



## NEWS & NOTES

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### Statistical Implications of the Kyoto Protocol

On 16 February, the Kyoto Protocol finally entered into force. The agreed targets for emissions of greenhouse gases (GHG) are now legally binding for the industrialised countries that have ratified the Protocol, with an overall target for 2012 to reduce emissions of GHG by 5 percent compared to 1990 levels.

The main source of emissions of carbon dioxide (CO<sub>2</sub>), the major GHG, is the burning of fossil fuels, and most countries plan to meet their Kyoto target by reducing emissions from this source, usually by switching to less carbon-intensive fuels or by improving fuel efficiency. Emissions of CO<sub>2</sub> are relatively easy to estimate, provided we have reliable **energy statistics**. There is a fairly straightforward and unambiguous link between quantities of coal, oil and gas burnt and emissions of CO<sub>2</sub>. The energy sector is also an important contributor to methane (CH<sub>4</sub>) emissions, mainly via losses in the natural gas distribution network, and gas escaping during oil and gas exploration and coal mining.

Unfortunately, for many reasons, including privatisation of public utilities and the increasing complexity of energy markets, the quality of energy statistics has deteriorated over recent years, with growing and fluctuating differences between data for total energy supply and for total energy consumption. This, together with rising oil prices and energy demand, justifies giving increased attention now to improving statistics on energy. The Statistical Commission at its thirty-sixth session on 1-4 March will discuss the issues facing energy statistics, with a view to improving the current situation.

Not all GHG emissions are energy related. One of the main sources of CH<sub>4</sub> is from the breakdown of organic waste in landfill sites. This is one of the easiest sources of emissions to deal with – siphoning off landfill gas not only prevents the escape of CH<sub>4</sub> into the atmosphere, but the gas can also be used as a fuel, thus paying for itself. Improved **waste statistics**, in particular data on the quantities of organic waste in landfill or on the quantities added annually to landfill would allow countries to make more reliable estimates of CH<sub>4</sub> emissions from this source, and raise awareness of the win-win opportunity this can present.

Another source of CH<sub>4</sub> is livestock, mainly cattle and sheep. Estimates of emissions depend on good **statistics on the different livestock species**. N<sub>2</sub>O emissions also depend on livestock numbers, more specifically on the amount of manure they produce, which is closely linked to **statistics on animal feedstuffs**.

Other sources of GHG emissions include **industrial processes** (for example, the manufacture of cement produces large quantities of CO<sub>2</sub>), rice paddies and **changes in land use**. One particular land use, **forestry** can also act as a carbon sink, removing CO<sub>2</sub> from the atmosphere. As the Kyoto target dates approach, these sinks will gain importance, as will the underlying statistics.

Monitoring implementation, as well as the introduction of tradable quotas for GHG emissions in many countries will require solid estimates of emissions. For Joint Implementation and the Clean Development Mechanism to work properly, partner countries need to have confidence in the emissions estimates being used. So there are strong imperatives at industry and national level to improve the quality of the underlying data. Improving statistics takes time and a certain investment, and statisticians need to be prepared if they are to meet these upcoming challenges.

### Report to the Statistical Commission on Environmental Accounting A proposal for the UN technical committee on Environmental Accounting

A proposal for the creation of a Committee on Environmental-Economic Accounting will be submitted for endorsement at the Statistical Commission at its thirty-sixth session (New York 1-4 March 2005). This proposal was discussed at a meeting organized by the United Nations Environment Programme (UNEP) and the United Nations Statistics Division (UNSD) and hosted by the European Environment Agency in September 2004. The meeting brought together representatives from countries at different stages of implementation of environmental accounting from different regions of the world, as well as international organizations. During the meeting countries reaffirmed that environmental-economic accounting is high on their agenda and pointed out that the creation of a Committee on Environmental-Economic Accounting was the way forward to mainstream environmental accounting and related statistics and to raise the profile of the accounts as the tool to measure sustainability of growth and development. Countries clearly expressed the need for promoting integrated economic and environmental information systems as opposed to indicators' lists in order to meet the increasing users' demand for conducting integrated economic and environmental policies. They reiterated that environmental-economic accounting would provide the necessary framework for analyzing the impact of economic growth on long-term sustainable development.

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In response to these requests, UNSD has prepared a strategic plan to integrate environment accounting and related statistics in a common framework. The vision of UNSD is to mainstream environment accounting to make it a policy-relevant framework and better meet users' demand. The report on environmental-economic accounting to the Statistical Commission summarizes the discussion at the meeting in Copenhagen and outlines UNSD's strategic response to countries' request to support the establishment of the Committee on Environmental-Economic Accounting.

At the meeting, the following five broad areas of work for the proposed Committee were identified by participants.

**Coordination.** It was recognized that there exists a void in terms of overall coordination of activities in environmental-economic accounting, in particular among agencies active in the environmental field. Participants recommended that the proposed Committee play a major role in coordinating activities in environmental-economic accounting. In response to these demands, UNSD would undertake a worldwide scope and compliance assessment of the current data collection methods being used in countries and current practices in the compilation of environmental-economic accounting. Over time, UNSD would also develop a reference web site containing information of ongoing data collection activities, an electronic archive of past and recent case studies in environmental accounts, training material in environment statistics and accounting, information on ongoing country projects and a roster of experts.

**Promotion of the accounts to the user's community.** Participants in the meeting suggested that the proposed Committee play an active role in raising awareness of the potential uses of a well defined internationally endorsed accounting framework that allowed integrating environmental perspectives within economic policies, including income distribution and poverty, international trade, employment, investment, wealth and fiscal policies.

**Methodology.** Countries acknowledged that although the publication of the Handbook of National Accounting: Integrated Environmental and Economic Accounting (SEEA

2003) was a major step forward towards the harmonization of concepts and practices in the implementation of environmental-economic accounting, a lot of work was needed to bring SEEA to the level of an internationally adopted standard. They suggested that the Committee would identify a research agenda to harmonize current practices in areas in which the methodology was already well advanced and to develop best practices in more experimental and high demand areas.

**Technical cooperation.** As countries had already and would be in increasing numbers requesting technical assistance in the implementation of the accounts, the proposed Committee should coordinate activities in this area as well as the development of training materials as well as foster exchanges of best practices.

**Harmonization of data.** A major constraint to the implementation of the accounts is the availability of data. Data are often produced by different agencies and are not always available and suited to be used as such in an accounting framework. Participants emphasized the importance of bringing environment statistics and environmental accounting closer, and urged the proposed Committee to coordinate its activities with other formal bodies dealing with environment statistics, such as the Intersecretariat Working Group on Environment Statistics. UNSD is working towards the harmonization of relevant environmental data-collection activities with concepts and definitions of environmental accounts. Such harmonization would result in substantial benefits in the quality of the data because it would introduce consistency checks to the environmental data and would also provide additional analytical value.

Should the Statistical Commission endorse the creation of such Committee and UNSD's strategic plan, a first meeting of the UN Committee would then be organized in May 2005 to discuss the terms of reference of the Committee and identify a research agenda.

The detailed report to the Statistical Commission as well as documents relevant to the meeting in Copenhagen can be found on the UNSD website at <http://unstats.un.org/unsd/default.htm>.

## UNSD NEWS

### The 2004 data collection on environment statistics

2004 was the year for the biennial data collection. The UNSD questionnaire, covering the areas air, water, waste and land, was sent out in March to more than 150 countries and territories, for the first time jointly with UNEP. The UNSD questionnaire is less demanding in detail but for a core set of variables compatible with the OECD/Eurostat questionnaire, which was sent in the same year to the OECD and EU member and candidate countries.

Responses are still arriving from countries: so far UNSD has received 60 questionnaires with data and more than 20 countries indicated that they are still working on their submissions. Response rates vary strongly by region. The best response rates were from Latin America and the Caribbean, and (Eastern) Europe, where UN-ECLAC, UNEP, UNSD and UN-ECE launched initiatives on environmental data, statistics and indicators. Africa, West Asia and Asia and the Pacific show low

response rates. Compared to the previous data collection, responses have significantly increased from Latin America.

These numbers give a fairly optimistic picture of the situation, since they only indicate how many countries have replied (will reply) to the questionnaire. However, most countries have only scattered data and are able to reply only on a limited number of variables.

Considerable efforts in capacity building are needed to improve the situation in countries. UNSD's recent and planned activities contribute to this process in a systematic manner and strengthened collaboration with other international organizations and agencies is expected to help in making more efficient use of resources.

UNSD thank all responding countries for their important efforts. All validated data will be made available to other international organisations, in order to allow for optimal use of the collected data. A web site presenting selected data sets is currently in preparation.

**The Second Meeting of the Inter-secretariat Working Group on Environment Statistics (IWG-ENV)** was held on 7 October 2004 in Luxembourg, back-to-back with the Eurostat Plenary Session of the Working Group on Environment Statistics and Environmental Accounting.

The meeting was attended by the representatives of UNSD, Eurostat, OECD, UNEP, FAO and the Secretariat of the World Water Assessment Programme (WWAP). UNECE sent its contribution but was not present at the meeting.

The meeting focused on issues related to the joint work on water statistics: an overview of ongoing work at the international organizations, the status of the water statistics compilation manuals and the preparations for the joint work session on water statistics. Presentations were given on the water related activities of FAO including the AQUASTAT database and by WWAP on the working mechanism of UN Water and the preparations for the second issue of the World Water Development Report, including the selection of indicators to be used in the report and the problems related to data availability. The following discussion focused on the objectives, draft agenda and organizational issues of the planned work session on water statistics.

The meeting considered inputs to a note by the IWG-ENV requested by the 52<sup>nd</sup> plenary session of the Conference of European Statisticians as a follow up to a discussion paper presented by Norway on the better coordination of environment statistics at the national and European level. The note should review overlaps in data collection; identify areas that are not sufficiently covered; increase awareness on how to use environment statistics and look at mechanisms to take into account user requirements.

Participants discussed the possibilities to improve capacity building and training through increased joint efforts at the regional and country level. An overview of the state of the art in the subject areas planned for future joint methodological work (waste statistics, material flow analysis, glossary of environment statistics terms) was made.

The Group will meet again back-to-back with the joint work session on water statistics in June.

#### **UNSD-UNEP collaboration on data collection and capacity building**

2004 was a year of intensified collaboration between UNSD's Environment Statistics Section and UNEP's Division of Early Warning and Assessment (UNEP-DEWA). Main highlights were:

- The launch of the former UNSD questionnaire on environment statistics as a joint UNSD/UNEP questionnaire on environment statistics, which was sent in parallel to the Statistical Offices and to the Environment Ministries;
- The financial and substantive contribution of the UNEP Regional Office of West Asia to the Damascus workshop on environment statistics in April 2004;
- The participation of UNSD in the GEO-4 design meeting and the GEO-4 data meeting in November 2004;
- The collaboration for the ECOWAS workshop on environment statistics in March 2005, for which UNEP will finance the participation of representatives from environmental Ministries.

UNSD presented a document on 'Environment statistics and an assessment of the joint UNSD/UNEP data collection' to the UNEP Governing Council/Global Environmental Ministerial

Forum, which took place from 21 to 25 February 2005 in Nairobi. It is expected that the Council will suggest a closer collaboration between UNEP and UNSD in the area of environmental data.

For 2005, collaboration projects include the manuals for waste and water statistics, the work session on water statistics in Vienna, and the preparation of the indicators and data for the GEO-4 publication. A Memorandum of Understanding will be established to guarantee a longer term collaboration.

#### **Work Session on Water Statistics**

At a time when work is underway on the second World Water Development Report (WWDR-II) and UNEP is planning the fourth Global Environment Outlook (GEO-4), demand for good, reliable water statistics is higher than ever. Unfortunately the demand is greater than the supply, and, with the Commission on Sustainable Development work programme for 2004-2005 also focused on water, sanitation and human settlements, the time is ripe for an in-depth look at the need for water statistics at international level and how best to meet this need.

The Inter-secretariat Working Group on Environment Statistics (IWG-ENV), together with other UN bodies working in the area of water agreed that both these needs should be discussed by a group of experts from developed and developing countries and international organizations at a Work Session on Water Statistics. The Austrian Environment Agency (UBA) has kindly offered to host the Work Session in Vienna, on 20-22 June 2005, and preparations are now well underway.

The specific objectives of the Work Session are:

- (a) to review information needed for water policy and how this demand is met by international water statistics and integrated environmental-economic accounting for water resources; and
- (b) to provide a forum for countries and international organisations to exchange experiences on best practices in the collection, organization and analysis of water statistics.

By involving most of the international organisations that collect and use water data, we hope to be able to identify the core data needs, as well as duplicate and redundant data requests, and to make proposals to harmonise definitions and concepts and to streamline data collection. The experts will look in more detail at the various components of water statistics (such as water resources, water supply and use, wastewater treatment, emissions to water, indicators of water quality, and water prices) and the different practices used in their collection and analysis (such as collecting data from existing sources, organising direct data collection, methods and models developed to estimate needed data, and indicators and other analytical tools).

The Work Session is expected to make recommendations on how to streamline data collection. The discussions and conclusions will also provide input for the planned UNSD Manual on Water Statistics and contribute to the refinement of the questionnaires used in international data collection and compilation.

## **REGIONAL NEWS**

### **CARICOM Regional Statistical Programme: Highlights for Environment Statistics (by Philomen Harrison, Programme Manager, Statistics Programme, CARICOM Secretariat)**

On January 5<sup>th</sup> 2005 the Community Council of Ministers (Council) approved the Regional Statistical Programme to

support the CARICOM Single Market and Economy (CSME) and the Resolution on Statistical Development at the Fifteenth Meeting of Council that was held in Georgetown, Guyana. The objective of the Regional Statistical Programme is to focus on the statistical needs, to establish, monitor and evaluate the CSME, to make available, statistical information for decision making, to monitor the international arrangements and agreements and to provide the inputs into negotiations at the various levels.

Environment statistics is one of the themes incorporated into the statistical work programme for the region. Environmental concerns are of great importance to the CARICOM region given its vulnerability to natural disasters, which often exacerbate socio-economic problems as well environmental health related issues. It is critical therefore for the region to have policies and mechanisms in place to mitigate the loss due to these disasters as well as to address other environmental concerns such as waste management, sustainable tourism, and management of its coastal and marine resources. The instituting of environmental policies and related mechanisms undoubtedly requires data for their preparation as well as to monitor the impacts and outcomes. The incorporation of environment statistics as a theme is to achieve the following objectives

- development of capacity to produce core environmental statistics and indicators to facilitate policy development and responses and to monitor their outcomes;
- establishment of a framework for the collection and compilation of the core environment statistics including related environmental indicators of the Millennium Developmental Goals;
- establishment of a process of coordination of agencies concerned with environmental issues in order to strengthen capacity to produce these statistics and indicators.

The inclusion of environment statistics into the statistical work programme for the CSME was stimulated by the experience of the Project “**Strengthening Capacity in the Compilation of Statistics and Indicators for Conference Follow-up in the CARICOM Region**”, jointly executed by the CARICOM Secretariat and the UNSD in 2000/2002. One of the main outputs of the environmental component of the Project was a regional publication, **The CARICOM Environment in Figures** that was published in 2003, and which is available on the CARICOM Statistics web site. To date the Secretariat is collaborating with UNSD in the efforts to collect data across the region such that duplication is minimized or eliminated through excluding from the coverage of the formats being prepared by the Secretariat for submission to Member States those areas covered at the international level by the UNSD/UNEP questionnaire. The Secretariat hopes to have a workshop tentatively during the period June- September 2005 to bring together those Member States that are making efforts to collect and compile environment statistics. The workshop will discuss the responses obtained to the CARICOM table formats, issues surrounding the sources of environment statistics and country experiences in circumventing difficulties of measurement and compilation. The Secretariat will also attempt to implement a process of exchange visits among Member States to build capacity of Member States that are weak in the area of environment statistics. In addition, the mechanism of inter-agency coordination is also being encouraged at the national level to enable the production of environment statistics in the region.

## **ECOWAS Project**

As part of the UNSD/ECOWAS project “Strengthening Statistical capacity-building in support of the Millennium Development Goals in the region of the Economic Community of West African States”, a Workshop on Environment Statistics will be held in Dakar, Senegal from 28 February to 4 March 2005. The Workshop is being organized by UNSD, in collaboration with the United Nations Environment Programme (UNEP), the Economic Commission for Africa (ECA) and ECOWAS. The main objectives of the workshop are to familiarize participants with concepts and methods of environmental statistics and indicators; provide a forum for exchange of information on the status of national environment statistics; and establish a network of environmental statisticians in the region. The workshop will address concepts and methods of environment statistics, with particular focus on data collection of water, waste, land and air statistics. There will be two participants from each country in the ECOWAS region, one from the national statistical office and the other from the environmental ministry or equivalent institution.

## **MEETINGS**

**9th London Group Meeting on Environmental Accounting** (Copenhagen, Denmark, 22-24 September 2004). The meeting, hosted by Statistics Denmark, reviewed and discussed the future work of the four subgroups established during the meeting in Rome in November 2003. The subgroups are on water accounting, mineral and energy resource accounting, policy uses of environmental accounting and means of introducing social dimension into environmental accounting. The meeting reaffirmed the priority of these areas and also suggested potential new areas of work (such as definition of environmentally-harmful taxes and subsidies, ecosystem functions, and material flow accounts in conjunction with the work that the OECD is currently carrying on in this area). A short summary of the progress made by the subgroups is provided below.

*Subgroup on water accounting:* The London Group acknowledged progress made in the preparation of the handbook on water resource accounting. Several countries expressed interest in joining the subgroup and contributing to the finalization of the handbook. Given the interest in having the handbook completed as soon as possible, it was agreed that the sub-group would meet face-to-face to discuss the complete draft. Based on the contributions by the members of the subgroup, UNSD would prepare a complete draft for discussion at the meeting. The final draft would then be widely circulated to obtain comments from a wider audience.

*Subgroup on mineral and energy accounts:* A questionnaire was sent to countries member of the London Group to make an assessment of the current status of implementation, methods, impediments and dissemination practices in the compilation of subsoil resource accounts. During the meeting classification and methodological issues that need further harmonization were identified for future work. It was suggested to develop practical guidelines for the compilation of these accounts.

*Subgroup on policy uses of environmental accounting:* The need to promote the accounts in the users’ community was reaffirmed during the meeting. Several activities which would bring together users and producers of environmental-economic accounting were proposed. It was recommended that best practices in disseminating the accounts should be developed on

the basis of country experience.

*Subgroup on means of introducing social dimensions into environmental accounting:* Linking environmental accounts to the social aspects of sustainable development is a new area of work. The subgroup focused its efforts in taking stock of countries activities in linking social, environmental and economic information. Given that the London Group mostly focuses on the interaction between the economy and the environment, it was suggested, during the meeting, that the subgroup should reach out to other groups working in particular on social statistics so as to develop synergies with these groups.

There was a general acknowledgement that because of lack of time and resources of the London Group's members to work on issues beyond their regular work programme, the work-plans of the subgroups should not be too ambitious but focus on specific issues.

**Eurostat Joint Meeting of the Working Groups Environment Statistics and Environmental Accounts** (Luxembourg, 4-6 October 2004). The meeting discussed the report of work carried out in 2004 and the work programme for 2005 in the following subject areas: (1) status and results of the OECD-Eurostat Joint Questionnaire, including plans for revisions; (2) state of implementation of the Waste Statistics Regulation;(3); Water statistics; (4) Pesticide statistics; (5) sustainable development and related indicator work; (6) the use of environmental accounts for SD indicators; (7) environmental expenditure and environmental accounts, including the work on NAMEA.

**OECD Working Group on Environmental Information and Outlooks (WGEIO)** (Paris, 13-15 October 2004). The meeting reviewed the status of the 2004-2005 data collection and treatment process, and discussed plans for improving the questionnaires including suggestions for a simplified core version for annual data collection. Progress reports covered update of the OECD key environmental indicators, work on waste prevention indicators, material flows and related indicators, as well as the use of indicators in the country environmental performance reviews. Preparations for the next OECD Environmental Outlook and how the WGEIO could best contribute to this work and possible inputs from the group to the planned Latin-American Conference on Environmental Information were also discussed.

**Study visit on waste statistics** (Luxembourg 3-5, Copenhagen 8-9, November, 2004). Eurostat and EEA hosted a UNSD staff member for a study visit that involved attending a waste subgroup meeting of the Eurostat working group "Statistics of the Environment", consulting and discussing with waste experts at Eurostat, visiting the EEA and its topic centre on waste and material flows (ETC/WMF), and meeting with a waste expert from the Danish Environment Protection Agency. During the visit, issues related to the methodological development and collection of waste statistics were discussed including collaboration between the organizations in this area.

#### **GEO-4 Design meeting and the GEO-4 data meeting**

The **GEO-4 Design meeting** was held from 10 to 12 November 2004 in Nairobi in order to discuss the design of the next Global Environmental Outlook, the UNEP flagship publication on environmental state and prospects. 70 environmental experts and regional representatives participated in the meeting.

The objective was to agree on the structure and the main content of the GEO-4 report, so that a smaller group can start to develop individual chapters or specific aspects. It was decided that the report will have the following chapters: (1) Context (Introduction); (2) State and trends of the environment at global and regional level; (3) Challenges and opportunities: The big picture; (4) The outlook, and (5) Environment for prosperity.

The content of each chapter was discussed in separate group session. Additional group session discussed horizontal themes such as policy issues, scenarios, capacity building, cross-cutting issues, and data portals.

The GEO publication will follow the DPSIR framework (Driving forces - Pressures - State - Impact - Response).

The lack of high quality environmental data was highlighted by many participants, and an active collaboration of UNSD and the statistical network was considered important.

The GEO meeting was followed by a **GEO-4 data meeting**, in which data needs and data availability in relation to the GEO-4 publication were discussed. The meeting took place on November 15<sup>th</sup> and 16<sup>th</sup>, and about 20 data experts were present.

The discussion focused on the UNEP data portal system, which consists of the central GEO data portal in Geneva and regional data portals in the regional offices. The central topic of the meeting was a discussion of the data sources for the GEO portal, on the basis of a data source matrix. UNSD suggested several improvements in the current matrix, especially in view of clearer and better harmonized definitions, and proposed various UNSD data sources including the results of the UNSD/UNEP joint questionnaire.

## **FORTHCOMING MEETINGS**

**The thirty-sixth session of the Statistical Commission** (New York, 1-4 March 2005). Items on the agenda of the Commission related to environment statistics: the Energy Statistics Programme Review, the Report of the Inter-secretariat Working Group on Environment Statistics and the Report of the Secretary-General on Environmental-Economic Accounting. The documents are available at <http://unstats.un.org/unsd/statcom/sc2005.htm>.

**ECOWAS Workshop on Environment Statistics** (Dakar, Senegal, 28 February - 4 March 2005).

**Work Session on Water Statistics** (Vienna, Austria, (20 - 22 June 2005).

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