevant to the preparation of a document, suitably long periods for individual phases in the procedure for preparation and adoption of documents, early enough and just integration of the public into the process, and consideration of NGOs' opinions and observations with clear explanations in cases of non-adoption;
- changing of a general climate and behaviour patterns as regards the role of non-governmental organisations with full respect of principles of diversity and complementarity, and standing up for democratic cooperation processes based on mutual trust.

On the basis of the starting points and taking into account the principles, the following measures have been foreseen to strengthen the operation of environmental non-governmental organisations:

- provision of additional funds for co-financing of the environmental NGOs activities ((multi)annual programme financing, annual project financing, financing of coalition and network projects and programmes),
- establishment or provision of cooperation at the interministerial level,
- regular meetings between the Ministry of the Environment, Spatial Planning and Energy and NGOs (semi-annual, annual meetings or held when necessary),
- continuation of proactive information on the Ministry's activities, e.g. websites, bulletin, etc.

2.6. PROGRAMME SUPPORT ELEMENTS

In order to control the implementation of the NAP, an extensive and regular monitoring network that includes all data and information from all fields discussed in the NAP is needed. An effective monitoring system in Slovenia already exists and is regulated by the Environmental

Agency of the Republic of Slovenia. Various liquid and air pollutants that are required by the Slovenian and European legislation (listed in 1.2) are measured in these monitoring activities, and it is regularly checked if their concentrations are below a certain level to comply with the law.

In addition, most fields that are discussed in the NAP are included in the National Environmental Action Programme. The Programme also suggests what measures to take in order to evaluate the progress and effectiveness of environmental activities. Every report on the State of the Environment, that is prepared by the Ministry of the Environment, Spatial planning and Energy and the Environmental Agency of the Republic of Slovenia, hence provides a review of the implementation of the tasks defined in the National Environmental Action Programme. Furthermore, a system of indicators developed for this purpose will be also used for the review and evaluation of the Programme at national level. The measures necessary for the adaptation to potential new conditions will be taken on the basis of findings. Finally, the Minister for the Environment, Spatial Planning and Energy will form a special group, which will report to him every six months. The report will be the basis for measures taken in the case of significant deviation from the implementation of the National Environmental Action Programme.

There are currently five international systems of indicators of the environment and development, which are of relevance to Slovenia: (i) OECD core set of indicators (OECD, 1993), in the spirit of which the Environmental Performance Review for Slovenia was prepared (UNECE, EPR 1997); (ii) indicators of sustainable development of the United Nations Commission on Sustainable Development (UNCSD, 1996), which lay down the contents of the reports on sustainable development – Slovenia assumed the obligation of preparation at the UN Conference on Sustainable Development in Rio de Janeiro (1992); (iii) indicators of the European Environment Agency (EEA) serve for the preparation of reports on the state of the environment in the EU and associated members in 1998 (EEA, 1996); (iv) SOIA indicators for monitoring the implementation of the Alpine Convention; and (v) indicators of the Mediterranean Commission on Sustainable Development (UNMCSD) for monitoring the realisation of the goals of the Mediterranean Action Plan (MAP) in the Mediterranean region and of the Barcelona Convention for the Protection of the Mediterranean Sea.

In 2004, an Environmental Regional Information System (REIS) was set up, the purpose of which is to monitor the environment at the regional level via the system of environmental indicators and indicators of sustainable development. Within the framework of the Environmental Regional Information System, the implementation of the NAP at the regional level will be observed by means of the following indicators:

ENVIRONMENTAL INDICATORS
Situation and changes in the environment
Water

1. Waste water treatment
2. Quality of water bodies

Air

3. Sulphur dioxide emissions
4. Nitrogen oxide emissions
5. Frequency of exceeding the limit values of sulphur dioxide concentrations
6. Frequency of exceeding the limit values of ozone concentrations

Ozone and climate changes

7. Greenhouse gas emissions

Soil

8. Implementation of the nitrate directive

Waste

9. Urban waste generation

Integration of environmental protection requirements into sector policies

Agriculture

10. Use of agents for plant protection
11. Use of mineral fertilizers

Energy

12. Use of final energy
13. Production of electricity from renewable energy sources

Public health

14. Drinking water quality
15. Bathing water quality

SUSTAINABLE DEVELOPMENT INDICATORS

Economic activities and sustainable development

16. Use of pesticides
17. Use of fertilizers
18. Discharges of industrial waste water

Environment

19. Ratio between collected and treated waste water
20. Industrial waste water treatment
21. Land use change
22. Agricultural land use change
23. Wetland surfaces
24. Costs of management of protected areas
25. Urban waste
26. Industrial waste
27. Ratios of separate waste collection
28. Urban waste collection

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APPENDIX I. - IMAPACT/ISSUE MATRIX FOR SLOVENIA

ISSUE	INDICATOR OF MAGNITUDE	IMPACT				ROOT CAUSE	POSSIBLE SOLUTION	SCORE
		Human Health *4*	Marine Env. *3*	Socio - Econ. loss *2*	Global Env. *1*			
WWTP (waste water treatment plant)	$13 \cdot 10^6$ m^3	**3**	**4**	**2**	**1**	Waste waters	tertiary treatment	**29**
NUTRIENTS	450 tons BOD	**3**	**3**	**2**	**1**	dairy, fish ind., beverages	BAT	**26**
ORGANO-HALOGENS	limited data	**3**	**2**	**2**	**2**	PCB Pesticides	ban reduction	**24**
HAZARDOUS WASTE	480 tons lub. oils, batteries	**3**	**2**	**2**	**2**	Lub oils, Batteries	collection, recycling	**24**
SOLID WASTE	200.000 tons	**2**	**2**	**3**	**1**	Solid waste	management, recycling	**21**
TRACE METALS	low emissions	**2**	**2**	**2**	**2**			**20**

APPENDIX II. – REDUCTION OF EMITTED POLLUTANTS IN RELATION WITH ACTUAL RELASES

PRIORITY ISSUE	POLLUTANT RELEASES	MEASURES	EXPECTED DECREASE OF POLLUTANTS EMISSION (%)	TIMETABLE
Sewage management[1]	TN: 318 tons TP: 49 tons	tertiary treatment of waste waters	TN: 70% TP: 80%	Agglomerations > 10,000 till December 31, 2008 Agglomerations between 50 and 10,000 till December 31, 2015[2]
Urban solid waste	1,275,000 tons	separate collection and reduction by recycling	process 50% of total weight of waste packaging 60% recovery by weight	waste packaging by the end of year 2007[3] by end of year 2012[3]
Pollution caused by HG, CD, PB	HG: 0.1 kg CD: 0.1 kg PB: 1.4 kg	liquid emissions are not relevant reduce HG emissions from the Idrija mine[4]	-	Decommissioning activities in the Idrija HG mine scheduled to be finished by 2006
Organohalogens	no data available	-[5]	-	The current state of contamination with organohalogens will be analyzed
Wastewaters from industrial installations	TN: 19 tons TP: 6.5 tons	BAT	according to adopted BAT	by October 31, 2011[6]
Lubricating oils	12,800 tons	additional collection sites, recycling	collect 50 % of the generated lub oils	by end of 2006
Batteries and accumulators	PB: 4,163 tons Ni-Cd: 12.7 tons	collection, recycling	20% reduction of generation, 50% collected and disposed in an environmental manner	by end of 2010
PCB	10.8 tons	decontamination/destruction of PCB containing devices	-	by December 31, 2010[7] by end of 2006[7]

[1] Reduction of emitted pollutants in relations with actual releases for sewage management is presented only for WWTPs listed in *Baseline Budget* and *National Diagnostic Analyses*. Actual releases are higher because there are no emission data for agglomerations not connected on WWTPs.
[2] Detailed timetable in accordance with the *Operational Programme for the Collection and Treatment of Urban Waste Water* can be found in chapter 2.2.1.
[3] Detailed timetable in accordance with the *National Environment Programme* can be found in chapter 2.2.2.

[4] Draining of the closed Idrija HG mine is an issue of concern. A separate Operational programme for the reduction of pollution caused by mercury from diffused sources in the Republic of Slovenia was therefore adopted. Detailed information can be found in chapter 2.2.3.
[5] The Protocol on persistent organic pollutants was adopted, and therefore emissions of organohalogens listed in the Protocol are controlled. Detailed information can be found in chapter 2.2.4.
[6] Detailed information of implementation of *Integrated Pollution Prevention and Control Directive* for Slovenia can be found in chapter 2.2.5.
[7] Devices with concentrations higher than 500 mg/kg are to be decontaminated by 2010, while a programme for collection and disposal of devices with PCB concentrations lower than 500 mg/kg is to be adopted by 2006.

APPENDIX III. – COMPARISON OF PROPOSED ACTIONS WITH THE SAP TARGETS

POLLUTANT	POLLUTANT RELEASES	MEASURES	EXPECTED DECREASE OF POLLUTANTS EMISSION (%)	SAP TARGET FOR 2010
Sewage management[1]	TN: 100 tons TP: 10 tons	tertiary treatment of WWTP	TN: 70% TP: 80%	dispose sewage from cities >100,000 in conformity with LBS
Urban solid waste	600,000 tons	separate collection and reduction by recycling	process 50% of total weight of urban solid waste	solid waste management for cities >100,000
Pollution caused by HG, CD, PB	HG: 0.1 kg CD: 0.1 kg PB: 1.4 kg	emissions are not relevant	-	50% reduction
Organohalogens	no data available	-	-	reduce discharges
Wastewaters from industrial installations	TN: 19 tons TP: 6.5 tons	BAT	according to adopted BAT	50% reduction
Lubricating oils	12,800 tons	additional collection sites, recycling	collect 50 % of the generated lub oils	50% collected and disposed in an environmental manner
Batteries and accumulators	PB: 4,163 tons Ni-Cd: 12.7 tons	collection, recycling	20% reduction of generation, 50% collected and disposed in an environmental manner	20% reduction of generation, 50% collected and disposed in an environmental manner
PCB	10.8 tons	decontamination/destruction of PCB containing devices	100%	Collect and dispose all PCB

[1] Reduction of emitted pollutants in relations with actual releases for sewage management is presented only for WWTPs listed in *Baseline Budget* and *National Diagnostic Analyses*. Actual releases are higher because there are no emission data for agglomerations not connected on WWTPs.