UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

COMMITTEE ON ENVIRONMENTAL POLICY
CONFERENCE OF EUROPEAN STATISTICIANS
through their
Joint Intersectoral Task Force on Environmental Indicators

jointly with
UNITED NATIONS STATISTICS DIVISION

JOINT MEETING ON ENVIRONMENTAL INDICATORS

31 August - 2 September 2009, Geneva

NATIONAL REVIEW OF THE APPLICATION OF ENVIRONMENTAL INDICATORS

Submitted by Serbia[1]

I. APPLICATION OF INDICATORS IN NATIONAL ASSESSMENT REPORTS, STATISTICAL COMPENDIUMS AND OTHER PUBLICATIONS

Indicators are mainly used to assess the condition of the environment, as early-warning signals of environmental problems, and as barometers for trends in environmental resources. The Environmental Protection Agency as national institution is obliged for reporting data and for National Annual Report preparing, based on indicators model. Use of environmental indicators requires clearly stated objectives; the recognition of spatial and temporal scales; assessments of statistical variability, and coupling with economic and social conditions. They can be used to describe and analyse environmental conditions and trends, and their significance. Indicators are easier to understand than complex statistics or scientific data and therefore can facilitate communication between experts, non-experts and decision makers. Indicators simplify information of complex phenomena and reduce information to the most important elements.

Annual *Report on the state of environment in the Republic of Serbia* presents one of the fundamental documents in the area of environmental protection in the Republic of Serbia and gives an essential overview of the state of environment in the country. It has been produced on the basis of available data on the state of environment and gives an

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assessment of the current situation, together with recommendations and measures to be taken in the next period with the goal to improve the situation.

Figure 1. D-P-S-I-R model

Thus the Report on the State of Environment becomes an important tool in planning the environmental protection policy, as well as an indicator of the need to incorporate the principles of environmental protection into developmental and strategic documents of other sector policies, such as industry, agriculture, energetic and so on. The Report is produced each year and submitted by the Government to the Parliament of the Republic of Serbia. The goal of the Report is to give the following data: on the state and changes in the environment; on the implementation of the Strategy, National Programme and Action Plans; on reparation plans and other introduced measures; on financing the environmental protection system; on prioritized commitments and measures in the area of environmental protection; other data necessary for managment of natural resources and environment protection.

The Report on the State of Environment for 2007 has been made, as the previous one, by applying the D-P-S-I-R model (Fig. 1.), which depicts a systemic relationship between Man and his environment.

The obtained data are not only the interest of the Republic of Serbia, but can also be used in data exchange with the relevant institutions and national centers of the neighboring countries, as well as with the European Agency for Environmental protection in the framework of international commitments and conventions. In this way the Republic of Serbia has shown its unquestionable decision to follow the way to Europe.

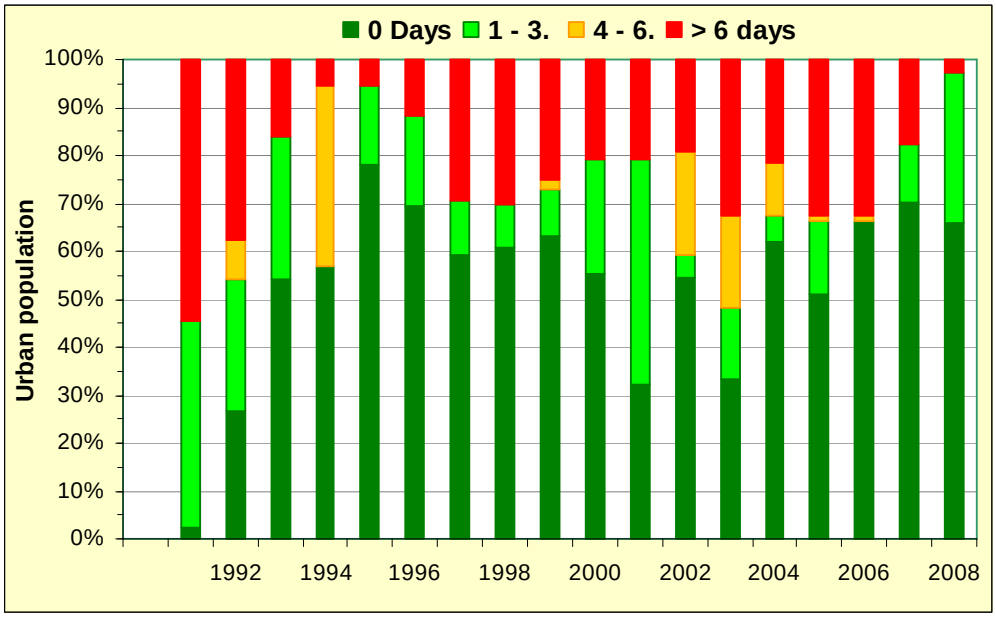

Figure 2. Illustration of EEA CSI004; Percent of population resident in urban areas potentially exposed to SO_2 concentration levels exceeding the daily limit value (125 $\mu g/m^3$)

In most cases, according to avaliable data, assesment and illustrations are based on indicators approach, Fig. 2. This approach in creating annual environmental reports in Serbia were established in 2006. In 2007 Serbian Environmental Protection Agency published special publication "Environment in Serbia: an indicator – based review", harmonizing reporting obligations with EIONET standards (an indicator-based approach). SEPA prepared this document in order to describe the current state and trends of environmental variability in Serbia, and to assess a progress in legal and economic mechanisms that are focused to environment improvement and, consequently, to advance life quality of Serbian inhabitants. This publication contains information on all environmental components in Republic of Serbia and represent a valuable tool for developing, adopting, implementing and evaluating of environmental policy.

Together with indicators based report *Environment in Serbia*, 2007, SEPA published a pocketbook *Environmental indicators* which presents key facts and figures about the environment in Serbia. For each (environmental) theme indicators are presented in line with EEA Core set of indicators, with purpose to pay attention on environmental problems to policy makers, environmental experts, publicity interested groups and stakeholders. At the end of 2008. Republic of Serbia participated on the workshop "EEA Core Set of Indicators for the West Balkan countries", which took place in Skopje. Main objective of the workshop was to discuss the progress of the project "Expert assistance on building up of regular state of environment reporting according to the EEA Core Set of Indicators for the West Balkan countries"

In the preparation and development of the national EEA CSI indicators were used methodological recommendations and instructions available on the web pages of the EEA.. In some cases, for a detailed introduction, SEPA used *UNECE Indicator Guidelines: General description, Relevance for environmental policy, Methodology and guidelines, Data sources and reporting, References at the international level.*

Table 1. Status, at the end of 2008., SEPA preparated EEA CSI indicators

CSI001	Air poll. ozo. dep	Emissions of acidifying substances	NO
CSI002	Air poll. ozo. dep.	Emissions of ozone precursors	NO
CSI003	Air poll. ozo. dep.	Emissions of PP and SP precursors	NO
CSI004	Air poll. ozo. dep.	Exceedance of air quality limit values in urban areas	YES
CSI005	Air poll. ozo. dep.	Exposure of ecosystems to acidi, eutroph. and ozone	NO
CSI006	Air poll. ozo. dep	Consumption of ozone-depleting substances	YES
CSI007	Biodiversity	Threatened and protected species	YES
CSI008	Biodiversity	Designated areas	YES
CSI009	Biodiversity	Species diversity	YES
CSI010	Climate change	Greenhouse gas emissions and removals	NO
CSI011	Climate change	Projections of GHG emissions and removals	NO
CSI012	Climate change	Global and European temperature	YES
CSI013	Climate change	Atmospheric greenhouse gas concentrations	NO
CSI014	Terrestrial	Land take	YES
CSI015	Terrestrial	Progress in management of contaminated sites	YES
CSI016	Waste	Municipal waste generation	YES
CSI017	Waste	Generation and recycling of packaging waste	NO
CSI018	Waste	Use of freshwater resources	YES
CSI019	Water	Oxygen-consuming substances in rivers	YES
CSI020	Water	Nutrients in freshwater	YES
CSI021	Water	Nutrients in transitional, coastal and marine waters	
CSI022	Water	Bathing water quality	YES
CSI023	Water	Chlorophyll in transitional, coastal and marine waters	
CSI024	Water	Urban wastewater treatment	YES
CSI025	Agriculture	Gross nutrient balance	NO
CSI026	Agriculture	Area under organic farming	(YES)
CSI027	Energy	Final energy consumption by sector	YES
CSI028	Energy	Total energy intensity	YES
CSI029	Energy	Total energy consumption by fuel	YES
CSI030	Energy	Renewable energy consumption	YES
CSI031	Energy	Renewable electricity	YES
CSI032	Fisheries	Status of marine fish stocks	
CSI033	Fisheries	Aquaculture production	
CSI034	Fisheries	Fishing fleet capacity	
CSI035	Transport	Passenger transport demand	YES
CSI036	Transport	Freight transport demand	YES
CSI037	Transport	Use of cleaner and alternative fuels	NO

Regarding importance of environmental protection data, Statistical Office of the Republic of Serbia (SORS) included environmental statistics in process harmonization in line with national and international legislation and request. For this purpose Environmental Statistics Section (ES) started with database development, through revisions, updating existed surveys and inclusion new surveys. Statistical Environmental Database is devided on four areas: water, air pollutions, waste and general data (this part includes different data relevant for environmental protection

database and indicators calculation, as population, GDP, agriculture, transport, construction, parts of Census , biodiversity, land and soil etc.).

The problems and difficulties Preparation of indicators is related to many problems and difficulties, in short: Many of data are non representative, there is no enough representative data, gaps in the available legislation, problems with continual measurements, unsufficient time series due to methodology, incomplete reporting to the international conventions, insufficient frequency of data updates, unofficial data, incongruity between necessary and available data, etc.

We hope that many problems will disappear, first of all with the implementation of new legislation and harmonization with EU practices.

II. USE OF MODERN PRESENTATION FORMATS AND TOOLS FOR DISSEMINATION OF ENVIRONMENTAL INDICATORS

Reports and publications containing indicators and data for their creating are available in paper and electronic form on web sites, such as *Report on the state of environment in the Republic of Serbia, (*www.sepa.gov.rs *), Statistical yearbook, (*webrzs.stat.gov.rs*), Eco-bulletin, Meteorological yearbook, (www.hidmet.gov.rs), Municipalities of Serbia (yearbook), Statistical pocketbook, Monthly (preliminary) report of AQ from automatic AQMS* etc.

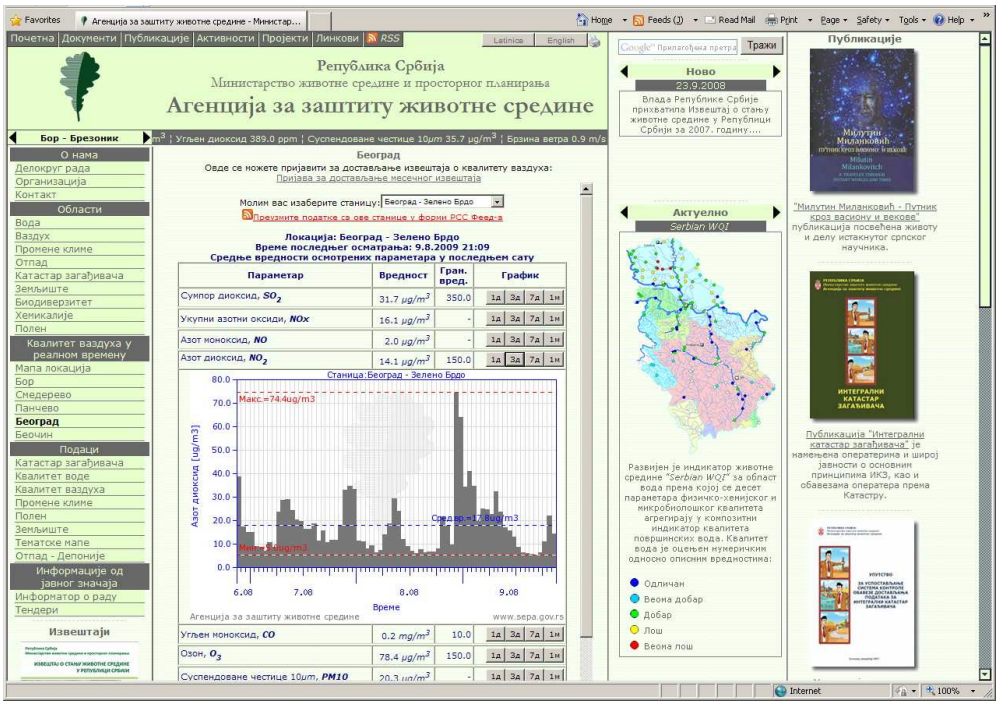

Figure 3. SEPA web site ; http://www.sepa.gov.rs

Implementation of project "*Assisting the Serbian Environmental Protection Agency in Strengthening the National EIONET Network* " started at the beginig of 2009. Project is donated by European Commission through Pre-accession Assistance funds for the 2008 (IPA 2008). Realization of this project will increase the capacity of the SEPA and its monitoring data providers to carry out the monitoring and reporting responsibilities supporting the Republic of Serbia in honouring its domestic and international

environmental protection obligations. Project will design and help establish a fully functional National Environmental Information Network (National EIONET) that will improve operational reporting towards the EEA and other relevant institutions. All of this will make optimal possibilities for better communication, data and product exchange including indicators with main Serbian EIONET data providers (Republic Hydrometeorological Service, Statistical Office of the Republic of Serbia, Provincial Secretariat for Environmental Protection and Sustainable Development of Autonomous Province Vojvodina, City of Belgrade Public Health Institute, Institute of Nature Protection of Serbia, Institute of Biology and Ecology, Public Health Institute "Batut" and Serbian Soil Institute).

III. APPLICATION OF ADDITIONAL INDICATORS, ESPECIALLY THOSE MEASURING THE EFFECTIVENESS OF ENVIRONMENTAL POLICY

Starting from the fact that for the implementation of effective policies to protect the environment requires adequate legal solutions, previous years Serbia worked hard to improve the existing and adopting new laws in field of environment.

For getting better effect from new national legislative, EU directives were implemented in regulations, so new laws represent practical step in process of harmonisation with the EU regulations.

As a result of the extensive activities, Parliament of the Republic of Serbia in 2009 adopted 16 new laws in the field of environment:

- The Law on Ratification of the Aarhus Convention.
- The Law on Ratification Roterdam Convention
- The Law on Ratification Amendmends on B Annex of Kyoto Protocol to the UNFCCC
- The Law on Amendmends on Environmental Protection Law
- The Law on Amendmends on Environmental impact assessment law
- The Law on Nature Protection
- The Law on Waste Management
- The Law on Packaging and packaging waste
- The Law on Air Protection
- The Law on Protection from Ionizing Radiation and Nuclear Safety;
- The Law on Protection from Non-ionizing Radiation;
- The Law on Environmental Noise protection
- The Law on Chemicals
- The Law on Biocide products
- The Law on the Prohibition of the Development, Production, Storage and Use of Chemical Weapons and its Elimination
- The Law on Fisheries

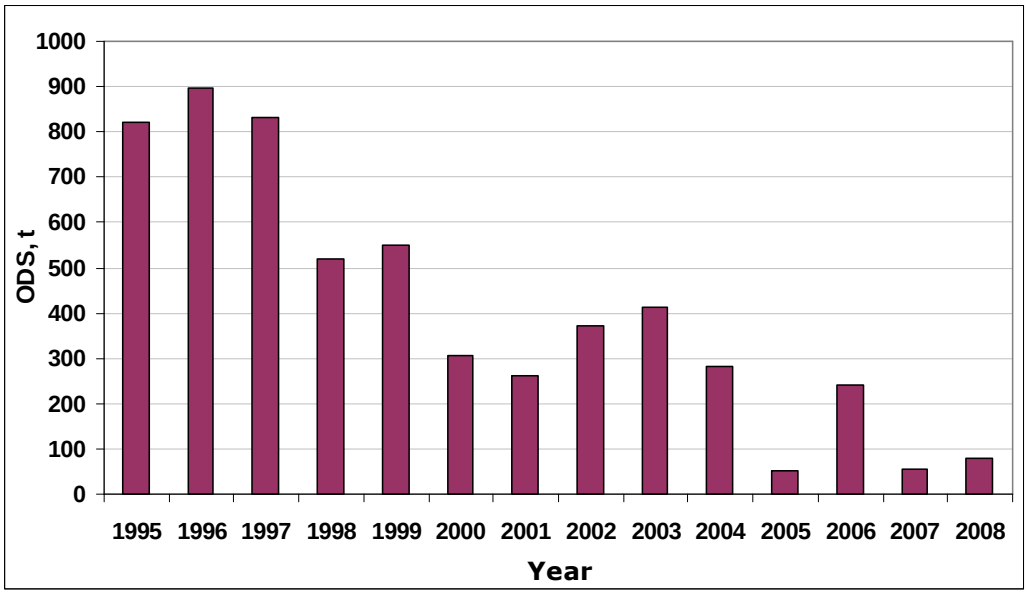

Figure 4. National contribution to solve global ODS problem;
EAA CSI006 - Consumption of ozone-depleting substances

For practical application of new laws it is necessary to adopt adequate by-laws acts on which Ministry of Environment and Spatial Planning intensively works. It is expected that by the end of 2009 several dozens of regulations will be prepered and adopted on which basis new laws will start to apply.