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Synopsis



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Preface

In 1993, the second Environment for Europe Ministerial Conference (Lucerne, Switzerland) mandated ECE to carry out EPRs for those ECE member States that are not members of the Organisation for Economic Co-operation and Development (OECD). Subsequently, the ECE Committee on Environmental Policy decided to make them part of its regular programme. Since then, the environment ministers affirmed their support for the EPR Programme, decided in 2003 that the Programme should continue with a second cycle of reviews, and formally endorsed the third cycle of reviews in 2011.

Through the peer review process, EPRs also promote dialogue among ECE member States and the harmonization of environmental conditions and policies throughout the region. As a voluntary exercise, an EPR is undertaken only at the request of the country concerned. The studies are carried out by international teams of experts from the region working closely with national experts from the reviewed country. The teams also benefit from close cooperation with other organizations in the United Nations system and outside.

The third EPR of Serbia began in November 2013 with a preparatory mission. During this mission, the structure of the review report was agreed upon and the time schedule established. A team of international experts took part in the review mission on 25 March- 1 April 2014.

The draft EPR report was submitted to Serbia for comment and to the ECE Expert Group on EPR for consideration in August 2014. During its meeting on 1 – 2 October 2014, the Expert Group discussed the report with expert representatives of the Government of Serbia, focusing in particular on the conclusions and recommendations made by the international experts.

The EPR recommendations, with suggested amendments from the Expert Group, were then submitted for peer review to the nineteenth session of the Committee on Environmental Policy on 30 October 2014. A high-level delegation from Serbia participated in the peer review. The Committee adopted the recommendations as set out in this report.

The Committee and the ECE secretariat would like to thank the Government of Serbia and its experts who worked with the international experts and contributed their knowledge and assistance. ECE wishes the Government of Serbia further success in carrying out the tasks involved in meeting its environmental objectives, including the implementation of the recommendations in this third review.

ECE would like to express its appreciation to Sweden for its financial contribution through the Swedish International Development Cooperation Agency, to Portugal for having delegated its experts for the review, and to UNDP for its support of the EPR Programme and this review. ECE would also like to thank Austria, the Netherlands and Switzerland for their financial support to the EPR Programme.

Executive summary

The second Environmental Performance Review (EPR) of Serbia was carried out in 2007. This third review intends to assess the progress made by Serbia in managing its environment since the second EPR and in addressing new environmental challenges.

Environmental conditions and pressures

The country's economy is export dependent – in 2012, exports of goods and services made up 40.3 per cent of GDP. GDP per capita measured by current purchasing power parity (PPP) was US\$11,070 in 2010, or 34.6 per cent of the EU-28 average. This was lower than the GDP per capita of neighbouring Montenegro (US\$13,086) but higher than that of Bosnia and Herzegovina (US\$7,793).

There has been no change in sulphur dioxide emissions since 2007. In 2012, emissions were at 287,300 tons, or 39.9 kg per capita, considerably higher than the EU's 2010 average of 11.9 kg. Nitrogen oxides emissions grew over the comparison period by 6.48 per cent, to 208,700 tons in 2012, while ammonia emissions diminished by 12.6 per cent, from 101,800 tons in 2007 to 89,000 tons in 2012.

Heavy metal emissions demonstrated a positive trend between 2007 and 2011. Lead emissions diminished by 54.98 per cent and mercury emissions by 13.32 per cent between 2007 and 2011, whereas cadmium emissions were reduced by only 3.58 per cent.

Between 2007 and 2010, total GHG emissions measured in CO₂ decreased by 12.04 per cent, from 52,251 kt to 45,962 kt. The consumption of ozone-depleting substances dropped 87.37 per cent, from 63.80 tons of ozone-depletion potential in 2007 to 8.06 tons in 2013.

In 2007, only about 225 million m³ (or 8.1 per cent) of 3,158 million m³ of wastewater was treated. In 2013, this had dropped to 183 million m³ (or 4.53 per cent) of 3,795 million m³. The situation had deteriorated in both absolute and relative terms.

The connection rate to public sewers went up from 48.64 per cent of the population (or 3.59 million people) connected in 2007 to 57.8 per cent of the population or 4.14 million people connected in 2013. This increase hides the fact that most of the new connections were simply to the sewers, without subsequent treatment. The level of the population connected to sewers but whose wastewater was not treated rose from 2.9 million in 2007 to 3.4 million in 2013.

The country's ecosystem is rich and comprises a vast number of diverse species. Serbia is home to 39 per cent of European vascular flora species, 51 per cent of European fish fauna, 49 per cent of European reptile and amphibian fauna, 74 per cent of European bird fauna and 67 per cent of European mammal fauna.

Currently, 1,760 wild species of plants, animals and fungi are strictly protected and 853 are protected by law. A special form of protection relates to the species that can be endangered due to exaggerated and uncontrolled collection from nature. Currently, controlled use is allowed for 97 species.

Forest fellings increased by 26.1 per cent from 2,247,000 m³ in 2007 to 2,833,000 m³ in 2011. During the same period, forest damage increased by 66.7 per cent, from 40,576 m³ to 67,635 m³.

The 1999 Red List contains 171 plant taxa (species and sub-species), making up about 5 per cent of the total flora in Serbia. Of that number, 4 taxa have been irreversibly lost because they were endemic only in Serbia; 46 taxa have been exterminated in Serbia, but can still be found in neighbouring countries or in ex situ conditions (botanic gardens); and 121 species are highly endangered, with high probability of disappearing from the region in the near future.

There are 474 protected areas with a total area of 531,279 ha. An additional 117 areas are within the protection procedure. The ecological network consists of 101 areas of ecological importance and ecological corridors of

national and international importance, including Emerald Network and Natura 2000 sites. Serbia has selected 61 candidate areas for the Emerald Network.

Legal and policymaking framework and its practical implementation

Since 2007, Serbia has worked further to enhance its legal and policy framework on environment and sustainable development. An important package of environmental laws was adopted in May 2009. On the basis of these laws, more than 300 subsidiary regulations have been adopted.

The 2009 Law on Genetically Modified Organisms (GMOs) introduces the obligation of informing the public and organizing public consultations in connection with applications received. The Law does not prescribe GMO labelling.

The 2009 Law on Air Protection requires the development of a six-year air protection strategy and action plan as key national policy documents. The 2013 amendments to the Law extended the deadline for adoption of the air protection strategy from 2011 to 2015.

The main strategic document envisaged by the 2009 Law on Chemicals – the Integrated Chemicals Management Programme – was not developed. Five draft national plans for specific waste streams were prepared but have not yet been adopted.

The provisions of the 2008 National Strategy for Sustainable Development are integrated into other programmes and strategies, including sectoral ones. A number of its measures have already been implemented, although with some delays. No assessment of the Strategy's implementation has taken place since the 2010 second progress report on its implementation.

The 10-year 2010 National Environmental Protection Programme is not accompanied by a five-year action plan. Furthermore, its implementation reports had to be submitted every two years; however, no reporting took place.

Contrary to many other strategic documents, the 2010 National Waste Management Strategy for the period 2010–2019 includes a list of indicators and an action plan for the period 2010–2014. However, despite the requirement of the Law on Waste Management to prepare annual reports on implementation of the Strategy, no such reports were prepared.

Compliance and enforcement mechanisms

The legal basis for environmental impact assessment (EIA) has seen further development. The 2004 Law on EIA was updated in 2009. Implementing legislation was further developed in 2008. The Regulation establishing the list of projects for which an environmental impact assessment is mandatory and the list of projects for which EIA can be requested clarified the EIA scope and aligned it with EU requirements.

Serbia is reorienting its traditional approach to water quality regulation, predominantly based on environmental quality standards (EQS), to a more preventive one aimed at mitigating pollution closer to its source, by introducing emission limit values and providing for stricter measures if EQS in the receiving water bodies are not met (the so-called “combined approach”).

Placing leaded gasoline on the market was banned, and the use of petrol containing a maximum 13 mg/l of lead was allowed up to 31 July 2013. Amendments in 2013 further toughened the requirement, allowing the placing on the market of only petrol that corresponds to the European Standard EN 228 (maximum 5 mg/l of lead).

The National Pollution Sources Register, maintained by the Serbian Environmental Protection Agency (SEPA) has been fully operational since 2012, with more than 1,200 operators already providing data regularly. In May 2014, this public register contained 1,659 permits.

The first Integrated Pollution Prevention and Control (IPPC) applications were received in early 2010. Of the current 185 IPPC units, 162 operators (87 per cent) submitted permit applications and only nine permits have been issued so far.

The register of waste management permits issued by all competent authorities is publicly available on SEPA's website. As of April 2014, the list of waste management permit holders included 1,759 legal entities.

The Chemicals Registry is established for the purpose of creating a comprehensive database of chemicals placed on the market. As of September 2014, 2,511 companies reported data on chemicals produced or imported, and data on 46,708 chemicals (substances and mixtures) are reported to the Registry. Its data are used for the preparation of inspection campaigns.

Since 2007, progress in compliance promotion and voluntary schemes has been mixed. There are no enterprises certified according to the EU Environmental Management and Audit Scheme. Government action on promoting compliance has apparently focused on providing financial support to the regulated community. Financial support to companies that aim to improve their environmental results is higher in Serbia than the EU average.

The National Cleaner Production Centre was established in 2007. It offers advice on resource efficiency measures, as well as support services related to administrative procedures.

In its overall design, the system of inspection largely follows Recommendation 2001/331/EC providing for minimum criteria for environmental inspections in the EU Member States. In 2007, a unified planning method, reporting and record-keeping on inspections were introduced at all levels. Guidelines and instructions for inspections are available.

Economic instruments and environmental expenditures for greening the economy

Charges for air pollution from stationary sources have been collected for sulphur dioxides, nitrogen oxides and particulate matter (PM). To prevent an erosion of rates by cumulative inflation, they have been adjusted by the annual percentage changes in the consumer price index.

A charge for the import or domestic production of plastic (polyethylene) bags was introduced in autumn 2010 and applied as from 2011. Those subject to the tax are the legal persons that import or produce these bags in the domestic economy. The tax base is the weight in tons of the bags placed on the domestic market.

The system of pollution charges was enlarged in 2010 by the introduction of charges on products that, after use, become special waste streams. They comprise motor vehicle tyres, products containing asbestos, batteries and accumulators, mineral and synthetic oils and lubricants, electric and electronic products, and motor vehicles.

The current system of water pollution charges does not explicitly take into account the effective discharge of water pollutants. The rates for wastewater discharge are very low, creating no incentives for investments in wastewater treatment. And these rates are also far below those that would be required to ensure the financial viability of modern wastewater treatment plants.

The economic and financial context for environmental policy has deteriorated significantly in the aftermath of the global financial crisis in 2007/2008. The earmarking of revenues from pollution charges was abolished in 2012. In this context, the operation of the Environmental Protection Fund was also terminated.

The financial implications for the environmental sector were broached in the 2011 National Environmental Approximation Strategy. The costs of upgrading and extending the environmental capital infrastructure could amount to approximately €10.5 billion. Total costs correspond to some €1,400 per capita, which is some 20 per cent higher than estimated for other countries in the region that have joined the EU in recent years. The reason for these higher expenditures is the low level of existing infrastructure and standards of services.

Overall, general government expenditures on environmental protection have been on a rising trend in recent years. They corresponded to some €135 million or 0.45 per cent of GDP in 2012, up from a recent low of 0.29 per cent in 2009.

Serbia has benefited from development assistance provided by multilateral institutions. Total cumulative disbursements of development assistance for the sector “environment protection” amounted to €106 million during the period 2007–2013. Annual disbursements corresponded to some 0.05 per cent of GDP. Some 95 per cent of funds were provided in the form of grants; the remainder (some €6 million) was concessional loans.

Environmental monitoring, information and education

All the 40 stations are equipped with analysers to measure SO₂, CO and NO/NO_x/NO₂ concentrations. At 10 stations, PM₁₀ concentration is measured, as well as benzene toluene xylene and volatile organic compounds. Data from the stations on the measured substances are available in real time on the website of SEPA.

Serbia has a network consisting of 13 stations to sample allergenic pollen. One station (Kamenicki Vis) is equipped to measure the transboundary air pollution in accordance with the requirements of the Convention on Long-range Transboundary Air Pollution and its European Monitoring and Evaluation Programme (EMEP).

Surveillance water quality monitoring is performed at 51 measuring stations; operational monitoring is the monitoring performed at 84 measuring stations. Due to budgetary insufficiencies, not all the defined parameters are monitored at the required frequency of one year at all the surveillance monitoring locations. In respect of groundwater, quality monitoring is carried out at 64 points where piezometers are available.

There is no regular soil monitoring. However, certain collection of data takes place on an ad hoc basis at regional or local levels and through pilot projects with the involvement of donors.

Noise measurement is based on attended periodical measurements, conducted according to local methodology. The monitoring is done at a community level and depends on the budget available.

A routine monitoring programme is in place to measure ambient gamma dose rate equivalent in the air, radionuclides content in the air, solid and liquid precipitation, surface and drinking waters, and food, as well as to examine the level of exposure to naturally occurring ionizing radiation in residential and work environments. Also, radionuclides content is measured at locations affected by depleted uranium.

There has been no programme for biodiversity monitoring developed so far. Monitoring is therefore mainly done on species and habitats prioritized for monitoring as per annual budget available.

Serbia established a national laboratory for air, water, sediments and soil sample analysis, with the latter to be started in the future. The laboratory is fully integrated into the structure of SEPA. Serbia also established a laboratory for calibration of the analysers installed at the stationary stations for monitoring air quality. Institutes of public health operate laboratories accredited on some 25 standards for analysing drinking water quality. There are also several laboratories accredited for radioactivity analysis.

Data reporting, including self-monitoring activities to collect data in the first place, is imposed on enterprises. Data are stored in the National Register of Pollution Sources, which is managed by SEPA.

In 2010, Serbia adopted a list of 81 environmental indicators in 12 thematic areas. Notwithstanding, the indicators were already in use. The necessary data for the calculation of the indicators are available in various institutions at national and local levels, and shared with SEPA, which is in charge of managing the indicators.

Serbia produces its state of the environment report annually. This frequency can be questioned, in particular because in such a short period of time it is impossible to observe visible changes in trends and impacts for the majority of thematic areas assessed in the report. Furthermore, this period of time may be insufficient to implement some of the actions recommended in the previous report.

Environmental information of public importance, except for information defined by law as restricted, is freely available at no cost to the public. Furthermore, access to information that concerns a threat to or protection of public health and the environment cannot be restricted by the authorities.

Implementation of international environmental agreements

Since 2007 Serbia joined a number of global multilateral environmental agreements, including the Stockholm Convention on Persistent Organic Pollutants (POPs) in 2009, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade in 2009.

Since 2007, Serbia has joined the remaining four UNECE regional multilateral environmental agreements. The country ratified the Espoo Convention on Environmental Impact Assessment in a Transboundary Context in 2007, the Convention on the Transboundary Effects of Industrial Accidents and the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters in 2009, and the Convention on the Protection and Use of Transboundary Watercourses and International Lakes in 2010.

Since 2007, Serbia has designated four more Ramsar sites. As of April 2014, Serbia has 10 sites designated as wetlands of international importance, with a total area of 63,919 ha.

Since 2007, Serbia has inscribed one more property on the World Heritage List and submitted six properties on the Tentative List. As of April 2014, Serbia has four properties inscribed on the World Heritage List and 11 properties submitted on the Tentative List.

Progress since 2007 was noted in implementation of the Convention on Biological Diversity (CBD). In 2011, the Biodiversity Strategy and Action Plan for the period 2011–2018 were adopted. Also in 2011, the Serbian biodiversity portal was established as part of the global information exchange network set up by the CBD. The portal serves as the national clearinghouse mechanism.

Since 2007, Serbia has filled the gaps in the legislation with regard to the provisions of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal by adopting the Law on Waste Management and a number of by-laws regulating transboundary waste shipments. The import of hazardous waste for the purpose of its disposal or recovery for energy purposes is forbidden. The import of hazardous waste may be permitted only if there is a facility for the treatment of such waste, for the operation of which a permit has been issued.

Serbia has made progress on all the indicators with regard to the country's commitments on the Millennium Development Goals. The country managed to reduce pollution and started to reorient itself towards energy efficiency and the use of cleaner energy. More households in Serbia now enjoy access to clean water and improved sanitation.

Climate change mitigation and adaptation

Analyses of the period 1950–2004 show an increase in mean annual temperatures in most parts of Serbia. Temperature rise was higher in northern Serbia than in the south. Mean annual precipitation did not follow a clear trend: it increased in the west and north of Serbia, but decreased in other parts of Serbia. However, the number of days with intensive precipitation did increase.

The main impacts from these changing temperature and precipitation patterns are increasing risks of droughts, reduced water resources (mainly during vegetation seasons), extreme temperatures (both heat and cold waves) and floods. The risk of fire is also increasing as a consequence of hot and dry summers.

The energy sector, including transport, is responsible for around 75–78 per cent of GHG emissions and therefore is a key sector for mitigation. In 2010, the emissions from fuel combustion arose mostly from electricity and heat production (66 per cent), followed by the transport (14 per cent), manufacturing industries and construction (12 per cent) and residential (7 per cent) sectors.

The Serbian economy is very energy intensive, with an energy intensity of 0.22 toe per unit of GDP in 2010, while that of OECD-Europe was 0.13 and the world average was 0.19 toe. These figures indicate that there is potential for reducing energy consumption by improving efficiency and thus reducing CO₂ emissions.

Serbia has no national strategy on climate change. However, climate change is listed as one environmental risk factor in the 2008 National Strategy for Sustainable Development. The 2011 National Strategy for Protection and Rescue in Emergency Situations also lists climate change as one important factor with influence on emergency situations.

The 2005 Agriculture Development Strategy did not mention climate change. The 2010 National Environmental Protection Programme states that the agricultural sector may suffer huge damage and be one of the sectors most affected by climate change. The Strategy for Agriculture and Rural Development for the period 2014–2024 recognizes the importance of climate change impacts on agricultural production or the sector's vulnerability to changed climate conditions.

Serbia adopted the target of saving 9 per cent in final energy consumption by 2018 in comparison with 2008. However, the measures planned in the First Energy Efficiency Action Plan for the period 2010–2012 were either not implemented at all or only partly implemented because of delays in the adoption of the Law on Efficient Use of Energy and the accompanying by-laws, as well as lack of funding.

Numerous projects related to climate change took place in recent years at national or regional level. They included the elaboration of adaptation and mitigation strategies for subsectors, as well as increasing efficiency or awareness and preparing adaptation measures.

Serbia was successful in using the Clean Development Mechanism (CDM) by swiftly installing the Designated National Authority and necessary procedures after ratification of the Kyoto Protocol. In 2010, the National Strategy for Incorporation of the Republic of Serbia into the Clean Development Mechanism was elaborated. Serbia successfully registered seven CDM projects before 2012, which related to renewable energy (several wind farms), energy efficiency and the waste sector.

Water management

In 2013, the raw water for drinking purposes comes from groundwater (67 per cent) and surface waters (33 per cent). Around 70 per cent of the population is connected to public water supply systems, around 12 per cent is connected to rural water supply systems and around 10 per cent is connected to individual systems, while the remaining population is supplied from wells and pumps.

Of the 300 million m³ of wastewater discharged in 2013, 71.4 per cent was from households, 14.6 per cent from industry and 14 per cent from other sectors. Only 16.8 per cent (50.4 million m³) was treated, including 2.4 per cent with primary treatment, 11.8 per cent with secondary treatment and 2.5 per cent with tertiary treatment.

River water quality is relatively good in Serbia, particularly that of the Danube, Sava and Tisza Rivers and a number of small rivers. However, the situation with regard to national rivers is often worse, above all that of the Velika Morava River, and especially of small rivers whose riverbanks are occupied by large urban centres.

At national level, monitoring of drinking water quality is conducted by the network of 24 institutes of public health under the Ministry of Health. In the period 2007–2012, in urban areas, approximately 60,000 drinking water samples were analysed each year. Average microbiological and chemical non-compliance of drinking water were 4.9 per cent and 15.4 per cent of samples, respectively.

In the period 2007–2012, monitoring of drinking water quality was conducted on about 2,198 water supply systems in rural areas. Approximately 18,800 drinking water samples were analysed each year. Average microbiological and chemical non-compliance of drinking water from water supply systems in rural areas were 22.9 per cent and 50.5 per cent of samples, respectively.

In the period 2007–2012, drinking water from an average 4,600 individual water supply facilities (public standpipes, schools, health centres, facilities for food production and restaurants with their own water sources) were analysed. Approximately 7,900 drinking water samples were analysed each year. Average microbiological and chemical non-compliance of drinking water from individual water supply facilities were 24.1 per cent and 35.5 per cent of samples, respectively.

Serbia has a General Plan for Flood Protection for the period 2012–2018 and adopts annual operational plans for flood protection. The present state of flood protection infrastructures can be assessed as satisfactory.

Serbia lacks an appropriate framework on the water sector to achieve a sustainable approach to water and wastewater management policies. No programme for “efficient use of water” has been implemented and neither is there an innovative solution on a national scale.

The prices of water are not economic prices but social prices. From 2006 until 2012, the Government controlled them and approved any changes, limiting their increase to the projected inflation rate for a given year, but this control was abolished with the adoption of the Law on Communal Utility Activities and the Law on Public Enterprises.

Waste management

Waste management started a new era when the country developed a modern legislative framework. There is a trend towards regionalization of waste management services, which is providing opportunities for private sector involvement. However, development of the necessary infrastructure lags behind expectations, mainly due to insufficient sources of local financing and dependence on funding by foreign donors.

Organized collection of municipal solid waste (MSW) was estimated to cover about 80 per cent of generated waste in 2013. Collection is organized mainly in urban areas, while rural areas are less well covered.

Serbia currently recycles about 14 per cent of collected MSW: glass, wood, paper, plastic and metal. The private sector is involved in municipal separation schemes, but its main role is the purchase and processing of materials gained from separation. While in 2009 only 200 companies were registered for collection and recycling of waste, currently their number exceeds 2,200.

MSW is disposed to landfills and dumps. Considering the development of modern landfills, it is estimated that 25 per cent of MSW is disposed to sanitary landfills, 45 per cent is delivered to registered municipal dumpsites and 30 per cent ends up in uncontrolled dumpsites. About 70 per cent of all active dumpsites do not meet basic operational standards and are not stipulated through spatial planning documents, and no EIA of them has been developed; nor do they have the necessary permits.

The total amount of industrial waste is strongly affected by the mining sector, which represents 88 per cent of reported waste, and by energy generation, which adds 10.5 per cent. The share of manufacturing waste is only 1.5 per cent.

The existing health-care waste management system is focused on the treatment of infectious waste. It consists of a network of 31 central treatment points and 24 local treatment points where infectious health-care waste is treated by steam sterilization in autoclaves.

The 2003 National Waste Management Strategy for the period 2003–2008 was evaluated in the process of preparation of the 2010 National Waste Management Strategy for the period 2010–2019. This evaluation shows that achieved results are behind targets set in the 2003 Strategy. Most of the planned measures were not implemented, implemented only locally as a result of municipal initiative, or delayed for several years.

The National Waste Management Strategy for the period 2010–2019 aims to achieve compliance with EU waste management targets. Long-term objectives envisage completion of the waste management network by developing an additional 12 regional centres for waste management, increasing the recycling of packaging waste to 25 per cent, and providing capacities for incineration of industrial and health-care waste.

CONCLUSIONS AND RECOMMENDATIONS

Chapter 1: Legal and policymaking framework and its practical implementation

Since 2007, Serbia has been making progress in improving its legislation on the environment. At the same time, the necessary capacities and resources are often not in place to ensure immediate implementation, and time is required for institutional structures to adjust to new responsibilities, especially in the context of frequent institutional reforms. Following delays in the adoption of strategic documents and secondary legislation at the national level, further delays in implementation take place at the provincial and local self-government levels.

Recommendation 1.1:

The Government should improve the implementation of environmental legislation by ensuring that the necessary implementation capacities are in place, time frames for implementation of specific measures are realistic and relevant resources are available.

Since 2007, Serbia has developed a comprehensive set of strategic and planning documents on environmental protection, as well as in different sectors, which have an impact on the environment. However, many strategic documents required by respective laws were developed and adopted with significant delays, e.g. the 2012 National Strategy for Sustainable Use of Natural Resources and Goods was adopted two years after the deadline. Some strategic documents prescribed by respective laws are still to be developed and adopted, e.g. several documents on water management. In many cases, strategies were prepared and adopted without simultaneous development and adoption of action plans, which leads to further delays in implementation at both national and local levels.

For example, the National Environmental Protection Programme was adopted in 2010 without an action plan, and this still needs to be elaborated. Reports on implementation for a number of strategic documents are lacking, despite the requirements of respective laws to prepare such reports. Implementation of the key strategic document on sustainable development – the 2008 National Strategy for Sustainable Development – has been hindered by the lack of an institution clearly in charge of coordinating its monitoring and implementation.

Although there has been progress in formal integration of environmental considerations into sectoral strategic and planning documents, actual integration of environmental considerations in the implementation of sectoral strategic and planning documents is not yet a reality.

Recommendation 1.2:

The Government should:

- (a) *Improve the quality of strategic environment-related planning by:*
 - (i) *Ensuring timely development and adoption of strategic documents;*
 - (ii) *Preparing action plans for environmental strategies simultaneously with the strategies themselves;*
 - (iii) *Ensuring regular reporting on the implementation of strategic documents;*
- (b) *Ensure the development and adoption of the Action Plan for the National Environmental Protection Programme;*
- (c) *Define the institution responsible for coordination of monitoring and implementation of the National Strategy for Sustainable Development and ensure the regular preparation of implementation reports for the Strategy.*

Since 2007, practical experience has been accumulated in implementation of the 2004 Law on Strategic Environmental Impact Assessment (SEA). The Law has also been amended in 2010 to reflect upon such experience. The Law does not explicitly include health authorities as subjects of consultations at the screening and scoping stages and during the evaluation of the SEA report, although they are consulted in practice. The Law does not require consultations with the public at the screening and scoping stages. Sectoral plans and programmes, especially at the provincial and local levels, sometimes evade SEA. There is a lack of data at the national level on EIA and SEA approvals issued by the Autonomous Province and local self-government units.

Recommendation 1.3:

The Ministry of Agriculture and Environmental Protection should:

- (a) *In cooperation with the competent environmental authorities at the provincial and local levels, evaluate the implementation of the Law on Strategic Environmental Impact Assessment (Law on SEA) and enhance capacity for its implementation at the provincial and local levels, as needed;*
- (b) *Consider amending the Law on SEA, in particular by:*
 - (i) *Introducing requirements to consult health authorities at the screening and scoping stages and during the evaluation of the SEA report;*
 - (ii) *Providing opportunities for the participation of the public concerned during the screening and scoping stages;*
- (c) *Raise awareness in other sectors, especially at the provincial and local levels, about the requirement to conduct an SEA;*
- (d) *Ensure implementation of the Law on SEA, in particular by strengthening the role of the competent and interested authorities, especially health authorities, during all stages of an SEA.*

Serbia does not have any strategic or policy document explicitly devoted to green economy. Also, no governmental institution is explicitly assigned the mandate to develop and coordinate green economy policies and facilitate green economy initiatives. Two studies on perspectives for green economy were prepared in 2012–2013 with the involvement of some ministries but did not receive the status of governmental documents.

Recommendation 1.4:

The Government should:

- (a) *Designate a governmental institution to develop and coordinate green economy approaches and facilitate green economy initiatives;*
- (b) *Integrate green economy considerations when revising existing or developing new strategic documents at all levels.*

Since 2007, the institutional framework for environment and sustainable development has been constantly changing. A separate Ministry of Environment existed for slightly more than a year (May 2007 – July 2008). Thereafter, the key environmental authority changed its name, affiliation and scope of responsibilities several times. Constant transformations shaking the environmental sector in Serbia have impacted on the continuity of efforts to improve environmental policy and legislation and ensure effective implementation. While several strategic documents on the environment point out the problems with the institutional framework, it appears that, time and again, institutional changes are suggested without serious analysis of actual needs. No detailed analysis was performed of the consequences of the restructuring of environmental competences between ministries and institutional reforms of 2012 and 2014.

Recommendation 1.5:

The Government should ensure that an independent analysis of the institutional framework in the environmental sector is conducted, in order to identify problems, needs and ways to improve that framework.

Vertical coordination in Serbia functions mostly through personal contacts between governmental officials rather than through well-established mechanisms. National authorities exercise supervision over the work of local self-government units by requesting information and documents as needed.

Recommendation 1.6:

The Government, through the Ministry of Agriculture and Environmental Protection and the Ministry of Public Administration and Local Self-Government, should:

- (a) *Strengthen regular exchange of information with local self-government authorities on the implementation of delegated environmental protection responsibilities and assist them in the implementation of such responsibilities through the provision of necessary guidance and training;*
- (b) *Continuously involve local self-government authorities in the development of environmental policies and legislation that affect them;*

- (c) *Ensure that efficient mechanisms and adequate resources are provided to local self-government units for the implementation of delegated environmental protection responsibilities.*

Serbia has a limited number of examples of good practice and experience with intergovernmental and multi-stakeholder bodies for coordination in matters related to the environment and sustainable development. The National Council for Sustainable Development, which could act as a key high-level authority for interministerial and multi-stakeholder dialogue on the environment and sustainable development, has not met since December 2011. Horizontal coordination takes place mostly through personal contacts between governmental officials.

Recommendation 1.7:

The Government should improve horizontal coordination on environmental and sustainable development matters, and in particular:

- (a) *Develop mechanisms for horizontal coordination;*
 (b) *Ensure the effective operation of the National Council for Sustainable Development.*

Chapter 2: Compliance and enforcement mechanisms

Compliance assurance is exposed to several institutional problems. Division of responsibilities across the levels of governance does not take account of capacity constraints faced by local authorities, and horizontal cooperation is fairly limited. Thus, IPPC was delegated to lower levels while there is no technical capacity at those levels to regulate large industry and, in particular, apply BAT. Inconsistencies remain in the vertical division of mandates for inspection. Similarly, there are problems of horizontal organization. Institutionalized cooperation and coordination mechanisms are lacking.

Recommendation 2.1:

The Government should assess and redefine the division of compliance assurance mandates and reinforce the relevant coordination arrangements within and across all levels of governance, including by:

- (a) *Concentrating responsibilities for regulating large installations at the national level to overcome the problem of low capacity;*
 (b) *Improving cooperation between the competent regulatory authorities and the Serbian Environmental Protection Agency so that the information collected by the Agency is fully used for monitoring and ensuring compliance;*
 (c) *Strengthening horizontal coordination and cooperation between inspection and permitting authorities;*
 (d) *Establishing a system of regular reporting on compliance from the lower levels to the central authorities, and issuing a consolidated national environmental compliance report.*

Administrative procedures in the field of planning, construction and environment are not harmonized and coordinated. Within the overall system, environmental assessments and authorizations are procedurally complex as such, but also in terms of their interaction with other procedures, e.g. construction permits. No consideration of best available techniques is currently required at stages preceding the IPPC procedure.

Recommendation 2.2:

The Government should further improve and streamline environmental impact assessment (EIA) and permit issuing procedures by:

- (a) *Harmonizing planning and construction activities with the environmental conditions and requests under the EIA and IPPC procedures;*
 (b) *Ensuring an integrated approach and the coordination of the competent authorities in issuing IPPC permits;*
 (c) *Following up on the best available techniques requirements in procedures preceding the IPPC permitting;*
 (d) *Simplifying the regulatory regime for small and medium-sized enterprises.*

Although introduced in the legislation, public participation in environmental assessment and permitting remains limited. The legal system provides for adequate rights enabling citizens and citizen organizations to participate

in EIA and integrated permitting. But the reality is such that the general public does not show interest in being heard.

Recommendation 2.3:

The Ministry of Agriculture and Environmental Protection should enable access to information and public participation in compliance mechanisms by:

- (a) Developing and applying proactive strategies for involving the public;*
- (b) Strengthening public involvement in the integrated permitting of IPPC installations;*
- (c) Regularly disclosing compliance and enforcement information and tailoring it to the needs and understanding of the general public.*

Although efforts to professionalize inspection authorities resulted in organizational innovation, such as adoption of risk-based planning methodologies, management approaches within the environmental inspection still leave room for improvement. A modern information system in support of inspection planning is lacking. Staff training is very much an occasional activity, conducted as part of donor projects, without a clear understanding of emerging needs. Criteria for performance measurement are not clear. Transparency and accountability remain weak.

Recommendation 2.4:

The Government should promote further improvements in the management of inspection authorities, in particular in the planning and performance measurement and disclosure phases.

There are a relatively large proportion of court decisions to suspend actions, which may point to the insufficient capacity of the courts to treat environmental cases and/or to courts overload. Some challenges remain: in gathering evidence and building cases for prosecution, unclear and lengthy procedures, a lack of effective communication, and limited individual capacity. To speed up behavioural and environmental changes are expected from new legislation,

Serbia needs to reconsider how response is provided in cases of environmental non-compliance. The existing approaches make it possible for the regulated community to remain in non-compliance for the long periods required for judicial enforcement, which strategy is predominantly used because of its procedural “safety” for inspectors.

The misbalance between administrative and judicial enforcement is often rooted in a limited comprehension of procedures by individuals involved in inspection and non-compliance response.

Recommendation 2.5:

The Government should enable an improvement in the procedures for and outcomes of judicial enforcement by:

- (a) Continuously providing joint training and other forms of capacity-building for inspection and judicial authorities;*
- (b) Strengthening communication mechanisms between the executive and the judicial authorities, and improving feedback from the judiciary on all environmental cases brought before the courts, including those deemed inadmissible at a preliminary stage;*
- (c) Developing standard operating procedures and manuals on the enforcement of environmental laws with a focus on the application of administrative fines.*

Chapter 3: Economic instruments, environmental expenditure and investments for greening the economy

There has been some progress, albeit limited, in the application of pollution charges in Serbia. New instruments in the area of waste management were introduced, which include, notably, charges for products that become waste streams after their use, charges for packaging and packaging waste, and a tax on plastic bags. Excises on motor fuels were raised to (or somewhat above) EU minimum levels. All these pollution charges, moreover, are indexed to annual inflation. Emission charges are, however, not complemented by effective emission limit values. While the new instruments for waste management are relatively new and their effectiveness difficult to assess so far, the traditional pollution charges for air and water pollution, as well as for industrial waste

generation and storage, have remained too low to create effective incentives for pollution abatement and control. Their main function has been to generate revenues for financing government expenditures on environmental protection (and more recently, for the Treasury). Potential revenues, moreover, were not fully realized, due to the partly weak enforcement of payment of pollution charges against the backdrop of a lingering structural crisis in industry.

Recommendation 3.1:

The Government, through the Ministry of Finance and the Ministry of Agriculture and Environmental Protection, should:

- (a) Conduct a regular assessment of the various pollution and product charges and adapt these instruments accordingly, taking into account, to the extent possible, damage caused by polluting behaviour as well as producer/importer responsibility;*
- (b) Examine the environmental benefits of combining pollution charges with effective specific emission limit values for individual pollution sources.*

Municipalities are setting tariffs for communal utility services, notably solid waste management and water supply and sewerage services. Tariffs are not cost reflective and revenues collected often barely cover operating costs of the PUCs, which are owned by the municipalities. There is, moreover, a pervasive and significant cross-subsidization of generally very low household tariffs from much higher tariffs applied to enterprises – which are themselves not justified economically. Waste and water companies lack funds for adequate maintenance and repair, and depend for capital expenditures on subsidies from central government and municipal budgets, as well as foreign assistance.

The investments required for upgrading and extending waste and water services infrastructure are high, and government financing plans show that a large proportion of the necessary funds will have to be mobilized through progressive improvement in cost recovery by the PUCs to make them financially viable, accompanied by measures that also make them more economically efficient (e.g. by reducing overstaffing).

Recommendation 3.2:

The Government, in cooperation with local self-governments and public utility companies, should introduce economic principles for the operation and management of public utility companies with the aim of increasing the cost-effectiveness of their operations, including through the promotion of the regionalization of communal services to benefit from economies of scale, and specialization and greater attractiveness for private sector involvement (public–private partnerships). This would also involve:

- (a) Adopting a formal tariff methodology for the calculation of full cost recovery tariffs;*
- (b) Gradually raising tariffs to cost-reflective levels, taking into account affordability issues;*
- (c) Phasing out the strong cross-subsidization of household tariffs by enterprises;*
- (d) Providing targeted social assistance for vulnerable groups that are using communal services;*
- (e) Improving bill collection rates and reducing technical losses;*
- (f) Creating greater incentives for the rational use of water services by introducing individual metering of water consumption by households in multi-family buildings;*
- (g) Considering the introduction of household waste tariffs on a per capita basis (rather than per square metre of premises) and the feasibility of waste charges for enterprises per unit of volume or weight.*

The national Environmental Protection Fund was abolished by the Government in 2012, together with the earmarking of revenues from environmentally related charges for financing environmental projects by the Fund. Other earmarked charges were also abolished, notably the revenues from water use charges used by the Water Directorate for financing water sector projects, including water protection measures.

While these government measures have to be seen in the broader context of the need for stringent fiscal consolidation, the partly narrow earmarking of revenues for purposes related to the sources of the revenues had its own problems as regards the need to ensure an efficient allocation of scarce financial resources in line with government priorities. There were also other problems, such as the lack of monitoring of effective implementation of many projects. In the event, all central government environmental expenditures are now

being financed from general tax revenues. This has led to a radical change in the planning and programming of funds devoted to environmental protection.

Recommendation 3.3:

The Government should:

- (a) *Establish an effective financial mechanism to support the implementation of environmental policy and legislation;*
- (b) *Regularly review environmental expenditures (current and capital) and, inter alia, ensure that they are effectively aligned with priorities in environmental and other sectoral strategic documents;*
- (b) *Assess the effectiveness of the implementation of the projects financed and ensure that outputs are produced at the lowest possible cost;*
- (d) *Ensure that foreign financial assistance is aligned with national and local environmental priorities.*

Reliable, comprehensive and timely statistical data are part and parcel of evidence-based environmental policymaking. This pertains not only to indicators for gauging the state of the environment but also to expenditures on environmental protection by both the public sector and the private sector, including, notably, the expenditures of so-called public and private “specialized producers” whose principal activity is the production of environmental protection services (such as waste and wastewater services).

High-quality expenditure data are also essential for donors and international financing institutions to ensure the effective targeting of their assistance programmes. There are important gaps, however, in the collection and reporting of statistical data concerning environmental expenditures in Serbia, notably at the local self-government level, including those of PUCs, as well as regards industry and other parts of the business sector.

Recommendation 3.4:

The Statistical Office should establish a comprehensive information system on environmental expenditures covering the government sector and the private sector, using methodologies that conform to international standards such as the Eurostat/OECD methodology for pollution abatement and control (PAC) expenditure and the United Nations Classification of Environmental Protection Activities (CEPA).

Chapter 4: Environmental monitoring, information and education

Serbia established monitoring and the monitoring networks for most of the environmental media or themes. There is no monitoring of soil. Biodiversity monitoring, and data collection for economic instruments and environmental expenditure and investments are underdeveloped. Regarding soil, this is due to the lack of legislation on soil protection and, resulting from this, failure to designate the competent authorities for the monitoring function. On the positive side, however, knowledge of how to organize soil monitoring is already available in the country, thanks to pilot projects. As far as biodiversity monitoring is concerned, it is underdeveloped due to the lack of a monitoring programme, which is in the development stage. In relation to the evaluation of economic instruments for environmental protection, there is a lack of adequate data; therefore, in many cases, these data are estimated according to the baseline data collected from different institutions.

For other monitoring networks, the monitoring is not often conducted at an optimal level; this situation is imposed by the monitoring budgets available. Furthermore, groundwater monitoring requires the design of a new network, and the monitoring of drinking water in small-scale water supply systems requires legal developments to ensure the establishment of legal entities that will manage the networks and provide the monitoring. Indoor air quality has not been given enough consideration to date and policy development, including on its monitoring, is lacking. Finally, noise monitoring is not systematized.

Recommendation 4.1:

The Government, through the relevant ministries, should ensure that resources are provided and effective monitoring is performed for environmental media and themes, and in particular:

- (a) *Introduce regulation on the monitoring of soil and designate competent authorities for the monitoring functions;*
- (b) *Establish a monitoring programme for biodiversity;*

- (c) *Improve the groundwater monitoring network;*
- (d) *Clarify the responsibility of small-scale water supply systems for drinking water monitoring;*
- (e) *Ensure that noise monitoring is systematically carried out at the local level.*

A vast array of data is collected and made available in Serbia, directly on the website of SEPA or through the various thematic reports or the indicator-based state of the environment report. Data collection and processing are well managed. Nevertheless, further efforts are required by SEPA and the Statistical Office to jointly collect environmental information from enterprises, where collection is currently done separately but addresses the same data. Databases that are developed for maintenance of the various thematic data are not yet integrated to comprise one system. In addition, a database for noise is not yet developed. The state of the environment report is produced annually, which can be considered too frequent, since in such a short period of time it is impossible to observe visible changes in trends, impacts, etc, for the majority of thematic areas assessed in the report. In addition, this period of time may be insufficient to implement some of the actions recommended by the report. The frequency could therefore be reconsidered and, if altered, the relevant requirement of the Law on Environmental Protection should be amended. A change in frequency, for example to every 4–5 years, could free up resources for other activities related to environmental assessment and reporting, and database development and management.

Recommendation 4.2:

The Government should:

- (a) *Introduce, where relevant, joint data collection activities to avoid double collection;*
- (b) *Develop the environment-related databases that are lacking and accelerate the integration of all environment-related databases into one environmental system;*
- (c) *Reconsider the frequency with which the state of the environment report is produced.*

Access to environmental information and data is assured at a satisfactory level. Furthermore, a user-friendly register – Ecoregister – was established, which provides any user, including members of the public, with easy access to available environmental information and data. This register was established with the assistance of OSCE in 2012, as was the first system update to ensure the functioning of all links within the register. In the future, however, the Government's own resources will be required to ensure the necessary system updates.

Recommendation 4.3:

The Ministry of Agriculture and Environmental Protection, together with the Serbian Environmental Protection Agency, should ensure that the Ecoregister is properly maintained, through the provision of adequate national funding and human resources, so that it serves its function of providing the public with access to an array of up-to-date environmental information and data.

Serbia is underway in implementing educational reform, in which environmental protection in the framework of sustainable development is designated a key competence to be acquired by pupils during their education.

However, the manner in which this competence can be efficiently acquired – i.e. teaching it through a multidisciplinary approach – depends on teachers' ability to integrate the concepts of environmental protection and sustainable development into the subjects they teach. This, in turn, depends on the availability of teaching aid material and teacher training, both of which are still considered insufficient.

There are a number of activities related to informal and non-formal education in Serbia; however, they are often event driven, while a systematic plan or strategic approach to general public awareness-raising is lacking. In addition, media involvement in non-formal education on environmental protection and sustainable development is rather weak.

Recommendation 4.4:

The Ministry of Education, Science and Technological Development and the Ministry of Agriculture and Environmental Protection should:

- (a) *Further improve access to and the availability of environmental protection and sustainable development training and teaching aid materials for teachers;*

- (b) *Develop and implement a strategic approach to informal and non-formal education on environmental protection and sustainable development and strengthen the involvement of the media in this regard.*

Chapter 5: Implementation of international environmental agreements

The Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal to the Basel Convention is one of the multilateral environmental agreements which Serbia has not yet ratified. The country took initial steps towards its ratification in the period 2004–2006. The steps were concentrated on developing the legal civil liability regime, including environmental protection liability, insurance and transport services. At the time of the second review, Serbia was in the initial stages of ratification; at the time of the third review, the country is still in that position. Serbia has made no progress with regard to ratification of the Protocol during the last seven years.

Recommendation 5.1:

The Government should speed up the ratification procedure for the multilateral environmental agreements that have not yet been ratified.

The implementation of multilateral environmental agreements in Serbia is strongly dependent on international financial support. As an EU candidate country, Serbia enjoys funding through the Instrument for Pre-accession Assistance (IPA). Other international donors are very active in the country, such as GEF, GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) and SIDA. During the period 2007–2013, Serbia has received €106 million of development assistance for the sector “environment protection”, provided on both a multilateral and bilateral basis. The amount corresponded to some 0.05 per cent of GDP. This situation of high dependence on international aid cannot be sustainable in the future.

Recommendation 5.2:

The Government should systematically and gradually reduce the country’s dependence on international aid in order to fulfil its obligations under multilateral environmental agreements and aim to raise its capacity to act within a scenario in which most of the funds are provided from domestic sources.

Serbia has made progress on all the indicators with regard to the country’s commitments on the Millennium Development Goals. The country managed to reduce pollution and started to reorient itself towards energy efficiency and the use of cleaner energy. More households in Serbia now enjoy access to clean water and improved sanitation. However, some of the values on the selected indicators are to be improved in order to achieve the MDGs’ specific targets (usage of solid fuel, public sewerage systems coverage). The trends on many indicators of environmental sustainability have high variation and progress in some areas varies significantly between urban and rural areas.

Recommendation 5.3:

The Government should analyse trends related to each specific target of MDG7 and ensure that adequate funding is made available for implementation of the country’s commitments on MDG7.

Chapter 6: Climate change mitigation and adaption

With climate change, Serbia has to face declining water resources, rising temperatures and more frequent extreme weather conditions. The country is vulnerable to the impacts of climate change, especially in agriculture, water management and the forestry sector. No strategy or action plan on adaptation to climate change exists at national level. Adaptation issues are lacking in most sectoral policies, especially agriculture, forestry and health, or are only addressed in a very general way without any systematic approach or measures for their implementation. Not all relevant sectors have been participating so far in the preparation of the Second National Communication.

Recommendation 6.1:

The Government should:

- (a) *Develop and adopt a national climate change adaptation strategy and related action plan, ensure that all relevant sectors are included and secure funding for the strategy’s implementation;*

(b) Ensure that adaptation issues are included in all sectoral strategic documents.

National GHG emissions are rather low measured per capita, but projections indicate an increase and emissions per GDP are high and above the EU average. There is considerable potential to reduce emissions. Serbia does not have long-term mitigation targets or a strategy.

Recommendation 6.2:

The Government should develop and adopt a low-emission development strategy with an action plan and secure funding for the strategy's implementation.

Serbia has considerable potential for renewable energy (hydro, wind, solar, biomass and geothermal), of which, at the moment, only hydropower is used for electricity production in considerable quantities and fuelwood for heating purposes, although this is mostly in an ineffective way. Serbia should tap this potential by taking environmental concerns into account. The legal framework for renewable electricity production is in place, but tedious licensing and permitting procedures slow down successful development.

There is evidence that indications in policy documents of the technical potential of renewable energy seem to be rather low and only refer to 2020. Investigations show that the Serbian energy system can integrate considerably higher amounts of wind energy up to 2020 without problems and still higher amounts with only minor refurbishments of infrastructure. Given the fact that wind energy is the cheapest renewable energy source, there would only be few additional costs if the limitation on the feed-in tariff for wind were raised. For photovoltaic energy, the limitation is very low; given the fact that the limitation of the feed-in tariff has already been reached, no further photovoltaic plants would be constructed.

Recommendation 6.3:

The Government should:

- (a) Introduce a one-stop-shop for investors to obtain all the necessary permits for the construction of renewable energy plants, and streamline and harmonize the licensing procedures;*
- (b) Conduct a comprehensive study on the potential of renewable energy sources and the necessary investments for their development, and adopt targets accordingly.*

Energy consumption per unit of GDP is well above the European average and there is high potential for improving energy efficiency. Electricity and heat consumption in buildings (public, private and commercial) is still very high. The Law on Efficient Use of Energy set the basic principles for improving energy efficiency, yet the lack of by-laws still prevents the successful implementation of the Law. A consumption threshold for the introduction of mandatory energy management systems for big consumers in the public, commercial and industrial sectors is still lacking (as of March 2014) as are by-laws or regulations concretizing energy audits. Yearly energy saving targets for communities above 20,000 inhabitants are also awaiting introduction.

The Law on Planning and Construction and its by-laws provides for the better energy performance of buildings. New buildings should meet the energy consumption targets defined by the Law, but a high number of illegal buildings may present an obstacle to successful implementation of the Law.

Subsidized pricing on coal, electricity and heat are further obstacles to a more efficient energy sector.

Recommendation 6.4:

The Government should:

- (a) Speed up the development of the missing secondary legislation for implementation of the Law on Efficient Use of Energy;*
- (b) Control and enforce the application of energy performance standards for new residential and public buildings and major renovations of existing ones.*

Chapter 7: Water management

No significant progress in coverage of water supply, sewerage, wastewater treatment and water resources has been made. According to official data, the situation can be considered acceptable only in drinking water supply.

Serbia lacks an efficient framework on the water sector to achieve an improvement in the long-term on water and wastewater management and water resources management systems. Some of the most relevant measures to materialize, taking into account that water is the largest environmental subsector in terms of approximation costs, are the following: providing investment in new infrastructure and equipment and replacement of portions of existing assets, extending coverage and care to the entire Serbian population, promoting integrated planning and implementation for water resources, improving and preserving water quality, and ensuring the economic and financial sustainability of water services companies.

Recommendation 7.1:

The Government should:

- (a) *Finalize, adopt, ensure funding for and implement the water management strategy until 2030;*
- (b) *Adopt the necessary subsidiary legislation to the Law on Waters;*
- (c) *Establish a national water council;*
- (d) *Launch a programme of investments for the construction of new and the maintenance or renovation of existing water infrastructure.*

A high level of losses in water distribution networks severely affects the level of efficiency of water services in Serbia. Establishment of a minimum indicator of losses for the economic purposes of the utility managers, and the improvement of internal and international “benchmarking”, already initiated, are very useful.

As well, international cooperation with some European water partnerships and, at EU level, the European Innovation Partnership on Water would bring expertise and shared experience in the water sector. Community empowerment, through the significant participation of water stakeholders and the creation of institutional ways and bodies to frame it, has been strongly claimed by civil society organizations.

Recommendation 7.2:

The Government, through the Ministry of Construction, Transport and Infrastructure, the Ministry of Public Administration and Local Self-Government and the Ministry of Agriculture and Environmental Protection, should:

- (a) *Ensure the efficient use of water resources, and control the sustainability and vulnerability of water resources;*
- (b) *Adopt innovative solutions for the extensive reuse of treated wastewaters;*
- (c) *Promote the implementation of water safety plans by operators.*

Most of Serbian territory lies in the Danube River Basin and a significant amount of the population lives in transboundary basins where countries have established multilateral water management coordination and cooperation.

Taking into account the climate change impacts on water-related issues in the Danube River Basin, key issues to be carefully followed are: water availability, water security, water demand and scarcity, floods and impacts of low flows, surface and groundwater conservation and quality, droughts, shortages and health protection. Appropriate secondary legislation to govern these issues is lacking.

Although the present state of flood protection infrastructure can be assessed as satisfactory, a large portion of the territory of the country still remains potentially threatened by floods.

Recommendation 7.3:

The Government should:

- (a) Implement adequate measures in the existing flood risk management system, and establish flood hazard maps and flood risk assessment;*
- (b) Ensure adequate protection from floods and water erosion and develop appropriate policies and financial instruments to ensure the management of water risks at the least cost to society;*
- (c) Review water scarcity and drought policies on climate change adaptation.*

Chapter 8: Waste management

Information on municipal waste is based on estimations from several municipalities. Although these may provide sufficiently accurate estimations on management of MSW, it is necessary to improve the quality of these data. For example, data on MSW from modern landfills equipped with a weighbridge are not separated from data from other landfills and dumpsites. Moreover, municipal company representatives lack training in collection, verification, validation and submission of data on MSW. Better quality of data would allow the Ministry of Agriculture and Environmental Protection to assess progress on the modernization of MSW services.

The information on disposal of industrial waste is not fully clear, because mining waste disposal, which includes large amounts of tailings and spoils, is reported together with industrial waste deposited to disposal sites and landfills.

Recommendation 8.1:

The Ministry of Agriculture and Environmental Protection together with the Serbian Environmental Protection Agency should improve:

- (a) Cooperation with municipalities in the collection and verification of data on municipal waste;*
- (b) Reporting procedures on all types of waste.*

Serbia has improved infrastructure for radioactive waste storage and could benefit from joining international agreements on radioactive waste management. Furthermore, reliable information on radioactive waste generated and stored in Serbia is outdated.

Recommendation 8.2:

The Ministry of Education, Science and Technological Development and the Ministry of Agriculture and Environmental Protection, in cooperation with the Serbian Radiation Protection and Nuclear Safety Agency, should speed up the process of accession to the Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

One of the limitations in development of the waste sector is insufficient finances for operating waste management services, mostly since the abolition of the Environmental Protection Fund.

It is understood that this is a socially sensitive issue, but the legal requirement to introduce cost-based pricing is not implemented.

Recommendation 8.3:

The Serbian Radiation Protection and Nuclear Safety Agency should carry out a nationwide inventory of radioactive waste.

IMPLEMENTATION OF THE RECOMMENDATIONS IN THE SECOND ENVIRONMENTAL PERFORMANCE REVIEW¹

PART I: POLICYMAKING, PLANNING AND IMPLEMENTATION

Chapter 1: Legal and decision-making framework

Recommendation 1.1:

The Government should:

- (a) Strengthen the newly established Ministry of Environmental Protection and ensure that it includes in its competences the protection of natural resources, including water and forests;*
- (b) Introduce structural changes in all ministries and authorities responsible for integrating environmental requirements into their respective policies;*
- (c) Strengthen the position of the National Council for Sustainable Development and make it operational, and create a permanent secretariat for its administrative and technical support; and*
- (d) Strengthen the Environment Protection Agency, to enable it to ensure information systems management as a basis for the strategic, legislative, enforcement and decision-making activities of environmental protection authorities.*

(a) The recommendation has been partially implemented. From May 2007 until April 2014 the number of staff has been increased from 209 in 2007 to 290 in 2014. Staff numbers at the Serbian Environmental Protection Agency (SEPA) have increased from 40 to 88 during the same period. In July 2008, the Ministry of Environmental Protection became the Ministry of Environment, Mining and Spatial Planning. In July 2012, the competences on environmental policy were brought under the same roof as the competences on energy policy when a Ministry of Energy, Development and Environmental Protection was established. At that time, certain competences on nature protection were entrusted to the Ministry of Natural Resources, Mining and Spatial Planning. At the end of April 2014, the Ministry of Agriculture and Environmental Protection was formed. Therefore, during these years there was no fully fledged ministry of environmental protection. Until March 2014, competences on water were shared between the Ministry of Agriculture, Forestry and Water Management and the Ministry of Energy, Development and Environmental Protection, whereas competences on forests belonged to the Ministry of Agriculture, Forestry and Water Management. While the restructuring of April 2014 brings environment, water and forests under one ministry – the Ministry of Agriculture and Environmental Protection – it is too early to assess whether this will strengthen the integration of environmental considerations into the forestry and water management sectors.

(b) The recommendation has been partially implemented. As of March 2014, the Group for Environment, Agriculture and Rural Development was a part of the EU Integration Office, dealing with coordination of EU-accession-related issues on environment and climate change in cooperation with the line ministry. The Ministry of Foreign Affairs also included the Section for Human Rights and Environment, facilitating implementation of international environmental commitments in cooperation with the line ministry. The Sector for Emergency Situations of the Ministry of Internal Affairs deals with prevention and management of effects of natural disasters. A Department for Energy Efficiency and Construction Products was established within the then Ministry of Construction and Urban Planning.

(c) The recommendation has not been implemented. In 2007–2008, there was a reform of the National Council for Sustainable Development. In 2008–2011 the Council met four times. Since 2012, it has not met. No permanent secretariat to provide administrative and technical support to the Council was established.

¹ The second review of Serbia was carried out in 2007. During the third review, progress in the implementation of the recommendations in the second review was assessed by the EPR Team based on information provided by the country.

(d) The recommendation has been implemented. As of April 2014, the Serbian Environmental Protection Agency had filled 75 of 88 full-time positions, and had about 20 additional contracted staff. However, the increase in staff was connected with the transfer of responsibilities for air and water quality monitoring from the Hydrometeorological Service to the Agency in 2011 and respective transfer of 48 staff. The budget of the Agency remained largely the same. Since 2008, SEPA has kept the National Register of Pollution Sources. From 2012 the system was fully operational, managing data of the National Pollutant Release and Transfer Register (PRTR) and on waste management, air, water and land emissions, with more than 1,200 operators providing such data regularly (including about 250 on PRTR). SEPA's reporting obligations were also increased to include reporting on GHGs and to the Convention on Long-range Transboundary Air Pollution. However, SEPA's information systems management still does not serve as a basis for the strategic, legislative, enforcement and decision-making activities of environmental protection authorities.

Recommendation 1.2:

The Ministry of Environmental Protection should strengthen its capacity to carry out Strategic Environmental Assessment as envisaged by the Law on Environmental Protection and the Law on Strategic Environmental Assessment.

The recommendation has been implemented. By March 2014, Strategic Environmental Assessment (SEA) procedures had become usual practice for the ministry responsible for environmental protection. At the same time, capacity to carry out SEA at local self-government level is limited.

Recommendation 1.3:

In order to ensure the implementation of the legislation, the Ministry for Environmental Protection should:

- (a) *Continue to harmonize the legal framework with the European Union (EU) Directives and strive to remove existing inconsistencies and further improve its effective implementation; and*
- (b) *Strengthen the existing unit responsible for environmental legislation, economic instruments and administrative supervision affairs with an adequate number of professional staff.*

(a) Implementation of the recommendation is still ongoing. Serbia continues to harmonize its legal framework on environmental protection with EU directives, although the intensity of these efforts varied across thematic areas.

(b) The recommendation has not been implemented. In the period under review, there have been structural changes related to the unit competent for environmental legislation. As of March 2014, the Division for Legislative Harmonization on Energy and Environmental Protection in the Ministry of Energy, Development and Environmental Protection had seven employees.

Recommendation 1.4:

The Government, together with concerned ministries, should:

- (a) *Reconcile the content of the strategic documents on environment and sustainable development or coordinate their implementation; and*
- (b) *Further develop and adopt the National Strategy for Sustainable Development, the National Strategy for Sustainable Use of Natural Resources and Goods, and the National Programme for Environmental Protection, and consider harmonizing sectoral strategies and action plans with their priorities and goals.*

(a) The recommendation has been implemented. The draft National Environmental Protection Programme (NEPP), adopted in 2010, is one of the key documents used in the process of drafting the 2008 National Strategy for Sustainable Development (NSSD). Further strategic documents on the environment, including the 2012 Strategy for Sustainable Use of Natural Resources and Goods, largely rely on the NSSD and NEPP.

(b) The recommendation has been implemented, although room for improvement remains. The NSSD, NEPP and National Strategy for Sustainable Use of Natural Resources and Goods were adopted. Many sectoral strategies make reference to the NSSD. At the same time, actual integration of environmental considerations in sectoral policies is still to be achieved.

Recommendation 1.5:

In order to improve the enforcement of environmental legislation and rules, the Ministry of Environmental Protection should:

- (a) Continue strengthening enforcement tools and the capacity of environmental inspection bodies at all levels (republic, province and local);*
- (b) Promote training programmes for environmental law enforcement, particularly on new legislation and permitting procedures;*
- (c) Develop, together with the Ministry of Justice, training programmes for judges, state prosecutors and police, to strengthen their capacities in the field of environmental enforcement; and*
- (d) Collect and make publicly available data on concluded administrative, civil and criminal lawsuits concerning the environment.*

(a) The recommendation has been partially implemented. The institutional framework for environmental enforcement has been adjusted both horizontally and vertically in response to increasing complexities arising from new legal requirements (e.g. the package of environmental laws adopted in 2009). Despite frequent reorganizations of the main environmental authority over recent years, the Department for Control and Surveillance (DCS) has enjoyed a certain stability of its core responsibilities. The current structure allows for specialization of inspectors, which has positive repercussions on their capacity to respond to the expanded scope of regulation. Although the number of inspectors at the republic level did not increase, DCS preserved and strengthened its core activities.

A number of training programmes for inspectors have been conducted, mostly in the context of international initiatives as well as through twinning and IPA capacity-building projects. Particularly significant in this sense was the twinning programme with the Austrian Agency for Environmental Protection (2011–2013). Also, training of inspectors on chemicals was provided through projects implemented via the former Serbian Chemicals Agency, in particular the 2008 IPA Serbian–Austrian twinning project “Strengthening Administrative Capacities for the Implementation of a Chemicals Management System” (2010–2012), and Serbian–Swedish cooperation project “Chemicals Risk Management in Serbia” (2008–2014) financed by the Swedish International Development Agency (SIDA) and performed in cooperation with the Swedish Chemicals Agency (KemI). In certain areas, training activities and pilot inspections were realized in synergy between these two projects.

Enforcement capacity problems remain at the local level and many are related to the organization of multi-level environmental governance. Local inspectors are sometimes entrusted with competences on dealing with large and complex (e.g. IPPC) installations, but they are not prepared/trained for this; moreover, no budget is allocated for capacity-building at local level. No regular reporting on permitting and inspection activity at provincial and local level takes place. Lack of information is hampering the evaluation of institutional performance and effectiveness of enforcement instruments nationally. Administrative fines are not currently used by environmental inspectors, despite the law providing for their use. Overall, efforts have been made to maintain and develop the environmental enforcement capacity.

(b) This recommendation was implemented. Serbia was quite active in providing training programmes for different parties within the environmental regulatory (compliance assurance) cycle, including policymakers, permitting authorities, inspectors and industrial operators. Those were mostly conducted through internationally funded capacity-building projects, but national institutions (line ministry, former Chemicals Agency, Chamber of Commerce, municipalities) have been increasingly active in funding and organizing such activities. Areas of particularly intensive effort were implementation of a chemicals and biocidal products management system, hazardous waste management, promotion of new approaches to water protection, new energy-saving requirements for buildings, and chemical accident prevention and control.

(c) The recommendation has been implemented in fact. However, the outcomes of these activities are not so visible yet, since the mutual lack of understanding between environmental inspectors and the judiciary reportedly persists. Since 2007, the judiciary has benefited from more training in environmental laws. Several training activities on environmental crimes were held, drawing representatives from the police and judicial authorities and environmental inspectors, aimed at increasing the awareness of judges and public prosecutors about environmental issues and better enforcement of environmental laws.

For example, the Ministry of Energy, Development and Environmental Protection, in collaboration with the Ministry of Justice, Magistrates' Association, Judicial Centre and OSCE, organized annual training for judicial authorities over the course of three years (2009–2011). Training sessions have been attended by some 500 participants, including 190 judges and 20 prosecutors. Several publications were produced to follow up the training: "Guide to Environmental Legislation for Operators and Other Practitioners", "Guidelines on the Methods of Setting Fines for Environmental Violations – Manual for Misdemeanor Judges", "Procedures on Environmental Violations before Misdemeanor Courts for Misdemeanor Judges and Public Prosecutors", and "Instructions for Recording Environmental Violations intended for Environmental Inspectors".

Recently, the Ministry of Energy, Development and Environmental Protection in collaboration with REC and the Judicial Academy, organized two-day training for judges and prosecutors on the implementation of the right to legal protection in environmental matters. A guide on legal protection on environmental matters intended for civil servants, judges dealing with administrative matters, and representatives of civil society was developed in 2013.

(d) The recommendation has not been implemented yet. Data on concluded administrative, civil and criminal lawsuits concerning the environment are not published and are not available to the environmental inspectors and the general public. Inspectors often fail to be informed about the results of proceedings. According to the Ministry of Justice, access to case records remains restricted to litigants and a small number of interested persons. As part of the national judicial reform strategy, an automated case management programme for courts was developed, connecting all 60 basic and high courts, providing for free access of citizens to case data. This system is not yet operational.

Chapter 2: Information, public participation and education

Recommendation 2.1:

Based on the requirements of the European Environmental Agency (EEA) and European Environment Information and Observation Network (EIONET), the Ministry of Environmental Protection, through its Environment Protection Agency (EPA), should establish an effective and solid network of topic-related reference institutions which would regularly transmit environment-related information to the EPA, which would serve as a national focal point.

The recommendation is implemented. The legislation clearly designates the monitoring functions for the various environmental media and topics to dedicated institutions. It further imposes the requirement on the environmental data and information holders to transmit them to the Serbian Environmental Protection Agency. The legislation is enforced with competent institutions carrying out their functions. As a result, SEPA was able to improve meeting its international reporting obligations from 17 per cent to 78 per cent between 2004 and 2012.

Recommendation 2.2:

(a) *The Government should:*

- *Consolidate the regulatory framework by adopting by-laws on environmental information systems, including on content and procedures of monitoring, reporting systems, and polluter registers; and*
- *Review environmental monitoring programmes, harmonize them with international requirements, and ensure their full implementation;*

(b) *The Ministry of Environmental Protection should enforce self-monitoring of polluters and reporting procedures, and ensure that this information and data are reported to the EPA, and further, to the public.*

(c) *The Environmental Protection Agency, in cooperation with the Statistical Office, should develop, through cooperation with international institutions, accurate and internationally harmonized national environmental statistics linked with environmental monitoring.*

(a) The recommendation is close to being implemented. The regulatory framework was reinforced to clarify the content and procedures for monitoring, reporting and polluter registers, and to orientate the activities on the availability of necessary environmental data and information which is maintained in the environmental information system. Monitoring programmes were established in accordance with the reinforced regulatory framework. At the same time, regulations for soil monitoring are still lacking, as are monitoring programmes for soil and for biodiversity.

(b) The recommendation is implemented. Environmental inspectors verify self-monitoring activities by enterprises and their meeting the reporting obligations to SEPA established under the National Register of Pollution Sources.

(c) This recommendation is implemented. SEPA and the Statistical Office produce environmental statistics in accordance with the internationally harmonized standards, applying, in particular, the standards as promoted and required by EEA and Eurostat respectively.

Recommendation 2.3:

The Ministry of Environmental Protection through its Environment Protection Agency should, with the support of the Government, improve the quality of the state of the environment reporting and disclosure to the public by:

- (a) Clearly specifying the coverage of the State of the Environment Reports, in particular by including a section on driving forces and pressures for environmental change, and reconsidering the periodicity of the State of the Environment reports;*
- (b) Improving ways of reporting on the state of the environment that will more timely follow the political agenda, for instance publishing topic-oriented reports and short briefings on emerging issues; and*
- (c) Making the information broadly available in a timely manner.*

(a) The recommendation is partially implemented. The coverage of the state of the environment report is clear. It addresses the changes undergoing in all key environmental media and, further, speaks about waste, noise and radiation, as well as environmental and economic sectors such as forestry, hunting and fisheries, agriculture, energy, industry and tourism. It discusses the use of natural resources, application of economic instruments and assessment of the implementation of environmental legislation. The analysis is made based on environmental indicators applying the DPSIR (driving forces–pressure–state–impact–response) framework, hence, the driving forces and pressures for environmental change are well addressed in the report. The frequency of the report was not reconsidered and it continues to be published each year.

(b) The recommendation is implemented. Thematic or topic-oriented reports are produced to provide information about the status of a particular environmental medium or to address an emerging issue.

(c) The recommendation is implemented. Environmental data and information are widely available on the Internet. SEPA makes available all the environmental reports it produces. It also publishes data online, such as on real-time air quality, daily water quality, daily and weekly concentration of pollen in the air, and alarm information. Furthermore, the Hydrometeorological Service provides information on water quantity, floods alarms, etc. The Ecoregister was created, which links data and environmental information from some 850 institutions and makes them available through a single user-friendly portal.

Chapter 3: Implementation of international agreements and commitments

Recommendation 3.1:

- (a) The Ministry of Environmental Protection should clearly define the country's priorities and objectives in the area of international environmental cooperation, and identify resources for achieving them from both domestic and external sources.*

Priorities of bilateral and multilateral cooperation are defined in a number of national documents developed since 2007, e.g. the 2010 National Environmental Protection Programme, the 2008 National Programme for Integration with the EU, the 2011 National Strategy for Implementation of the Aarhus Convention with the Action Plan, the 2013 National Plan for the Adoption of the *Acquis* for the period 2013–2016, the 2011 National Environmental Approximation Strategy, the United Nations Country Partnership Strategy for 2011–2015 and the 2010 Country Programme Action Plan for the period 2011–2015, and the National Biodiversity Strategy for the period 2011–2018.

- (b) The Ministry of Environmental Protection, in cooperation with the Development and Aid Coordination Unit of the Ministry of Finance, should develop a system that would allow full accounting of international assistance in the area of environmental protection and promote better coordination of the donor activities in this area, both with the donors and among the governmental agencies and local authorities.*

The Ministry of Energy, Development and Environmental Protection participated in the process of drafting the document “Needs of the Republic of Serbia for International Assistance”, which defines priorities and activities that should be achieved by international aid and national financing. Also, the Office for European Integration has, in cooperation with relevant ministries, developed the Methodology for Prioritization of Infrastructure Projects which resulted in the national list of infrastructure priority projects. This single list will ensure better coordination of donor activities.

Recommendation 3.2:

- (a) *The National Assembly should speed up the ratification procedure of the agreements, which the Government has adopted as precedence (See list a).*
- (b) *The Government should proceed with the ratification of agreements for which all the necessary preparatory work is under way (See list b).*
- (c) *In order to ensure the implementation of multilateral environmental agreements (MEAs) for which they have been designated as focal points and competent authorities, the Ministry of Environmental Protection, in cooperation with other relevant ministries and governmental bodies, should elaborate action plans for the implementation of MEAs, build sufficient national capacity, and continue striving to attract international assistance. Participation in the AIMS Network should continue.*

List a of recommendation 3.2:

- *UNECE Convention on Environmental Impact Assessment in a Transboundary Context (i.e. Espoo Convention)*
- *Framework Convention on the Protection and Sustainable Development of the Carpathians*
- *Convention on the Conservation of Migratory Species of Wild Animals (Bern Convention)*
- *Convention of Conservation of European Wildlife and natural Habitats (Bonn Convention)*
- *United Nations Convention on Combat Desertification in Countries Experiencing Serious Drought and/or Desertification Particularly in Africa*
- *Kyoto Protocol*
- *UNECE Convention on the Protection and Use of Transboundary Waters and International Lakes (Helsinki Convention)*

List b of recommendation 3.2:

- *UNECE Convention on Access to Information, Public Participation in Decision /making and Access to Justice in Environmental Matters (Aarhus Convention)*
- *Stockholm Convention on Persistent Organic Pollutants (POPs Convention)*
- *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC Convention)*
- *UNECE Convention on the Transboundary Effects of Industrial Accidents*
- *UNECE Strategic Environmental Assessment (SEA) Protocol*

- (a) Serbia has ratified or acceded all agreements in list a.
- (b) Serbia has ratified or acceded all agreements in list b.
- (c) The following action plans have been elaborated since 2007:
 - National Action Plan for the Implementation and Ratification of the Protocol on Heavy Metals, the Protocol on Persistent Organic Pollutants and the Gothenburg Protocol to CLRTAP Convention;
 - Action Plan for the Implementation of the Aarhus Convention;
 - Action Plan to the Biodiversity Strategy for the period 2011–2018;
 - National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants.

Actions to implement some other MEAs were incorporated the National Environmental Protection Programme and its Action Plan for 2010–2014.

Serbia made progress in building national capacity to implement the ratified MEAs. The country continued attracting international assistance.

Recommendation 3.3:

- a) *The National Council for Sustainable Development, when approving the National Strategy for Sustainable Development, should ensure that its provisions support implementation of other strategic documents, in particular the National Environmental Strategy.*
- b) *The Government should approve the National Strategy for Sustainable Development and submit it to the National Assembly for adoption (see also Recommendation 1.4).*
- c) *The municipal authorities, when developing and implementing Local Agenda 21, should take advantage of the experience of existing local environmental action plans and take into account lessons learned from implementation of local environmental action plans (LEAPs).*

- (a) The National Strategy for Sustainable Development as well as a number of sectoral strategic documents were based on the provisions of the National Environmental Protection Programme.
- (b) The National Strategy for Sustainable Development for the period 2009–2017 (OG 57/08) was adopted by Government in May 2008, together with an Action Plan for the Implementation of the National Strategy for Sustainable Development.
- (c) Since 2007, almost 150 strategies for sustainable development and environmental protection, as well as environmental action plans of cities and municipalities, have been adopted. They have been developed in accordance with the methodology applied in the preparation of local environmental action plans. The experience of existing local environmental action plans and lessons learned from their implementation were taken into account.

PART II: MOBILIZING FINANCIAL RESOURCES FOR ENVIRONMENTAL PROTECTION**Chapter 4: Economic instruments for environmental protection****Recommendation 4.1:**

The Ministry of Environmental Protection, in cooperation with major stakeholders, should:

- (a) *Conduct a thorough review of existing major traditional regulatory and economic instruments for environmental protection, with a view to establishing their current environmental and economic impact;*
- (b) *Explore the scope for complementary use of economic instruments and traditional regulations for reducing pollution; and*
- (c) *Raise pollution charges and regulatory standards in a gradual and predictable fashion, with enterprises receiving sufficient advance notice to be able to reduce adjustment costs and develop efficient approaches for complying with more stringent standards and policies.*

- (a) The recommendation was not implemented. However, the Government has been aware of the limited impact of economic instruments on environmental pollution.
- (b) The recommendation was partially implemented. Pollution charges applied were not complemented by regulations concerning emission limits on air and water pollution. New regulations concerning emission limits adopted in 2012 apply to new facilities only.
- (c) The recommendation was partially implemented. Pollution charges have been indexed to inflation. The Government has been reluctant to tighten environmental standards and policies in the face of the difficult economic situation in the industrial sector.

Recommendation 4.2

The Government should:

- (a) *Develop an action plan for the complete elimination of leaded petrol as well as the progressive reduction of sulphur content in petrol and diesel fuel to current EU requirements of 50 ppm, and announce a target date for achieving these goals as soon as possible;*
- (b) *Introduce effective fiscal incentives which promote unleaded petrol and low-sulphur petrol and diesel;*
- (c) *Design other measures to reduce pollution related to urban transport, such as strict mandatory technical inspections of vehicles (with a focus on exhaust emissions and noise pollution) and temporary fiscal incentives encouraging buyers to purchase new cars and scrap old ones.*

4.2 (a) and (b) These two recommendations were implemented. Leaded motor fuel was phased out in 2011. Fuel quality standards have been aligned with EU standards.

4.2 (c) This recommendation has not been implemented. The Rulebook on technical inspection of vehicles, prescribing measures for the use of modern devices to control exhaust gas emissions, has not been adopted yet, hampering the application of standards prescribed for vehicles registered after 1 March 2014. At the same time, the average age of the vehicle fleet in Serbia is over 15 years, and the quality of fuel available on the market has been recently stabilized at a level required in EU countries. Bearing in mind these two facts, it is reasonable to expect that during vehicle technical inspection a large number of vehicles would fail to meet the roadworthiness requirements. The application of stricter standards would deprive a large number of vehicle owners of the right to use them and, with the objective impossibility of owning newer vehicles, the application of stricter standards could negatively affect the socioeconomic aspect.

Recommendation 4.3:

The Ministry of Environmental Protection, in cooperation with the Ministry of Local Self-Government, should support municipalities in the implementation of an effective household waste management policy. This should include guidance and training in basic techniques for calculating cost-reflective waste charges. In order to create incentives for waste minimization, waste charges should, to the extent possible, be proportional to the amount of waste collected. Municipal collection of enterprise waste should be based on the use of standardized bins and the nature of the waste to be collected. All charge rates should be calculated so as to ensure full cost recovery.

The recommendation was not implemented. Tariff-setting for municipal waste services has not changed since 2007. There is no formal tariff-setting methodology; the main aim is to cover the operating costs of public waste companies.

Recommendation 4.4:

The Government should:

- (a) *Initiate a reform of the tariff system in the water sector by gradually raising tariffs to a level that corresponds to full cost recovery for utility services while using targeted subsidies to address affordability problems;*
- (b) *Strengthen enforcement measures to improve bill collection rates on water services;*
- (c) *Apply water pollution charges on the overall quantity of wastewater discharged and the pollution, not just on pollution above specified limits.*

The recommendation is largely not implemented. Income from tariffs in general only covers the operating costs of municipal water companies. Considerable cross-subsidies from enterprises to households have kept water tariffs for households at low levels, providing little incentive for rational use of water resources. Water pollution charges are now based on volumes of wastewater discharged, but charge rates are industry specific and do not yet take into account the specific pollutant contents of wastewater discharges.

Chapter 5: Environmental expenditures and their financing

Recommendation 5.1:

The Government should establish a coherent and comprehensive information and reporting system for environmental protection expenditures and revenues covering the public sector, the business sector and private households, using as a general framework the European System for the Collection of Economic Information on the Environment (SERIEE) developed by the Organisation for Economic Co-operation and Development/Eurostat and the associated Classification of Environmental Protection Activities and Expenditures (CEPA).

The recommendation is partially implemented. There remain large gaps in statistical data on environmental expenditures in both the government and non-government sectors. SEPA reports on expenditures from the central government budget, revenues from environmental fees, environmentally motivated tax incentives and subsidies, and foreign financial assistance, based on available data. However, the Agency does not have systematized data on expenditures from specialized institutions (e.g. public and private companies for waste management, wastewater), as well as some sectors of the economy (e.g. manufacturing).

Recommendation 5.2:

The Government should:

- (a) Review its short- and medium-term budget plans with a view to allocating funds for environmental protection that are commensurate with ambitious but realistic policy targets;
- (b) Ensure that an adequate share of public revenues is channelled to the Ministry of Environmental Protection, as well as the Environmental Protection Fund;
- (c) Ensure that environmental protection is effectively integrated into all major investment projects financed from the National Investment Plan, especially for the energy, transport and agriculture sectors; and
- (d) Provide the Environmental Protection Fund with human and financial resources.

The recommendation is not implemented. Government expenditures, including those of the Environmental Protection Fund (which was abolished in September 2012) have remained largely insufficient in view of the investments required for upgrading the environmental infrastructure.

Recommendation 5.3:

The Government should promote legal and institutional arrangements which strengthen the capacity of municipalities to prepare investment projects and which enable greater access to domestic capital markets for financing these projects. This involves, among other things:

- (a) Supporting the preparation of multi-annual investment plans for municipal infrastructure development programmes;
- (b) Encouraging local self-government units to invest in environmental infrastructure through greater use of loans based on existing legislation on public debt;
- (c) Considering the need to relax existing borrowing constraints; and
- (d) Developing guidelines and procedures for private-sector involvement in the provision of environmental utility services at the municipal level.

The recommendation is partially implemented. The methodology for selection and prioritization of infrastructure projects for the waste and water sector has been adopted by the Government, and a single project pipeline of priority projects developed, to be funded from the IPA, donors, IFIs and national funds. Further, more detailed planning for the waste sector is developed, including investments, timetable and financing in the period until 2030. Support for the preparation of a multi-annual investment plan for environmental municipal infrastructure for heavy investment related to EU directives in the waste and water sector is planned within the IPA 2013 project (starting at the beginning of 2015). The final planning documents are foreseen to be developed and adopted in 2015–2016. Public debt reached the national limit, which puts constraints on the use of new loans. Municipalities still lack administrative, financial and technical capacities.

Recommendation 5.4:

The Ministry of Agriculture, Forestry and Water Management, in cooperation with the Ministry of Environmental Protection, should reconsider the current system of earmarking water revenues, and optimize their allocation according to national priorities in the water sector.

The recommendation is not implemented. Earmarking of revenues from water charges was abolished as from October 2012, but until that time the compartmentalization of earmarking of revenues was not reformed.

PART III: INTEGRATION OF ENVIRONMENTAL CONCERNS INTO ECONOMIC SECTORS AND PROMOTION OF SUSTAINABLE DEVELOPMENT

Chapter 6: Water management for sustainable development

Recommendation 6.1:

The Ministry of Agriculture, Forestry and Water Management, in cooperation with the Ministry of Environmental Protection, should speed up the drafting of a new Law on Water, taking into account the country's commitments to introducing EU-relevant regulations, including the Water Framework Directive, and provisions of other international multilateral environmental agreements (MEAs), such as the Helsinki Water Convention and the Danube River Protection Convention.

See Recommendation 1.1(a) in Chapter 1.

The recommendation was partially implemented. The Law on Waters has been adopted in 2010, based in most of its provisions on the EU Water Framework Directive and other provisions from MEAs. Further transposition has been done through at least 30 by-laws. However, further EU legislation has to be transposed, such as the Nitrates Directive, Urban Wastewater Treatment Directive and Flood Risk Directive.

Recommendation 6.2:

The Government should provide more scope for municipalities and public water companies for financing enhancements in water infrastructure.

The recommendation was not implemented. Municipalities and their public water companies do not have enough capacities. A political, administrative and financing reform, specifically regarding water resources management, would improve the competencies of local self-governments, which cannot implement the EU subsidiary principle related to water management.

Recommendation 6.3:

The Ministry of Agriculture, Forestry and Water Management, in cooperation with the Ministry of Environmental Protection, should, after the completion of the Joint Danube Survey, carry out with the International Commission for the Protection of the Danube River an assessment of the transboundary impact of upstream countries on the quality of the Danube River entering Serbia.

The recommendation has been implemented. Serbia is a member of the International Commission for the Protection of the Danube River and has already undertaken much of the necessary preparatory and analytical work of the Danube Basin Management Plan according to the Danube River Protection Convention.

Recommendation 6.4:

To ensure good ecological quality of Serbian watercourses, the Ministry of Agriculture, Forestry and Water Management, in cooperation with the Ministry of Environmental Protection, should:

- (a) Develop an action plan for the construction of wastewater treatment plants compatible with the EU relevant directives and allocate corresponding funds in the budget;*
- (b) Request the World Bank to reintroduce nutrient reduction from industrial facilities in the Nutrient Reduction Programme for the Danube River.*

The recommendation has not been implemented. Water protection remains one of the main concerns. Coverage of water treatment plants in the country since 2007 is progressing, by more 10 per cent according to official data. Transposition of the Urban Wastewater Treatment Directive has not yet been completed, nor has the Industrial Emissions Directive, continuing the Integrated Pollution Prevention and Control regime.

Recommendation 6.5:

In order to ensure full responsibility for water pollution and to establish polluter databases, the Ministry of Agriculture, Forestry and Water Management, in cooperation with the Ministry of Environmental Protection, should initiate a new set of water pollution charges which stipulates the full application of the “polluter pays” principle.

The recommendation has been partially implemented. Related by-laws have been developed, but in the process of interministerial consultation, there is no positive feedback, because it could have an impact on the standard of living. Besides the Law on Environmental Protection, harmonization with the Law on Communal Utility Activities on the adoption of service pricing related to the polluter-pays principle was not done.

Recommendation 6.6:

To ensure a safe drinking-water supply, the Ministry of Agriculture, Forestry and Water Management, in cooperation with the Ministry of Environmental Protection and the Ministry of Health, within their competencies should:

- (a) Complete the drafting of the regulation on the protection of drinking water abstraction, and speed up its adoption and further implementation;*
- (b) Enforce measures for the protection of sanitary protection zones at water intakes;*

- (c) *Enable municipalities and water-utility companies with the means to improve drinking water treatment facilities;*
- (d) *Call on water utilities to reduce losses in the drinking-water supply network and to provide for metering of the water quantities used in their networks; and*
- (e) *Provide access to safe water for the population in areas without public water supply systems, with a target of reducing to 15 per cent, by 2015, the proportion of the population with no access to safe water, as stipulated in the Millennium Development Goals for Serbia.*

a) The recommendation was partially implemented. The Drinking Water Directive has been almost fully transposed, covering all the related issues in urban areas and in a moderate percentage in rural areas. Some non-compliance is still found.

b) The recommendation was partially implemented. A set of regulations, additional to the Law on Waters, has already been adopted: Regulation on limit values for pollutants in surface and groundwaters and sediments and deadlines for their achievement; Regulation on emission limit values for pollutants in water and deadlines for their achievement; Regulation on the approval of the annual programme of monitoring of water status for 2013 (OG 43/13). A draft rulebook on method and conditions for wastewater quantity measurement and quality testing, and the content of the measurement report, is in preparation.

c) The recommendation has not been implemented: 3.54 per cent is the coverage increase since 2007.

d) The recommendation has not been implemented: water losses and non-revenue water is still too high in Serbia, estimated to reach more than 35 per cent.

e) The recommendation has not been implemented: since 2007, coverage has increased 3.54 per cent according to official data.

Chapter 7: Energy and environment

Recommendation 7.1:

To reduce the impact of energy production and consumption on the environment, the Government should:

- (a) *Ensure fuel switching from the utilization of electricity for space heating to the use of natural gas or connection to district heating systems;*
- (b) *Increase energy efficiency to reduce electricity and heat demand; and*
- (c) *Significantly increase the share of renewable energy sources in primary energy production by 2015.*

a) The recommendation was partly implemented. Around 57,000 new consumers have been connected to district heating systems between 2006 and 2010. The implementation is ongoing. No significant fuel switch towards natural gas occurred.

b) The recommendation was partly implemented. The energy consumption targets of the First Energy Efficiency Action Plan of 1.5 per cent energy savings in final energy consumption in the period 2010–2012 have been 80 per cent met. Electricity and heating demand are still very high.

c) The implementation of this recommendation is ongoing. The national target is to increase the share of renewables in final energy consumption from 21.2 per cent in 2009 to 22.9 per cent in 2015 and 27 per cent in 2020. As the adoption of the legal framework was taking a long time, this increase was slowed down, but a series of plants for renewable electricity generation are under construction.

Recommendation 7.2:

The Government, in cooperation with the Energy Agency, should:

- (a) *Stop subsidizing the energy sector; in particular, it should make electricity prices fully reflective of costs, including the costs of production, grid operation and measures to reduce environmental impacts;*
- (b) *Introduce cost-reflective prices for district heating in cooperation with responsible local authorities. The installation of a metering system should be proposed to allow a switch from area-based to consumption-based pricing as soon as possible. Measures to enlarge or overhaul the network should always include the installation of a metering system; and*
- (c) *Develop special social measures to support vulnerable users.*

a) On the energy sector, no funds are allocated from the Budget for subsidizing public enterprises which perform activities related to electric power. As of 1 January 2013, high voltage consumers purchase electricity on the open market; from 1 January 2014, medium voltage consumers will do so, and from 1 January 2015, all remaining users will do so. The draft law on energy provides for changes to the criteria for the category “small

customers”, so that instead of the number of employees, total annual income and voltage level of the buildings connected to the electric power distribution system, the criterion will be the amount of electricity consumed annually.

From 1 January 2015, only customers belonging to the category “households” will be entitled to public electricity supply but, in accordance with the given law, at the same date, customers in this category have the right to freely choose a supplier on the market.

The price movements in the open electricity market are regulated by the market itself, according to the laws of supply and demand and market competitiveness. The prices of electricity for public supply are determined based on the Methodology for determining the cost of electricity for public supply (OG 52/13), which is adopted by the Energy Agency on the basis of a mechanism to control prices of electricity for public supply through cost-plus pricing, the mechanism used to determine the maximum allowed revenue of a public supplier for the regulatory period, i.e. the price of electricity for public supply. This ensures that: eligible expenses are covered in the public electricity supply process; the short-term and long-term supply is secured; economic and energy efficiency is encouraged; and there is no discrimination, i.e. there is equal treatment of all system users and prevention of mutual subsidizing of the different activities which are performed by energy entities and between customers and groups of customers.

b) The 2013 Law on Efficient Use of Energy stipulates, among other matters, that the local self-government unit is obliged to include the measured, i.e. actual, amount of provided thermal energy in the tariff system for district heating, as one of the elements for calculating the price of heating services. Under the same Law, the distributors of thermal energy are obliged to apply the mentioned tariff system within 18 months of the date of entry into force of the Law. In order to enable the application of this provision, the Law stipulates that every new building or building unit, e.g. apartment, should be equipped with a device for measuring the actual heat consumption. The same measure is prescribed for the connection of existing buildings to the distribution system.

In relation to the above, under the programme “Rehabilitation of the District Heating System in Serbia” Phase IV, realized in cooperation with the German development bank KfW, all programme participants, i.e. local government units and distributors, are under contractual obligation to implement the tariff system, which will include the actual amount of distributed thermal energy.

The Government adopted the Regulation on the method for determining the highest and the lowest average price of thermal energy (OG 37/13) which prescribed the method for calculation of the price of thermal energy depending on the actual costs incurred by the production and distribution of thermal energy. Through this Regulation, one of the key problems in the operation of heating plants referring to the disparity in prices of thermal energy compared with the price of other energy sources has been solved, which will allow a more regular supply and payment of energy, a better quality and a more regular supply of heat to customers, all with the aim of making the operation of heating plants sustainable.

c) In 2013, the Government adopted the Regulation on protection of vulnerable energy consumers. The process of liberalization of the electricity and natural gas markets in Serbia began with the adoption of the Law on Energy in 2004 and was realized through the adoption of amendments to that Law in 2011, which brought significant changes to the electricity and natural gas markets.

In accordance with the Law, the gradual opening up of the electricity and natural gas markets involves increased competition and introduction of the right of customers to choose their supplier of electricity or natural gas, as well as identifying market conditions for doing transactions, i.e. for achieving price levels that cover justified costs and the necessary development. Due to the need to bring prices of electricity and natural gas to an economic level, the need for internal rationalization of energy undertakings and for improvement of their financial performance while enhancing their competitiveness, it was necessary to relocate the social policy from energy undertakings and take measures to protect customers who, due to the increase in prices of electricity and natural gas, could be brought into a state of vulnerability.

However, despite certain positive and very significant results, these tendencies have led to negative tendencies resulting from several factors. All analyses show that, due to the economic crisis, the technical-technological

lagging behind of the Serbian economy and its reduced competitiveness in the international market, the decline in production in all industries, political instability and the extremely high unemployment rate, a large number of citizens live on the edge of existence, which directly leads to the inability of those citizens to meet their obligations and regularly pay electricity or gas bills. Resolving the issue of protection of vulnerable energy consumers is important, not just for certain vulnerable groups but also for the reform of the energy sector.

Recommendation 7.3:

The Government, in cooperation with the relevant ministries and agencies, should:

- (a) *Establish an energy efficiency fund as soon as possible for financing measures to improve energy efficiency in industry and households. The fund should be fed with a tax on electricity consumption by industrial customers, and be supplemented by international funding and other funding sources. Companies implementing an energy audit and energy-saving measures could be exempted from this tax;*
 - (b) *Introduce energy consumption standards for the construction of new buildings and the renovation of existing buildings; and*
 - (c) *Introduce a funding programme to promote insulation measures for residential and public buildings (e.g. soft loans and tax rebates) and to connect flats and buildings to district heating or to the gas grid.*
- (a) The implementation of the recommendation is ongoing. An energy efficiency fund in the state budget is introduced for 2014 but not yet fully operational. It is fed by the state budget, but by none of the other proposed funding possibilities.
 - (b) The recommendation is implemented. Standards for building were recently introduced.
 - (c) The recommendation is partly implemented. The above-mentioned energy efficiency fund will concentrate on residential and public buildings; further funding mechanisms such as fiscal incentives have not been implemented.

Recommendation 7.4:

The Energy Efficiency Agency and the Regional Energy Efficiency Centres should continue and intensify awareness- and capacity-building regarding energy efficiency measures. Public awareness campaigns should show the economic and ecological benefits of reduced fuel consumption.

The recommendation is partly implemented. The Energy Efficiency Agency was working on awareness-raising, but since its closure in 2012 capacities for awareness-raising are reduced significantly. There have been large efforts in training on capacity-building, e.g. on energy efficiency in buildings for engineers.

Recommendation 7.5:

To stimulate both the production and consumption of renewable energy, the Ministry of Mining and Energy should:

- (a) *Introduce as soon as possible implementing regulations for the Law on Energy to promote electricity and heat production from renewable energies;*
- (b) *Introduce economic incentives, e.g. a feed-in tariff, for electricity produced from renewable energy sources;*
- (c) *Simplify the complex licence procedures for facilities based on renewable energy and establish a one-stop shop to prepare renewable energy projects and offer support to possible investors during the licensing procedure;*
- (d) *Engage itself, in cooperation with other competent ministries and industry representatives, in developing a range of investment projects in the energy, waste, forestry and agricultural sectors which reduce greenhouse gas emissions or enhance sequestration and which are therefore eligible for financial funding from the Clean Development Mechanisms after the Kyoto Protocol has been ratified; and*
- (e) *Designate a body for implementing Clean Development Mechanism projects and entrust it with preparing ready-to-offer projects to investors.*

- a) The recommendation was implemented to a large extent. The legal framework for production of electricity from renewable sources is adopted, and recommendations for municipalities on incentives to use renewables for heat production is in preparation.
- b) The recommendation was implemented. A feed-in tariff was introduced in 2009 and improved in 2013.
- c) The recommendation was not implemented. The licensing procedure is still complex and responsibilities are split among many different institutions.

d) The recommendation was implemented. For efficiency, renewable energy and the waste sector, CDM projects were developed and seven projects have been deregistered. Furthermore, Serbia deregistered six NAMAs.

e) The recommendation was implemented. The Designated National Authority is located with the ministry responsible for the environment.

Recommendation 7.6:

The Government should develop measures to further reduce environmental impacts from thermal power plants and refineries on air, soil, ground and surface waters, as well as health impacts on human beings, by introducing best available techniques and abatement technologies, and should find ways to safely dispose of ash deposits.

The recommendation was implemented. The Government developed measures related to the reduction of environmental impacts of energy facilities (BAT implementation and ash deposition) through the adoption of relevant legislative acts: the IPPC Law, Law on Air Protection, Law on Waters, Law on Waste Management (including ash) and relevant secondary legislation. National environmental standards that are applicable for the operation of energy facilities are defined by the various laws (and relevant secondary legislation). The Law on Environmental Protection sets down general principles on environmental protection.

Moreover, Serbia ratified the Energy Community Treaty in 2006. Contracting parties have a binding obligation to implement certain EU directives related to the environment. Besides the Treaty, the legislation consists of various legislative acts that refer to the environmental impact of TPPs and refineries.