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**NATIONAL REVIEW OF THE APPLICATION OF ENVIRONMENTAL INDICATORS**

Submitted by Montenegro

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**EVALUATION OF FURTHER SIX INDICATORS FROM THE UNECE INDICATOR GUIDELINES**

Indicator	A. Effective inter-agency cooperation mechanisms to produce the indicator	B. Data quality assurance and control procedures for the production of the indicator	C. Publication of the indicator in statistical compendiums and state-of-the-environment reports
<b>Waste generation</b>	Regarding waste statistics, Statistical Office (MONSTAT) collects data both from utilities and from industrial pollutants, on the basis of annual survey. Also recently, since problem of the quality of the dates are recognized as well as need to establish system of reporting that will be in compliance with request of international organizations Working group is establish between Agency for Environmental Protection and MONSTAT in order to develop joint system of data collecting.	....	<b>This indicator hasn't been published yet.</b>
<b>Final waste disposal</b>	Regarding waste statistics, Statistical Office (MONSTAT) collects data both from utilities and from industrial pollutants, on the basis of annual survey. Also recently, since problem of the quality of the dates are recognized as well as need to establish system of reporting that will be in compliance with request of international organizations Working group is establish between Agency for Environmental Protection and MONSTAT in order to develop joint system of data collecting.	....	<b>This indicator hasn't been published yet.</b>
<b>Transboundary movements of hazardous waste</b>	Agency for Environmental Protection is in charge to issue licencies for export and import-export of hazardous waste. In every licence amount of exported or imported-exported waste si indicated so statistical data regarding this indicators are collected by the Agency for Environmental Protection since Agency is establish (2008)	Control of the amount of the exported or imported-exported hazardous waste according to the licencies is done by Castom servicies.	This indicator hasn't been published yet.
<b>Ambient air quality in urban areas</b>	Environmental Protection Agency of Montenegro implements monitoring program on annual basis. Through tender procedures the Agency selects institutions for the the program realization. Since Center for Eco toxicological Researches (CETI) are in charge for the management of stationary stations for the monitoring of air quality they realize measurements stated in the tables.	Institution that are to carry out the monitoring program should ensure quality of data submitted to the Agency.	This indicator hasn't been published yet.

<b>Threatened and protected species</b>	Data for the expression of this indicator doesn't exist since Institute for Nature Protection, who is in charge for development of RED lists of animals and plants and for collection of the data related to the biodiversity in Montenegro, hasn't developed yet red lists and hasn't organized monitoring system on the way that is in compliance for expression of this indicator.	....	....
<b>Trends in the number and distribution of selected species</b>	Data for the expression of this indicator doesn't exist since Institute for Nature Protection, who is in charge for development of RED lists of animals and plants and for collection of the data related to the biodiversity in Montenegro, hasn't developed yet red lists and hasn't organized monitoring system on the way that is in compliance for expression of this indicator.	....	....

Question A.	Effective inter-agency cooperation mechanisms to produce the indicator
<p><i>Please describe cooperation arrangements, if any, which have been established in your country to collect the necessary data for the indicator. These may involve statistical agencies, ministries of water management, agriculture, transport, interior, environment, economic development and energy, hydro-meteorological services and agencies on geology, as appropriate. The description should cover problems met, solutions found and possible further steps envisaged or needed.</i></p>	

Question B.	Data quality assurance and control procedures for the production of the indicator
<p><i>Please describe data quality assurance and control procedures for the production of the indicator. The description should cover problems met, solutions found and possible further steps envisaged or needed. References should be made to any international methodologies and guidelines that are followed to ensure data quality and control.</i></p>	

Question C.	Publication of the indicator in statistical compendiums and state-of-the-environment reports
<p><i>Please present the evidence of the indicator publication in statistical compendiums and state-of-the-environment reports (titles, names of the publishing houses, cities and years of the publications, languages, number of copies published, Internet addresses, and whether time-series data was published on the indicator.</i></p>	

The description of the indicators is available online at: [www.unec.org/env/documents/2007/ece/ece.belgrade.conf.2007.inf.6.e.pdf](http://www.unec.org/env/documents/2007/ece/ece.belgrade.conf.2007.inf.6.e.pdf)

Time series data on the indicators for 1990-2010, Table 1. Waste generation

	Unit	1990	1996	1999	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Waste generation by source</b>														
Agriculture, forestry and fishing (ISIC 01-03)	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mining and quarrying (ISIC 05-09)	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Manufacturing (ISIC 10 - 33)	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Electricity, gas, steam and air conditioning supply (ISIC 35)	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Construction (ISIC 41 - 43)	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other economic activities excluding ISIC 38	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Municipal waste	1000 t/ year	n.a.	414.684	839.073	n.a.	677.71	n.a.	n.a.	n.a.	336.461	518.169	382.029	464.62	n.a.
Of which from households	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total waste generation (5 + 6 + 7 + 8 + 9 + 10 + 11)	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which hazardous waste	1000t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Waste generation by destination</b>														
Population of the country	Million	612.738	642.89	654.54	614.791	617.085	618.233	622.118	623.277	624.24	626.188	628.804	631.536	618.757
Municipal waste per capita (11/16 x 1000)	kg/capita	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
GDP constant prices (2005)	USD million	n.a.	n.a.	n.a.	1.077.420	1.319.768	1.394.126	1.576.967	1.739.590	1.970.474	2.378.036	2.866.025	2.911.070	3.054.410
Industrial (manufacturing) waste per unit GDP (7/18)	kg/ 1000 USD	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Total waste per unit of GDP (13/18)</b>	<b>kg/ 1000 USD</b>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hazardous waste per unit of GDP (14/18)	kg/1000 USD	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Notes: Data on municipal waste are given in tons.1996- The estimated population at mid-year is calculated on the basis Census 1991. 2010-The estimated population is calculated based on the concept of the permanent population from the Census 2011. GDP constant prices (the prices of the previous year). Data are given in thousands of euros.

This table asks for data on the total amount of waste (both non-hazardous and hazardous), generated by various economic activities and by households. The breakdown follows the International Standard Industrial Classification of all Economic Activities (ISIC Rev.4).

(URL: <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27>).

The table refers to all primary waste originating from the mentioned sectors including waste for recovery and recycling, but excluding direct internal recycling and re-use. Waste from secondary sources should be excluded.

The amount reported under 'Total waste generation' should be equal to the sum of the waste amounts reported under the various economic activities and household waste. Waste generated by an economic activity includes all kinds of waste generated by economic units within this activity. If data are not collected according to ISIC, please provide data for household waste generation (line 11) and total waste generation (line 13). If data do not cover all waste sources, please leave the total waste generation cell blank (line 13 8). Waste generated by ISIC 38 (waste collection, treatment and disposal activities; and materials

recovery) is from secondary sources, i.e., residual materials from recovery and disposal operations such as incineration and composting residues. To avoid double counting, waste generated by ISIC 38 should be excluded from this table.

Separately, the table describes the total amount of hazardous waste generated during the individual year.

If the requested data are not available, please leave the cell blank. If the requested variable is not applicable (the phenomenon is not relevant) to the country or the value is less than half the unit of measurement, the cell should be filled with "0".

Definitions are presented in sheet t1a. In case your country applies other definitions than those presented in sheet t1a, specify, please.

## List of definitions

**Waste:** Materials that are not prime products (i.e., products produced for the market) for which the generator has no further use for his own purpose of production, transformation or consumption, and which he discards, or intends or is required to discard.

It excludes material directly recycled or reused at the place of generation (i.e., establishment) and waste materials that are directly discharged into ambient water or air as wastewater or air pollution.

(Waste from) **Agriculture, forestry and fishing:** All waste from agricultural, forestry and fishing activities. Manure used as fertilizer is excluded (i.e., only excess manure which is disposed of should be included). This category refers to ISIC divisions 01 to 03.

(Waste from) **Manufacturing:** All waste from manufacturing activities. This category refers to ISIC divisions 10 to 33.

(Waste from) **Electricity, gas, steam and air conditioning supply:** All waste from electricity, gas, steam and air conditioning supply. Waste from the production of nuclear energy should be excluded. This category refers to ISIC division 35.

(Waste from) **Construction:** All waste from construction activities. This category refers to waste generated in ISIC division 41 to 43.

(Waste from) **Other economic activities excluding ISIC 38:** All waste from all other economic activities not specified before and excluding ISIC division 38. This category refers to waste generated in ISIC divisions 36, 37, 39, and ISIC 45 to 99.

**Municipal waste:** Municipal waste, collected by or on behalf of municipalities, by public or private enterprises, includes waste originating from: households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings). It also includes bulky waste (e.g., white goods, old furniture, mattresses) and waste from selected municipal services, e.g., waste from park and garden maintenance, waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste), if managed as waste. The definition excludes waste from municipal sewage network and treatment, municipal construction and demolition waste.

(Waste from) **Households:** Waste material usually generated in the normal functioning of households.

**Hazardous waste:** Hazardous waste refers to the categories of waste to be controlled according to the Basel Convention on the control of transboundary movements of hazardous waste and their disposal (Article 1 and Annex I).

**Management of waste:** Collection, transport, treatment and disposal of waste, including after-care of disposal sites.

**Recycling:** Any reprocessing of waste material in a production process that diverts it from the waste stream, except reuse as fuel. Both reprocessing as the same type of product, and for different purposes should be included. Recycling within industrial plants i.e., at the place of generation should be excluded.

**Composting:** A biological process that submits biodegradable waste to anaerobic or aerobic decomposition, and that results in a product that is recovered and can be used to increase soil fertility.

**Incineration:** The controlled combustion of waste with or without energy recovery.

**Landfilling:** Final placement of waste into or onto the land in a controlled or uncontrolled way. The definition covers both landfilling in internal sites (i.e., where a generator of waste is carrying out its own waste disposal at the place of generation) and in external sites.

**Controlled landfilling:** Final placement of waste into or onto the land in a controlled landfill site.

**Other waste treatment:** Any final treatment or disposal different from recycling, incineration and landfilling. Physical/chemical treatment, biological treatment, releasing into water bodies and permanent storage are included here.

**Non hazardous industrial waste:** Manufacturing waste (ISIC 10 - 33) excluding hazardous waste

**Time series data on the indicators for 1990-2010, Table 2a. Final waste disposal: Management of municipal waste**

	Unit	1990	1996	1999	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Municipal waste</b>														
Municipal waste collected	1000 t/ year	n.a.	414.684	839.073	n.a.	677.71	n.a.	n.a.	n.a.	336.461	518.169	382.029	464.62	n.a.
Municipal waste managed	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which recycling	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which composting	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which Incineration- without energy recovery	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which Incineration with energy recovery	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which landfilling on a controlled site	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which landfilling on a non- controlled site	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which other disposal (specify in the footnote, please)	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note: Definitions are presented in sheet t1a. In case different definitions are applied in the country, specify, please. Please explain the category "Other disposal". Please insert any additional information necessary for explanation of figures presented.

Time series data on the indicators for 1990-2010, Table 2b. Final waste disposal: Management of non-hazardous industrial waste

	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Total amount generated</b>	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which recycling	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which composting	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which incineration- without energy recovery	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which incineration with energy recovery	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which landfilling on a controlled site	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which landfilling on a non- controlled site	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which other disposal (specify in the footnote, please)	1000 t/ year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note: Definitions are presented in sheet t1a. In case different definitions are applied in the country, specify, please. Please explain the category "Other disposal". Please insert any additional information necessary for explanation of figures presented.



Time series data on the indicators for 1990-2010, Table 3. Transboundary movements of hazardous waste : Montenegro

	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Import of hazardous waste	1000 t/year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	/	/
Export of hazardous waste	1000 t/year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3.4	8.33
Import - export	1000 t/year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.067	0
Total hazardous waste managed	1000 t/year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which recycling	1000 t/year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3.4	8.33
Of which incineration	1000 t/year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which landfilling	1000 t/year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Of which other disposal (specify in footnote, please)	1000 t/year	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

**Notes:** Import of hazardous waste is not allowed in Montenegro by the Law on Waste Management.

Please use the definition of hazardous waste in accordance with the Basel Convention. If data according to the Basel Convention are not available, amounts can be given according to national or any other international definition, but should be labelled accordingly. Other definitions are presented in sheet t1a. In the case that different definitions are applied in the country, specify, please. Please explain the category "Other disposal". Please insert any additional information necessary for explanation of figures presented.