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## Economic Commission for Europe

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Conference of European Statisticians

### Joint Task Force on Environmental Indicators

#### Fifth session

Geneva, 4–6 July 2012

## Report of the fifth session of the Joint Task Force on Environmental Indicators

### Note by the secretariat

#### *Summary*

Under the revised terms of reference for the Joint Task Force on Environmental Indicators for the period 2011–2012, approved by the Executive Committee of the United Nations Economic Commission for Europe (ECE) in March 2011, the Joint Task Force is mandated to submit reports to the Committee on Environmental Policy and the Conference of European Statisticians on its accomplishments (ECE/CEP/161, annex II).

This document presents the outcomes of the fifth session of the Joint Task Force on Environmental Indicators, which took place from 4 to 6 July 2012 in Geneva. At its session the Task Force: (a) reviewed six indicators of the ECE *Guidelines for the Application of Environmental Indicators in Eastern Europe, the Caucasus and Central Asia* (ECE Guidelines);<sup>1</sup> (b) undertook a third reading of proposed additional indicators on inland water and seawater not covered by the ECE Guidelines; (c) undertook a second reading of proposed additional biodiversity indicators not covered by the ECE Guidelines; and (d) discussed developments and plans for future work on the indicators under a project of the European Community Shared Environmental Information System in the European Neighbourhood countries and the Russian Federation.

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<sup>1</sup> United Nations Publication, Sales No. No. E 07.II.E.9, part one. Available from the ECE website at <http://www.unece.org/env/documents/2007/ece/ece.belgrade.conf.2007.inf.6.e.pdf>.

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## **I. Introduction**

### **A. Background**

1. The fifth session of the Joint Task Force on Environmental Indicators was held in Geneva, Switzerland, from 4 to 6 July 2012.

### **B. Attendance**

2. Environmental experts and statisticians from the following United Nations Economic Commission for Europe (ECE) member States attended the meeting: Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Serbia, Slovenia, Tajikistan, Ukraine and Uzbekistan.

3. A representative of the United Arab Emirates participated under article 11 of the terms of reference of ECE.

4. Representatives of the statistical office of the European Union (Eurostat), the European Environment Agency (EEA) and the United Nations Framework Convention on Climate Change (UNFCCC) also attended the meeting.

5. In addition, representatives of the Interstate Statistical Committee of the Commonwealth of Independent States, the EMEP<sup>2</sup> Centre on Emission Inventories and Projections (CEIP) under the Convention on Long-range Transboundary Air Pollution and the non-governmental organization Zoï Environmental Network attended the meeting.

### **C. Organizational matters**

6. The Joint Task Force adopted the agenda for its fifth session as contained in document ECE/CEP-CES/GE.1/2012/4.<sup>3</sup>

7. The meeting was chaired by Ms. Irina Komosko (Belarus).

8. The Joint Task Force adopted the report of its fourth session, contained in document ECE/CEP-CES/GE.1/2011/4, with the following amendment: in paragraph 26, the second sentence should read: "Not all countries managed to prepare the indicators in the requested unit of measurement and some reported problems in switching from cubic meters into tons."

## **II. Review of the Guidelines for the Application of Environmental Indicators**

9. The Joint Task Force discussed six further indicators from the ECE *Guidelines for the Application of Environmental Indicators in Eastern Europe, the Caucasus and Central*

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<sup>2</sup> The European Monitoring and Evaluation Programme (EMEP) is a cooperative programme for monitoring and evaluation of the long-range transmission of air pollutants in Europe.

<sup>3</sup> Meeting documentation, including national reviews and presentations are available online from <http://www.unece.org/stats/documents/2012.07.environ.html>.

Asia (ECE Guidelines)<sup>4</sup>. The discussion focused on the use of statistical classifications, data collection methods and procedures for the production of the six indicators.

10. Prior to the session, all members of the Joint Task Force from countries of Eastern Europe, the Caucasus, Central Asia and South-Eastern Europe had submitted national reviews on the indicators discussed. The reviews had been prepared on the basis of a questionnaire drafted by the secretariat. The questionnaire included time-series data for the periods 1990, 1995 and 2000–2011. The questionnaire also included an evaluation of the indicators in terms of effective inter-agency cooperation mechanisms, data quality assurance and control procedures for the production of the indicators, publication of the indicators in statistical compendiums and state-of-the-environment reports, usage of the indicator and/or related data at the national level and the main information holders.

## **A. Review of six indicators from the Guidelines**

### **1. Emissions of pollutants into the atmospheric air**

11. A representative of the EMEP CEIP presented the Centre's work on emissions inventories of air pollutants. EMEP CEIP collects information on 21 air pollutants covered by the Convention on Long-range Transboundary Air Pollution (CLRTAP). Emissions sources include anthropogenic activities (combustion of fuels, agricultural activities, mining, industrial processes, leakages from equipment, etc.) and natural emissions (volcano eruptions, forest fires, releases from soil, vegetation, etc.).

12. The speaker noted that national statistical offices play an important role in providing data on emissions. They need to provide the data in the required format and within the established time limits. Countries were advised to first review the existing data before starting to do new inventories. Cooperation between statisticians and inventory compliers is essential. In particular, statisticians need training to be able to provide data in the level of detail required by the different types of models. Although Turkmenistan and Uzbekistan were not parties to CLRTAP, they were also encouraged to send data to EMEP CEIP.

13. In the following discussion, the mechanism for collection of information was further explained. It was clarified that country focal points are coordinating all data collection and estimation at the national level and provide the data to EMEP CEIP. The contact person was usually with the ministry of environment or the national environmental agency. In general, the focal points collect the data from statistical offices. In a number of countries there are also a registry with data collected directly from industry.

14. In response to a question on data availability, it was clarified that relatively reliable information was available on sulphur oxide (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and non-methane volatile organic compounds (NMVOC). Data quality was less good for ammonia (NH<sub>3</sub>), persistent organic pollutants (POPs), particulate matter (PM) and heavy metals (HMs). That was mainly due to specific emission factors and lack of data completeness.

15. It was recommended that countries estimate the emissions themselves, as they knew best the specificities of their own countries. In addition, countries should estimate their own country-specific emission factors, which was normally done by research experts at universities or scientific research institutes, and should report on emissions from all sources, not only from a few. In case countries did not report the emissions, EMEP CEIP

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<sup>4</sup> United Nations Publication, Sales No. No. E 07.II.E.9, part one. Available from the ECE website at <http://www.unece.org/env/documents/2007/ece/ece.belgrade.conf.2007.inf.6.e.pdf>.

would calculate the emissions with default emissions factors; however, that was not recommended and should only be considered as a last resort.

16. A consultant to the secretariat made a presentation on the indicator “emissions of pollutants into the atmospheric air”, elaborating in detail the pollutants and the different sources of emissions. The increasing importance of non-exhaust emissions of PM from mobile sources was specifically mentioned. It was highlighted that during the reporting the data should be presented in absolute values (in volume) and relative values (per capita, per unit of area of the country, per gross domestic product (GDP)).

#### *Summary of national reviews*

17. Presenting a summary of national reviews for the indicator, a consultant to the secretariat noted that data on emissions of certain pollutants into the atmospheric air had been collected from almost all countries since 1990, and in a few countries since 2000 or 2001. All reporting countries, except one, assessed emissions of SO<sub>x</sub>, NO<sub>x</sub>, NMVOCs, CO and NH<sub>3</sub>. Only four countries (Belarus, Serbia, Montenegro and Ukraine) assessed emissions of fine PM. Information on emissions of HMs was received from seven countries. Three countries did not report data on emissions from mobile sources. Information on emissions of pollutants into the air is published regularly in Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Montenegro, the Russian Federation and Ukraine.

18. In the following discussion, it was pointed out that some countries had reported significant changes in trends for certain indicators (e.g., a rise in hydrocarbon emissions in Armenia (37 times in 20 years) and a decrease of 70 percentage points in the share of emissions from stationary sources in Ukraine). Countries mentioned that sometimes jumps in trends had been due to changes in methodologies. The representative of EMEP CEIP noted that in such cases it was necessary to recalculate the indicators according to the new methodology for the previous years in order to avoid breaks in the time series. It was also important to determine and report (along with the data) the reasons for such changes.

19. It was announced that, as part of the European Neighbourhood and Partnership Instrument - Shared Environment Information System ((ENPI-SEIS) project, a Workshop on the *EMEP/EEA Air Pollutant Emission Inventory Guidebook* will be organized in September 2012.

## **2. Greenhouse gas emissions**

20. A representative of the UNFCCC secretariat made a presentation on the indicator “greenhouse gas emissions (GHG)”. Parties to the UNFCCC are required to submit their emission data and national communications. The annual inventory submissions consist of a national inventory report (NIR) and emission data presented in the common reporting format (CRF). The reporting is made by main categories of GHG emissions sources. The CRF is a series of standardized data tables containing mainly numerical information and is submitted electronically. The NIR included a comprehensive description of the methodologies used in compiling the inventory, the data sources, the institutional structures and quality assurance and control procedures.

21. The UNFCCC representative also presented the GHG data interface, which is a simple, powerful and user-friendly online tool designed to provide access to, search and

sort available GHG inventory data submitted by the Parties to the Convention. The data is available online.<sup>5</sup>

22. A consultant to the secretariat provided an overview of the indicator, describing the GHG emissions, their origin, the preparation of the GHG emission inventory, the relevant international legislation, supporting bodies and financial mechanisms and the reporting format for the indicator.

23. The consultant explained that GHGs include direct GHGs (carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O) and fluoroide gases, i.e., hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>)) and indirect GHGs (CO, NO<sub>x</sub>, SO<sub>2</sub> and NMVOC). Other pollutants with an impact on climate include ground-level ozone and aerosols. Each GHG had a different impact on climate in terms of its global warming potential.

#### *Summary of national reviews*

24. Twelve countries had filled in the questionnaire on the indicator, with different levels of detail and coverage. Regular publication of data on GHG emissions is carried out in Armenia, Georgia, Kazakhstan, Montenegro, the Republic of Moldova and the Russian Federation.

25. In the ensuing discussion, the representative of Serbia clarified that Serbia had submitted a first national communication to UNFCCC only for the years 1990 and 1998 and only for CO<sub>2</sub>. Currently, Serbia was preparing a second national communication for the period 2000–2010. Representatives of Kyrgyzstan and Tajikistan informed that their countries had submitted two national communications: in 2003 and in 2008.

### **3. Household water use per capita**

26. A representative of Eurostat presented the data on household water use per capita collected for European Union countries. Some differences between the Organization for Economic Cooperation and Development (OECD)/Eurostat and ECE methodologies were pointed out. For example, the water used by employees of a particular enterprise would be counted by the Joint OECD/Eurostat questionnaire as water used by industry and not by households, as was done according to the ECE Guidelines.

#### *Summary of national reviews*

27. A consultant to the secretariat presented a summary of national reviews on the indicator. Eleven countries had filled in the questionnaire on household water use per capita. In most countries, data had been collected since 1990, in some others since 2000 or later. Three countries had reported only general information on water use in the municipal sector. The countries which had been able to supply the most complete data on household water use over sufficiently long time periods showed water use both through public water supply and through self-supply.

28. In the following discussion, the participants clarified the meaning of and how to calculate/estimate water use by households that were not connected to the centralized water supply system, i.e., that were “self-supplied”. That issue is of importance especially for the countries of Central Asia, where the share of self-supplied households is high. Some countries reported that they had carried out surveys that made it possible to establish a rate of water use in self-supplied households.

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<sup>5</sup> From [http://unfccc.int/ghg\\_data/items/3800.php](http://unfccc.int/ghg_data/items/3800.php).

29. In some conclusions on the session on the per capita household water use indicator, the Joint Task Force recommended that countries use precise and comprehensible definitions and, to the extent possible, the same definitions. The distinction between the terms “water use” and “water consumption” should be clearly made: “water use” refers to water actually used by end users (e.g., households, services, agriculture, industry) within a territory for a specific purpose, such as domestic use, irrigation or industrial processing, whereas “water consumption” includes also evaporation, water incorporation into products and crops or water consumed by people or livestock. “Water supply”, in contrast to “water use”, is defined as the delivery of water to end users, including abstraction for own final use.

#### 4. Water losses

30. A representative of Eurostat made a presentation on the indicator “water losses”. It was noted that the definition used by the Joint OECD/Eurostat questionnaire is more extensive than the one used in the ECE Guidelines. According to the ECE Guidelines, water losses are defined as the quantity and percentage of freshwater lost during transport (owing to leakage and evaporation) between a point of abstraction and a point of use. The Joint OECD/Eurostat questionnaire states that water loss is the volume of water lost during transport through leakage or evaporation, between a point of abstraction and a point of use, but also between a water supplier/distributor and a point of use or between points of use and reuse. The meaning of some other definitions and related terms were also discussed. For example, “water reuse” was defined as treated and purified wastewater for reuse, which might or might not be drinking water. “Recycled water” in that sense was also considered as “reused”; however, within the limits of the industrial installation (e.g., single economic unit). It was specified that data on water losses should include both data on losses from households and from industry.

##### *Summary of national reviews*

31. A consultant to the secretariat presented a summary of national reviews on the indicator “water losses”.

32. Fourteen countries filled in the questionnaire on the indicator. Six of them show calculations of water losses for the period 1990–2011. In some countries estimates of water loss are carried out every three years. Water losses resulting from accidents in the water networks, evaporation or errors in measurement were not reported. Very few countries account for water lost through leakage.

33. In the following discussion, it was pointed out that water losses represented an indication of the efficiency of water use, including the state of water transport systems and the impact on water prices. It was mentioned that countries found it difficult to separate water use between households and industry and to allocate the losses according to types of losses, i.e., due to leakages, accidents, etc.

#### 5. Land uptake

34. A representative of EEA made a presentation on EEA work to develop information on land uptake in Europe. Land management is important with respect to urban development, agriculture, forestry, biodiversity, etc. EEA defines land uptake as a loss of agriculture, forest and other semi-natural and natural land taken by urban and other anthropogenic land development. It includes areas where soil was sealed by construction and urban infrastructure, as well as urban green areas and sport and leisure facilities. According to the data collected by EEA, the main losses due to land uptake are in arable land and permanent crops (46 per cent), pastures (30 per cent), and forests (14 per cent).

35. The EEA representative also informed participants about a database called Corine Land Cover. Corine Land Cover is a compilation of national land cover inventories, which are then integrated into a single land cover map of Europe. The database is based on a standard methodology and nomenclature, which distinguished 44 different types of land cover in five major groups.

36. In the ensuing discussion, it was explained that the main sources of data in the countries are their land registries and land cadastres. EEA assesses trends in changes of land transformation regularly. One method they use is to map the land cover within certain periods and then compare the changes. The last mapping was done in 2006 and currently a 2012 mapping exercise is under way.

#### *Summary of national review*

37. A consultant to the secretariat presented a summary of national reviews on the indicator “land uptake”. Only eight countries filled in the questionnaire. There were difficulties in compiling the data. Many countries have their own classifications on land types and their own methodologies in building a land cadastre. Also, there is no agreed classification on a global level. Data on the indicator is published in only four countries.

38. In the discussion, countries reported problems in defining the scope of the indicator “land uptake”. As a result, several reported data on changes in the area of land transformed during the year, while others reported data on the area of land according to various land types. In most countries the data is collected from administrative sources, and the questionnaire is filled out by the land agencies. It was therefore noted as important that the questionnaire is well-drafted and the definitions are well-developed.

39. The Joint Task Force decided to further develop the indicator. It was agreed that the indicator should cover only the anthropogenic effect of the land uptake.

## **6. Fertilizer consumption**

40. A representative of the Statistical Office of Slovenia made a presentation on the indicator “fertilizer consumption”. In general, “fertilizer consumption” consists of consumption of both mineral and organic fertilizers (i.e., manure). Her presentation focused only on the consumption of mineral fertilizers, which is the one that has an important impact on the environment.

41. Slovenia uses the following data sources to collect data on fertilizers:

(a) *Data on mineral fertilizers and plant nutrients used in enterprises* - collected through annual reports filled in by all enterprises involved in crop production;

(b) *Data on import and sale of mineral fertilizers for crop production and data on plant nutrients in individual mineral fertilizers* - collected via the annual statistical report directly from import enterprises;

(c) *Data on domestic production of mineral fertilizers* - taken from the Manufacturing Statistics Department;

(d) *Data on export of mineral fertilizers* - taken from the External Trade Statistics Department.

42. Based on the data collected, two indicators are produced: (a) total mass of used/available mineral fertilizers for agricultural plant production by type of mineral fertilizer;

and (b) total mass of used/available NPK<sup>6</sup> plant nutrients per hectare of utilized agricultural areas.

43. With regard to a question on data collection on pesticides, the speaker noted that Slovenia currently collects data only on sale of pesticides. By the end of 2014 Slovenia plans to introduce data collection on pesticides use, in response to a new European regulation.

#### *Summary of national reviews*

44. A consultant to the secretariat presented a summary of national reviews on the indicator “fertilizer consumption”.

45. Twelve countries filled in the questionnaire on the indicator. Complete data sets from 1990 to 2011 were available in Belarus, Kyrgyzstan, the Republic of Moldova and the Russian Federation. Data for the period 2000–2011 had been presented by Kazakhstan, Ukraine and Uzbekistan. Data for the past four to six years had been collected in Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia and Serbia.

46. In the discussion that followed, countries noted that it is difficult to separate mineral fertilizers by their usage, i.e., whether used for agriculture or for other purposes. Another challenge is matching the data collected according to the different nomenclatures (national, European, international). Countries shared their experience in data collection on fertilizers with a sample survey. In some countries the data often covered only one or two types of fertilizers and not all of them. The countries noted that the users of their data on fertilizers vary, from ministries of environment, ministries of agriculture and agricultural institutes, to research agencies and universities.

## **B. Conclusion of the Joint Task Force on the revision of the Guidelines for the Application of Environmental Indicators**

47. In conclusion to the discussion on the six indicators from the ECE Guidelines, the Joint Task Force:

(a) Agreed that revision of the ECE Guidelines on the indicators “emission of pollutants into the atmospheric air” and “greenhouse gas emissions” could be useful in order to take into consideration the latest updates, new international commitments and revisions of protocols. That could be done as part of the ENPI-SEIS project on revising the ECE Guidelines;

(b) Recommended that, while revising the indicator “household water use per capita”, a definition be given to the term “related utility needs”;

(c) Agreed to use the word “water use” throughout the description of the “water losses” indicator;

(d) Agreed to develop further the indicator “land uptake”. The indicator should cover the size of the area of the land used by transport infrastructure and urban development and by landfills, waste dumps, tailing pits and refuse heaps in a country at a certain point of time. The indicator should allow estimating trends and changes in the land types;

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<sup>6</sup> NPK rating (or N-P-K) is used to label fertilizer based on the relative content of the chemical elements nitrogen (N), phosphorus (P), and potassium (K) that are commonly used in fertilizers.

(e) Agreed to develop further the indicator “fertilizer consumption”. Inconsistencies should be removed in item (b) “measurement unit” under “general description” and in item (a) “data collection and calculations” under “methodology and guidelines” section.

48. The Joint Task Force invited the secretariat to revise the questionnaire on the six indicators and to circulate it among the members of the Task Force for revising, updating or completing data by interested countries by 15 September 2012.

### **III. Third reading of indicators of inland water and seawater not covered by the Guidelines**

49. A consultant to the secretariat presented an informal note on additional indicators on inland water and seawater not covered by the ECE Guidelines. The revised indicators descriptions were prepared based on the discussions held at the previous session. The Joint Task Force considered the proposal for inclusion of the following additional indicators:

- (a) Total water use;
- (b) Public water supply;
- (c) Connection to public water supply;
- (d) Population connected to wastewater treatment;
- (e) Wastewater treatment facilities;
- (f) Concentration of pollutants in coastal seawater and sediments (except nutrients).

#### **A. Proposed new indicators**

##### **1. Total water use**

50. The proposal defines “total water use” as the use of water from various sources (including seawater) to meet the needs of households, industrial use, irrigation, agricultural water supply, etc. The indicator measures the pressure on the environment in terms of water abstraction from different sources (including recycling and reuse of water, and water losses).

##### **2. Public water supply**

51. The Joint Task Force suggested at its previous session to replace the proposal for the indicator on “water supply industry” with the indicator “public water supply”. The indicator on “water supply industry” includes both self-supplied water and public water supply. Since estimates for self-supplied water are not easily produced, it was agreed first to develop only “public water supply” as an indicator.

52. The proposal defines “public water supply” as the total water supplied by the public water supply industry. The public water supply industry includes a set of activities and facilities ensuring the abstraction, treatment, storage, supply and distribution of water for the population and economic activities. The indicator includes water supplied both to economic activities and households.

### **3. Population connected to public water supply**

53. The indicator “population connected to public water supply” aims to evaluate the degree of water accessibility to meet the needs of the population. The proposal defines “connection to public water supply” as the percentage of the population connected to public water supply. The indicator measures impacts on human health and, in a broader sense, quality of life.

### **4. Population connected to wastewater treatment**

54. The indicator “population connected to wastewater treatment” is calculated as a percentage of the population connected to wastewater treatment facilities (total and broken down by the level of treatment: mechanical (primary) treatment, biological (secondary) treatment, and advanced (tertiary) treatment). It measures the pressure on the environment, especially on water bodies. In addition, the indicator measures impacts on human health and, in a broader sense, quality of life.

55. It was commented that currently data on the indicator are not being collected in some countries. The indicator “polluted (untreated) wastewater” (indicator 16 in the ECE Guidelines) was considered by some countries to be of higher priority than the current indicator, which measures access to wastewater treatment.

### **5. Wastewater treatment facilities**

56. At its fourth session, the Joint Task Force asked for clarification on the definition of the indicator “wastewater treatment facilities”. Comments were received from three countries.

57. The resulting proposal defines the indicator as follows:

(a) Number of wastewater treatment facilities: total and broken down by the level of treatment;

(b) Designed (nominal) capacity and volumes of treated wastewater: total and broken down by the level of treatment (mechanical/primary, biological/secondary and advanced/tertiary), and/or by the type of operator (public, other operators, independent/septic tanks);

(c) Total national waterborne emissions and emissions removed by wastewater treatment facilities.

58. It was agreed that, if available, the data on designed (nominal) capacity should be reported along with data on real (actual) capacity. That would also allow measuring the real efficiency of treatment facilities.

### **6. Concentrations of pollutants in coastal seawater and sediments (except nutrients)**

59. At its fourth session, the Joint Task Force invited countries to provide comments on the indicator “concentration of pollutants in seawater and sediments (except nutrients)”. Based on the comments, the indicator was considered useful for inclusion in the ECE Guidelines. The word “coastal” was added to the name of the indicator.

## **B. Conclusion of the Joint Task Force on new indicators related to inland water and seawater**

60. In concluding the discussion on the proposed new indicators related to water, the Joint Task Force:

(a) Agreed on the text of the indicator “total water use”. The Joint Task Force agreed to use the term “water use” and not “water consumption”. It was agreed to change the phrase “cubic meters per unit of GDP” under “unit of measurement” in the proposal to “cubic meters per unit of GDP in purchasing power parity (PPP)”;

(b) Agreed on the text of the indicator “public water supply”. The Joint Task Force agreed to revise the Russian translation of the “brief definition” to bring it into line with the English text, which read as follows: “Total water supplied by the public water supply industry. The public water supply industry includes a set of activities and facilities ensuring the abstraction, treatment, storage, supply and distribution of water for the population and economic activities”;

(c) Agreed on the text of the indicator “population connected to public water supply”. It was agreed to delete the sentence “In addition, water losses during the distribution should be taken into account” under “data collection and calculations” in the proposal;

(d) Agreed on the text of the indicator “population connected to wastewater treatment”. Four changes to the text were agreed:

(i) The “brief definition” should read: “The percentage of the population connected to sewers, which are in turn connected to wastewater treatment facilities (total and broken down by the level of treatment: mechanical (primary) treatment, biological (secondary) treatment and advanced (tertiary) treatment) out of the total number of the resident population and out of the number of the population connected to a wastewater collecting system (sewage network). The wastewater collecting system (public sewage) may deliver wastewater to treatment plants or may discharge it without treatment to the environment.”;

(ii) The “purpose” should read: “The indicator measures response, and as such, measures impact on human health and, in a broader sense, quality of life.”;

(iii) “Data collection and calculations” should read: “The indicator is calculated as the share of the population connected to sewers, which are in turn connected to wastewater treatment facilities, in total population. Calculations should be carried out both in total and, in the case that relevant data is available, broken down by the levels of treatment (mechanical/primary treatment, biological/secondary treatment, and advanced/tertiary treatment). To avoid double-counting, water subjected to more than one treatment should be reported under the advanced level of treatment. In addition, when relevant data is not available, the indicator could be calculated also as the number of households connected both to water supply and to sewers, which are in turn connected to wastewater treatment facilities, divided by the number of households connected to water supply.”;

(iv) It was agreed to separate the indicator “population connected to wastewater treatment” into two sub-indicators — “population connected to public sewage system” and “population connected to sewers, which are in turn connected to wastewater treatment facilities” — when preparing the questionnaire;

(e) Agreed on text of the indicator “wastewater treatment facilities” with the following amendments:

(i) The “brief definition” should read under item (b): “designed (nominal) capacity and actual volumes of treated wastewater: total and broken down by the level of treatment (mechanical/primary, biological/secondary, and advanced/tertiary), and/or by the type of operator (public, other operators, independent/septic tanks)”.

(ii) The “unit of measurement” should read under item (b): “designed capacity of wastewater treatment facilities and actual volumes of treated wastewater in million cubic meters per year”; and under (c): “amount of pollutants in total national wastewater discharges and amount of pollutants removed at wastewater treatment facilities in thousand tons of BOD<sub>5</sub> per year”;

(f) Agreed on the text of the indicator “concentration of pollutants in seawater and sediments (except nutrients)”.

#### **IV. Second reading of indicators of biodiversity not covered by the Guidelines**

61. The Joint Task Force, at its fourth session, had agreed to continue working on additional biodiversity indicators based on an informal note by the secretariat.

62. A consultant to the secretariat gave an overview of the international state-of-play on biodiversity indicators. The ECE Guidelines currently comprised four biodiversity-related indicators: protected areas; forests and other woodlands; threatened and protected species; and trends in the number and distribution of protected species. The following three indicators were recommended for additional use in the countries of Eastern Europe, the Caucasus, Central Asia and South-Eastern Europe:

(a) Biosphere reserves and wetlands of international importance;

(b) Invasive alien species;

(c) Catches of fish and other aquatic animals, aquatic animal products and aquatic plants.

63. The selected indicators were based on the work of OECD and Eurostat.

##### **A. Proposed new indicators**

###### **1. Biosphere reserves and wetlands of international importance**

64. The indicator “biosphere reserves and wetlands of international importance” measures the state of biodiversity in terms of the number of sites and area (percentage of total area of the country) of internationally recognized biosphere reserves and wetlands and the relative effectiveness of national response measures to maintain national levels and global biodiversity.

65. The indicator presents only those biosphere reserves that are internationally recognized within the framework of the United Nations Educational, Scientific and Cultural Organization Man and the Biosphere (MAB) Programme and those wetlands of international importance that have been designated by the Parties to the 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention).

66. All the countries of Eastern Europe, the Caucasus and Central Asia and South-Eastern Europe (with the exception of one) are Parties to the Ramsar Convention. They had established national focal points and reported to the Ramsar Secretariat on the current status of wetlands.<sup>7</sup>

<sup>7</sup> Lists of all Ramsar wetlands and their area can be found on the website of the Ramsar Convention

## 2. Invasive alien species

67. Invasive species are species that affected the biodiversity already in place. Species could be considered alien if they are introduced by chance or on purpose to the ecosystem. Invasive alien species might cause damage with an economic impact, e.g., on food availability, etc.

68. The indicator comprises two elements: “cumulative number of alien species”, which show trends in species that could potentially become invasive alien species, and “worst invasive alien species threatening biodiversity”, a list of invasive species with demonstrated serious negative impacts.

69. Information on alien invasive species is included in national reports to the United Nations Convention on Biological Diversity secretariat.<sup>8</sup>

70. During the discussion, it was commented that invasive alien species could cover a range of sectors and economic activities related to biological resources that too wide, e.g., comprising agriculture, forestry, fishing, hunting, etc. The content of the indicator should be well determined in order to report on it.

## 3. Catches of fish and other aquatic animals, aquatic animal products and aquatic plants

71. The indicator “catches of fish and other aquatic animals, aquatic animal products and aquatic plants” measures pressure on the aquatic environment and, indirectly, the state of the aquatic environment, i.e., the amount of caught fish, crustaceans, molluscs, whales and seals, the amount of aquatic animal products (i.e., non-viable aquatic animals and products from aquatic animals)<sup>9</sup> and aquatic plants. The indicator includes the total and it is further broken down by type of water (inland waters, sea) and by type of catch (natural waters, artificial breeding). It was noted that databases with relatively comprehensive time series existed in many countries of Eastern Europe, the Caucasus and Central Asia and South-Eastern European countries, especially those with access to the sea.

## B. Conclusion of the Joint Task Force on new indicators related to biodiversity

72. In conclusion to the discussion on the proposed new indicators related to biodiversity, the Joint Task Force:

(a) Agreed on the text of the indicator “biosphere reserves and wetlands of international importance”;

(b) Agreed on the text of the indicator “invasive alien species” with the revised text as follows:

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([http://www.ramsar.org/cda/en/ramsar-documents-list/main/ramsar/1-31-218\\_4000\\_0\\_\\_](http://www.ramsar.org/cda/en/ramsar-documents-list/main/ramsar/1-31-218_4000_0__)). The list of Biosphere Reserves, national contacts and national committees and all other relevant information can be found on the MAB website (<http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/>).

<sup>8</sup> Lists of invasive alien species with their description can be found in the Global Invasive Species Database managed by International Union for Conservation of Nature for each country in Eastern Europe, the Caucasus and Central Asia and South-Eastern Europe (<http://www.issg.org/database/welcome/>).

<sup>9</sup> Definition from the Aquatic Animal Health Code of the World Organisation for Animal Health, available from [http://web.oie.int/eng/normes/fcode/en\\_glossaire.htm](http://web.oie.int/eng/normes/fcode/en_glossaire.htm).

(i) “Brief definition” should read: “The indicator ‘invasive alien species of plants and animals’ comprises two elements: the ‘cumulative number of alien species’, which shows trends in species that can potentially become invasive alien species, and ‘worst invasive alien species threatening biodiversity’, a list of invasive species with demonstrated serious negative impacts.”;

(ii) “Unit of measurement” should read: “Number of the invasive alien species and of the worst invasive alien species with demonstrated serious negative impacts in total and broken down by major ecosystems (terrestrial, freshwater and marine) and selected ‘taxonomic’ groups of plant and animal species.”;

(c) Decided to work further on the development of the indicator “catches of fish and other aquatic animals, aquatic animal products and aquatic plants”. It was agreed to review the indicator from its environmental impact point of view. A clear distinction between the catch of fish and aquatic production (e.g., in fish farms) should be made. The Joint Task Force agreed to consult with experts in their countries and OECD, and to discuss further the relevance of the indicator at its next meeting.

## **V. Discussion of developments and plans for future work on indicators under a project for countries in Eastern Europe and the Caucasus and the Russian Federation**

73. The Deputy Director of EEA, co-Chair of the session on “Discussion of developments and plans for future work on indicators under a project for countries in Eastern Europe, the Caucasus and the Russian Federation”, outlined the main developments under the SEIS project, financed under ENPI.

74. The overall objective of the project, “Towards a Shared Environmental Information System in the European Neighbourhood” (2010–2014) is to promote the protection of the

environment in the countries of the European Neighbourhood Policy area (Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova, Ukraine and Russian Federation).

75. A consultant to the secretariat presented the proposal to develop a core set of indicators from the ECE Guidelines and the Joint Task Force was invited to consider the proposal. The core set of indicators is to be established for regular reporting across the ENPI East countries and the Russian Federation. The indicators have already been reviewed by the Joint Task Force. The selection of indicators takes into account the agreed thematic

priorities for the ENPI-SEIS project, i.e., air pollution and the depletion of the ozone layer,

climate change, waste and water. Biodiversity has been added to the thematic priorities. The selection of the indicators is based on the availability and the quality of the existing data in the ENPI East countries and the Russian Federation.

76. A consultant from Zoï Environmental Network presented the proposal for a feasibility study to help determine the most practical approach to develop a regular data-flow system. The proposal builds on the Joint Task Force work and is based on SEIS principles, also taking into consideration the newly established Working Group on

Information Technology for the ENPI East countries and the Russian Federation within the ENPI-SEIS project.

77. The Joint Task Force agreed on an initial core set of environmental indicators for regular and sustained data-flow reporting, as follows:

- (a) Air pollution and the depletion of the ozone layer:
  - (i) Emissions of SO<sub>2</sub>;
  - (ii) Emissions of NO<sub>x</sub>;
  - (iii) Annual mean concentration of nitrogen dioxide in the capital city;
  - (iv) Aggregated consumption of ozone depleting substances;
- (b) Climate change: emissions of CO<sub>2</sub>;
- (c) Waste: municipal waste generation;
- (d) Water:
  - (i) Biochemical oxygen demand concentration in the major rivers (three sampling points: upstream, downstream, intermediate);
  - (ii) Ammoniacal nitrogen concentration in major rivers (three sampling points: upstream, downstream, intermediate);
  - (iii) Nitrates concentration in major water bodies (lakes, reservoirs);
  - (iv) Total phosphorus concentration in major water bodies (lakes, reservoirs);
- (e) Biodiversity: total territory of protected areas.

78. Members of the Joint Task Force from the ENPI East countries and the Russian Federation agreed to contribute to a feasibility study to help develop regular/sustained data flow for the initial core set of environmental indicators. Members of the Joint Task Force from Central Asia expressed interest in contributing to the feasibility study to be carried out by Zoï Environmental Network on behalf of EEA. The metadata survey questionnaire will be distributed immediately after the meeting for completion by national representatives by 7 September 2012. The results of the analysis of the metadata questionnaires will be submitted to the next meeting of the Joint Task Force. EEA agreed to look at options for supporting members from Central Asian countries in completing the metadata survey and developing regular/sustained data flow for the initial core set of environmental indicators.

## **VI. The way forward**

79. The Joint Task Force will continue to review the ECE Guidelines with the objective of progressively building complete and consistent data on the environment for regular reporting. It was agreed to review at the next Joint Task Force meeting the six indicators from the ECE Guidelines for which data had not yet been provided. Those are: air temperature (No. 4 in the Guidelines); atmospheric precipitation (No. 5); drinking water quality (No. 12); final energy consumption (No. 25); total energy consumption (No. 26) and average age of road motor vehicle fleet (No. 32). In addition, the Joint Task Force will undertake a second reading of proposed additional indicators on agriculture.

80. The Joint Task Force agreed to start preparing after its next meeting a revised text of the ECE Guidelines by introducing previously agreed amendments to the description of individual indicators and making additions to descriptions by providing tables on data and calculations of each indicator, as well as by including additional indicators in the Guidelines, which have been agreed by the Joint Task Force.

## **VII. Other business**

81. A representative of the Statistical Centre of the Abudhabi Emirate from United Arab Emirates made a presentation on environmental statistics in Abudhabi Emirate.

82. The secretariat informed participants about three documents produced on waste statistics as a follow-up to the Joint ECE/Eurostat/EEA Workshop on Waste Statistics, held from 11 to 13 April 2012 in Geneva. The Workshop on Waste Statistics has been the first workshop under the United Nations Development Account project. The next workshop will take place on 29 October 2012, back to back with the sixth meeting of the Joint Task Force. The workshop will take one day and will discuss the work of the national statistical offices and international organizations on measuring sustainable development, as well as the latest international efforts related to the United Nations Conference on Environment and Development (Rio+20 Conference). The third workshop is planned for spring 2013 on the topic of agri-environment statistics, including statistics on pesticides and fertilizers. It could possibly take place in Montenegro.

83. The Joint Task Force thanked donor Governments and EEA for providing travel funds for entitled members of the Joint Task Force.

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