



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS

ESA/STAT/AC.131
UNCEEA/2/16

**Second Meeting of the UN Committee of Experts on
Environmental-Economic Accounting
New York, 5-6 July 2007
United Nations Secretariat, Conference Room 8**

**Energy statistics, balances and accounts
A perspective from the Oslo Group on Energy Statistics**

Paper prepared by Statistics Norway

(for discussion)

UNCEEA July 5-6 2007.

Statistics Norway

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A perspective from the Oslo Group on Energy Statistics

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This note is based on some strategic reflections we have done in Statistics Norway and the Oslo Group about how we best can solve the task given to us by Statistical Commission, and how to coordinate statistical work with special relevance to energy statistics (incl. basic energy statistics, energy balances, energy accounts and energy supply and use).

The Oslo Group has improvement of official energy statistics as its main task. Energy statistics is also important for the work program of the London Group and the UNCEEA. We should also mention that various other groups among international organizations have energy statistics on their agendas. Through the development of the Oslo Group, the London Group and the UNCEEA we have seen that a central challenge is how we can avoid duplication of work and tedious coordination processes. In this document we aim to clarify the work of the Oslo Group to prevent further misunderstandings.

The Oslo Group on energy statistics would also like to underline to the UNCEEA the importance of a coherent system of energy statistics. It is of the utmost importance that the new and revised UN manuals on energy statistics is designed in such a way that it gives guidelines as to development of national multipurpose systems for energy statistics to address all user needs. It is also important that the SEEA-E, if it is to cover flows of energy, is based on the revised UN manual on energy statistics. If not, we run the risk of producing two “competing” manuals that would move us further away from our common goal of international comparability of energy statistics.

The main objective of the Oslo Group on Energy Statistics

The Oslo Group on Energy statistics was established by the Bureau of the Statistical Commission in 2005 in order to address issues related to energy statistics and contribute to improving international standards and methods for Official Energy Statistics by pooling expertise in the energy community. Based on the mandate for the Oslo Group on Energy statistics, and discussions at its second meeting in Delhi in February 2007, the Oslo Group has formulated its main objective:

“The main objective of the Oslo Group on Energy Statistics is to build a multipurpose and coherent system for official energy statistics to monitor the yearly supply and use of energy in a country, and to address all user needs”.

When designing a system for Official Energy Statistics it is important to have a full scope. By this we mean building a complete system of energy statistics that covers both production and consumption of energy. This means that we should identify a system for the supply and use of energy that takes care of the important user needs. However, we cannot have tailor made statistics for all user needs. The coordination challenge is to combine user needs and optimize a multipurpose system of energy statistics. In order to achieve this we have to focus on the system behind the published tables of energy balances and energy accounts, on what we have chosen to call “the Energy Supply and Use Database”.

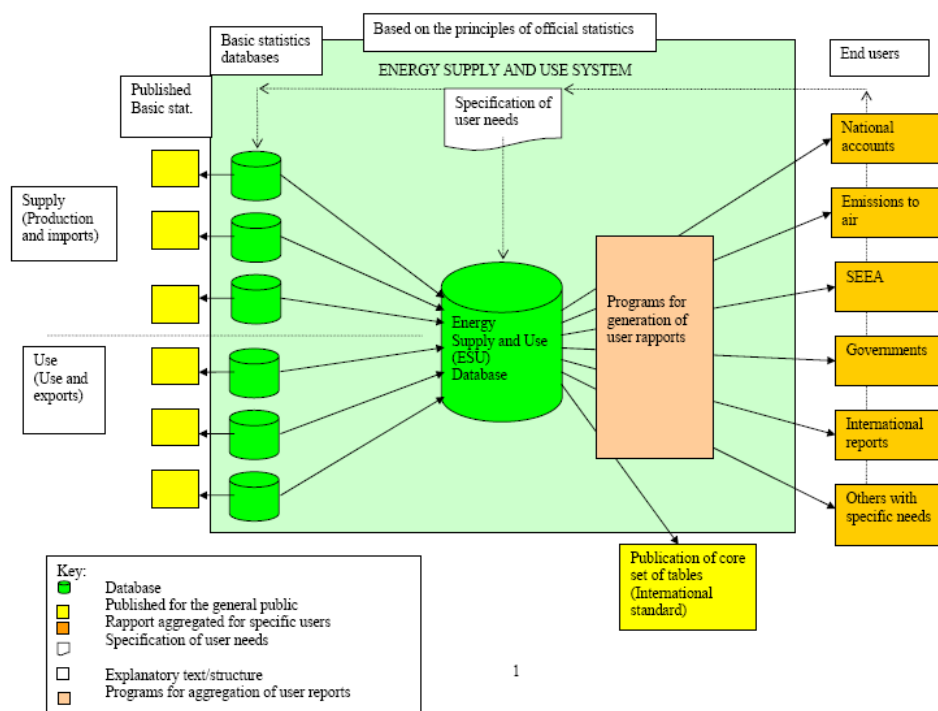
System of Energy Supply and Use

According to its mandate the Oslo Group is to review the UN manuals on energy statistics (see appendix 2) and to define the scope of official energy statistics, focus on user needs, build bridges between statistical systems and recommend a core set of tables. On this background and with these frames for this work, given by the Statistical Commission, the main objective of the Oslo Group on Energy Statistics is, as stated above, to build a multipurpose and coherent system for official energy statistics to monitor the yearly supply and use of energy in a country, and to address all user needs, through the revision of the UN manuals on energy statistics.

Different users have different needs. Today countries publish different statistics to give an overview of the flow of energy in their country. Some publish energy balances, and some publish energy accounts. These two ways of setting up the supply and use of energy in a country is very similar, but does not use the same definitions on some central elements such as how to handle transport, and where the national border for the statistics is. In order to overcome these differences and the users' confusion of the terms balances and accounts, we propose to establish a multipurpose system of Energy Supply and Use which will enable individual user to generate reports based on their needs, together with a standard core set of tables for all countries.

In order to establish this multipurpose system, we propose to move the focus of the system one step backwards, from the published tables of Energy Balances and Energy Accounts to a database/focus point for Energy Supply and Use (ESU). The aim is that ESU will contain data on a level that enables us to generate different user reports for different user needs (se figure 1).

Figure 1: System of Energy Supply and Use



The whole system of Energy Supply and Use is based on the **principles for official statistics** (part 2 in the mandate). In the principles for official statistics there is a focus on data capture and specifically on avoiding unnecessary response burden. In the Energy Supply and Use System, it is therefore important to secure that data may be used for more than one purpose. For example we should use the same energy data in basic energy statistics as in the computations of emission to air statistics.

User needs' (part 1 in the mandate) is essential in order to construct the system. As illustrated in the figure above, user needs' provide information relevant for the production of both basic energy statistics and the construction of the Energy Supply and Use Database. User needs vary significantly from one user to another, as can be illustrated from the list below showing some important user groups:

- Users interested in energy markets
- Economic statistics for non-energy sector (but users of energy)
- Households as energy users
- National accounts
- Emission statistics (computations)
- Other environment statistics
- National wealth
- Sustainable development indicators
- Governmental use (energy planning)

An example of different user needs can be found in the data needs for the National Accounts and Environment statistics. To some extent there will be overlap between their claims. While National Accounts in principle is in value terms (monetary), it is important to notice that

emissions to air calculations focus on physical units. The characteristics of the fuel (chemical composition, for example the sulphur content) can be important for the estimation of the emissions. Prices are important for National Accounts but will not be used directly in emission calculations. In the National Accounts it will perhaps not be relevant to include flaring (burning of natural gas) at drilling platforms - while this will be relevant for emission statistics. These differences are important to identify. Both concerns should be covered, with the lowest response burden.

It is important that **basic energy statistics** is further developed as official statistics in accordance with the quality claims of official statistics. Good quality of basic statistics is essential in order to produce a good table for energy supply and use in a country. Since energy is a commodity with a lot of special characteristics it is important to identify those basic characteristics that are relevant for statistics. For instance will knowledge about the physical framework and the laws of thermodynamics be important to make good basic energy statistics.

The **Energy Supply and Use Database** will contain information at a level that makes it possible to generate user specified reports, regardless of the definitions or units the user needs data from. Examples of special reports can be energy accounts, energy balances, reports for the joint annual questionnaires for Eurostat/IEA/UNSD, reports for use in emissions to air calculations and reports for ministries for energy planning purposes. It is important to see these user reports as part of the system of energy supply and use. For instance, - when working with energy accounts/balances we have to combine knowledge in basic energy science, with statistics and economics.

In addition to being able to generate user specific reports, a **standard core set of tables** (part 7 of the mandate) will be published, enabling easy comparison across national borders. This standard set of tables will also secure simplified access to energy information for the general public.

Conclusion

The Oslo Group on energy statistics would like to underline to the UNCEEA the importance of a coherent system of energy statistics, which includes basic energy statistics, energy supply and use, energy balances and energy accounts. It is of the utmost importance that the new and revised UN manuals on energy statistics is designed in such a way that it gives guidelines as to development of national multipurpose systems for energy statistics to address all user needs. Hence, it is also important that the SEEA-E, if it is to cover flows of energy, is based on the revised UN manual on energy statistics. If not, we run the risk of producing two “competing” manuals that would move us further away from our common goal of international comparability of energy statistics.

Appendix 1: Mandate for the Oslo Group on Energy Statistics

The Oslo Group on Energy statistics was established by the Bureau of the Statistical Commission and was given this mandate:

To address issues related to energy statistics and contribute to improved international standards and improved methods for Official Energy Statistics by pooling expertise in the energy community.

Actions:

- To identify users' needs
- To define scope of Official Energy Statistics
- To identify and collect national and international best practices
- To review and contribute to the updating of UNSD handbooks and manuals on energy statistics
- To identify gaps in coverage (e.g. fuel types, flows) and to develop methodology to cover gaps
- To adopt link or develop bridges to international standard concepts and classifications in economic/environmental statistics to facilitate the integration and interface of energy statistics with other statistical systems
- To recommend a core set of tables as minimum requirement at national and international level to satisfy major user needs.

Appendix 2: The UN manuals on energy statistics

- Concepts and Methods in Energy Statistics, with Special Reference to Energy Accounts and Balances – A technical Report (UNSD) (1982)
- Energy Statistics: Definitions, Units of Measure and Conversion Factors (UNSD) (1987)
- Energy Statistics – A Manual for Developing Countries (UNSD) (1991)