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### Committee on Environmental Policy

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#### Joint Task Force on Environmental Indicators

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Item 3 of the provisional agenda

**Review of selected indicators not covered by the guidelines**

## Indicator of environmental protection expenditures

### Note by the secretariat

#### *Summary*

The present note was prepared following a decision taken by the informal joint meeting on environmental indicators held from 31 August to 2 September 2009 in Geneva (ECE/CEP/2009/9, para.53(d)). It aims to assist the Joint Task Force in its deliberations on the latest developments regarding the production of the indicator on Environmental Protection Expenditure at the international level and presents a proposal for such indicator for consideration by the Joint Task Force. The proposal appears in the format that is used in the Guidelines on the Application of Environmental Indicators in Eastern Europe, Caucasus and Central Asia.

1. In recent years, a large number of studies at the national and international levels have focused on the integration of the environment within existing economic data systems. This note was prepared with the assistance of Ms. Ljubov Gornaja, consultant to the secretariat.

2. The System of Integrated Environmental and Economic Accounting (SEEA) grew out of the environmental accounting movement that followed the 1992 United Nations Conference on Environment and Development; it attempts to account for the environment and natural resources in a way that can be integrated with the System of National Accounts.

3. In 1993, the United Nations published a handbook on SEEA. As a result, several countries and the London Group<sup>1</sup> on environmental accounting, set up in 1994, started experimenting on the compilation of SEEA. The increased discussion of concepts and methods of environmental accounting, together with country experience, has facilitated the convergence of compilation methodologies for selected modules of SEEA. The discussion was concluded in 2002 and a revised handbook was issued in 2003. The revised SEEA is intended for use by both national and international agencies to compile environmental accounts reflecting their information needs and priorities. It deals with all areas of interest relating to environmental accounts and includes a chapter on environmental protection expenditure.

4. In order to meet the need for data generated by the environmental policy defined by the then European Community, the European System for the Collection of Economic Data on the Environment (SERIEE)<sup>2</sup> was developed in 1994. Its main objective is to assess the expenditure made by resident units of the national economy to protect the environment against pollution and other types of degradation.

5. The Classification of Environmental Protection Activities and Expenditure (CEPA) is a generic, multi-purpose, functional categorization of environmental protection activities, products and outlays of expenditure and other transactions. CEPA 2000 is a recognized international standard adopted by the United Nations Statistical Commission and has been fully integrated into the Eurostat SERIEE process, and by extension, into SEEA. Further, it is consistent with the questionnaire produced jointly by the Organisation for Economic Co-operation and Development (OECD) and Eurostat known as the Environmental Protection Expenditure and Revenues Joint Questionnaire.

6. A detailed description of the environmental protection expenditures indicator based on above-mentioned methodologies is provided below.

## Environmental protection expenditures

### A. General description

(a) **Brief definition:** Investment expenditure and current expenditure on environmental protection activities—total sum, investment expenditure, current expenditure, broken down by environmental domains (air/climate, wastewater, waste, soil and groundwater, biodiversity and landscape, and other) and by sectors of the economy (the public sector, the

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<sup>1</sup> The London Group is an informal group of experts from countries and representatives of international organizations, including the United Nations, the World Bank, the Organisation for Economic Co-operation and Development and Eurostat.

<sup>2</sup> The acronym comes from the French, *Système européen de rassemblement d'informations économiques sur l'environnement*.

business sector, households and specialized producers of environmental services); expenditure by environmental domains and by sectors are also grouped according to economic activities as defined by the International Standard Industrial Classification of All Economic Activities (ISIC).

**(b) Unit of measurement:** The national currency and United States dollars in current and constant prices for total environmental protection expenditure, investment expenditure and current expenditure; percentage indicating the shares of particular environmental domains, sectors of the economy or economic activities. For cross-country comparisons, the indicator may also be presented in per capita terms and as a share of gross domestic product expressed as a percentage.

## B. Relevance for environmental policy

**(a) Purpose:** The indicator provides a measure of the response by groups and individuals in society, as well as a measure of government attempts to prevent, compensate, improve or adapt to changes in the state of the environment. Harmonized and comprehensive statistics relating to environmental protection expenditure and sectors funding that expenditure should help improve policymakers' decisions. Measuring the financial burden of environmental protection on economy helps evaluate the influence of environmental protection costs on international competitiveness, the application of the polluter-pays principle, and the cost-effectiveness of environmental control measures. The indicator allows a comparison of the amount of money spent on environmental protection activities by the public and the private sectors.

**(b) Issue:** Environmental protection is now being integrated into all policy fields to ensure sustainable development. All activities inevitably affect the environment to some degree, which means that all economic players have a specific role to play in overall efforts to minimize the negative consequences. These players include government agencies and local authorities, companies involved in industrial or other businesses activities, businesses providing environmental services such as collection and treatment of waste or environmental consultancy, and households as consumers. Much of the impact on the environment is a direct result of the production of goods or services. To encourage businesses to protect the environment, governments can use regulatory measures, levy taxes directly linked to pollution or provide other economic incentives. Environmental protection measures are increasingly being taken on a voluntary basis to meet the expectations of consumers or stakeholders, increase market shares or improve the corporate image. Environmental protection also creates new markets for environmental goods and services, with benefits for exports and employment. Statistics on environmental protection expenditure describe the various economic implications of these efforts.

**(c) International agreements and targets:** None.

## C. Methodology and guidelines

**(a) Data collection and calculations:** The OECD/Eurostat Joint Questionnaire is the main tool used in the international collection of data on environmental protection expenditure.

7. Environmental protection expenditures are only those expenditures whose main purpose is to collect, treat, reduce or eliminate pollutants and pollution or any other type of environmental degradation resulting from a company's operating activity. Environmental purpose criteria should be applied in connection with the function of the implemented measure and only those actions and activities whose primary function is environmental

protection should be included. Expenditures for which the primary function is different–economic, or improvement of working conditions, for example–should be excluded.

8. The scope of environmental protection expenditure is defined according to the Classification of Environmental Protection Activities, which distinguishes nine environmental domains (see below). Each domain can then be further divided into categories and subcategories.

9. Classification of Environmental Protection Activities:

- (a) Protection of ambient air and climate;
- (b) Wastewater management;
- (c) Waste management;
- (d) Protection and remediation of soil, groundwater and surface water;
- (e) Noise and vibration abatement;
- (f) Protection of biodiversity and landscapes;
- (g) Protection against radiation;
- (h) Research and development;
- (i) Other environmental protection activities.

10. The Joint Questionnaire includes economic variables relating to expenditure for own-sector environmental protection activities and to financing of environmental protection in other sectors. The six main variables are investment expenditure, internal current expenditure, receipts from by-products, subsidies and transfers, fees and purchases, and revenues. Payments of environmental taxes–energy, transport, pollution and resources taxes–are excluded from the framework, except for earmarked taxes. Taxes are generally used to raise funds for the government and are not destined for environmental protection, while revenues from earmarked taxes are attributed to environmental objectives. Earmarked taxes are revenues from taxes that are used for environmental purposes. Earmarked taxes are recorded as transfers.

11. A number of key definitions used in the OECD-Eurostat framework are summarized below:

**(i) Abater principle and financing principle**

12. According to the abater principle (EXP I), expenditure includes all expenditure by a particular sector for measures directly carried out by the sector.

13. The financing principle (EXP II) measures how much money a particular sector contributes directly to overall environmental protection activities, wherever they are implemented. This means that the part of EXP I that was directly financed by others through subsidies or revenues received should be deducted, while the part of EXP I in other sectors that a sector finances directly through subsidies or fees paid should be added.

14. The Joint Questionnaire is designed to allow for evaluation of expenditure using both principles for each sector and industry (see table). This distinction makes it possible to aggregate expenditure by different sectors and industries without double counting.<sup>3</sup>

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<sup>3</sup> For example, private-sector expenditure financed with a government subsidy, or a charge paid by the private sector to the public sector

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**Composition of OECD/Eurostat Joint Questionnaire Aggregates**


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Investment expenditure	Purchases of capital expenditure (end-of-pipe and integrated investments) and land acquisition
+ Internal current cost	Intermediate consumption and compensation of employees for environmental protection activities
- Receipts from by-products	Economic benefits linked to environmental protection activities
= EXP I	Expenditure according to the abater principle
+ (-) Transfers paid (received)	Transfers related to environmental protection activities, including earmarked taxes
+ Payments for environmental protection services	Environmental protection services purchased from other units or sectors
- Revenues from environmental protection services	Sales of environmental protection services to other sectors or units
= EXP II	Expenditure according to the financing principle

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**(ii) Sectors**

15. The Joint Questionnaire classifies the economy according to four sectors: the public sector, the business sector, households and specialized producers of environmental services. Specialized producers are divided into public and private specialized producers.

16. The public sector includes central, regional and local governments, authorities, communities and government agencies. Typical activities are regulation, control, research, education and information and other services provided to the community, generally financed from State budgets or funds.

17. The business sector includes all environmental protection activities intended for own use, excluding the public sector and the activities of specialized producers. The total business sector is divided into five subcategories according to ISIC classifications for agriculture, hunting, fishing and forestry; mining and quarrying; total manufacturing, with a more detailed industry breakdown; electricity, gas and water supply; and other business activities.

18. Household environmental protection expenditure under the abater principle should solely include purchases of related and adapted products such as air pollution control devices for motor vehicles and sewage treatment facilities. Household expenditures according to the financing principle include all payments and fees for services purchased from municipalities and public or private specialized producers of environmental protection services. These mainly include payments for the collection and treatment of waste and wastewater.

19. Specialized producers of environmental services include public and private corporations that provide services financed primarily by the users of these services: collection and treatment of sewage; collection and treatment of solid waste; and sanitation, remediation and similar activities.

**(iii) Type of expenditure**

20. The following types of expenditure are defined in the Joint Questionnaire:

- Total investment expenditure includes end-of-pipe investments used to treat pollution that has already been generated and investments in integrated technologies, that is, modifications of production process that reduce the amount of pollution generated;
- Total current expenditure is the sum of internal current expenditure and fees or purchases for environmental protection services. It is expenditure used for the implementation of environmental protection activities, for example, the operation of environmental equipment, measuring and monitoring, environmental management, education and administration;
- Receipts from by-products are the monetary value of any by-products generated by environmental protection activities. These could either be sold and generate revenues, or be used internally and lead to cost reductions. Examples include energy generated or material recovered as a result of waste treatment;
- Subsidies or transfers include all types of transfers, capital and current, used to finance environmental protection activities in other sectors, including transfers to or from other countries, subsidies paid by the public sector and subsidies received by other sectors;
- Revenues from the sales of environmental services are monies received by public sector and specialized producers from the users. This is mainly related to waste collection, waste treatment and sewage treatment.

**(b) Internationally agreed methodologies and standards:** There are two systems at the international level for the recording of environmental protection expenditure: the OECD Environmental Protection Expenditure and Revenue system of collection and the Eurostat SERIEE system.

#### **D. Data sources and reporting**

21. In the countries of Eastern Europe, Caucasus and Central Asia, and of South-Eastern Europe, data collection and reporting at the national level are in place for some of the aspects mentioned above, for example, environmental investments and government environmental protection expenditure. Aggregated data are published in statistical yearbooks in some countries.

22. The indicator of environmental protection expenditure is an indicator used under the UNECE Environmental Performance Reviews Programme to carry out such reviews.

23. The Task Force for the Implementation of the Environmental Action Programme for Eastern Europe, Caucasus and Central Asia (EECCA) countries assists those countries in collecting and disseminating sound and reliable information on environmental protection expenditure. It does so in two ways. First, it assists countries that express an interest in implementing the OECD/Eurostat methodology to monitor environmental protection expenditure. Second, it produces a report on trends in environmental protection expenditure, which presents the most recent data.

24. Every two years Eurostat and OECD collect data on environmental protection expenditure in all economic sectors in more than 30 European and 7 non-European countries. Data on environmental protection expenditure are published in the *OECD Environmental Data Compendium*. Data and indicators are also available from the Eurostat's electronic database on environmental protection expenditure.

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