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Session 2: Updating of UNSD handbooks and manuals on energy statistics

International Recommendations for Energy Statistics (IRES): the revision process, guiding principles, scope and contents

UNSD Report¹

1. The purpose of this report is to outline the UNSD views on the organization of the revision process and preparation of the document *International Recommendations for Energy Statistics* (IRES) as well as on guiding principles, scope and contents of IRES.

I. Background

2. The United Nations Statistical Commission at its 36th Session (1-4 March 2005) discussed a programme review on energy statistics prepared by Statistics Norway². The Commission, during its deliberations, recognized the need for revising the existing international recommendations in this area of energy statistics³.

3. Following the Commission's decision, the Oslo Group on Energy Statistics was established with a mandate to review and contribute to the revision of the United Nations Handbooks and Manuals. In support of this revision process, an Intersecretariat Working Group on Energy Statistics (InterEnerStat) was created with the objective to facilitate the institutional coordination among various organizations active in energy statistics.

4. UNSD is focusing now on the preparation of concrete outputs which would meet the Commission's requirements. In particular, UNSD decided to review and consolidate the revised recommendations on energy statistics and accounts, which merit adoption by the Commission, into two documents, namely the *International Recommendations for Energy Statistics* (IRES) and the *System of Environmental-Economic Accounting for Energy* (SEEA-E).

¹ The report was prepared by the UNSD IRES team in consultation with the UNSD team working on SEEA -E and reflects views of both groups.

² Available at <http://unstats.un.org/unsd/statcom/doc05/2005-3e.pdf>

³ The Commission's actions can be found in the Commission's Report (Chapter III.A) available at <http://unstats.un.org/unsd/statcom/doc05/Report-English.pdf>

5. IRES will focus on a list of data items, concepts, definitions and classifications for energy statistics covering flows and stocks (over- and under-ground) in physical and monetary terms as well as on data sources and compilation strategies, data quality, metadata and dissemination of energy statistics including the core tables. The SEEA-E will provide the international statistical standard for energy accounts consisting of agreed concepts, definitions, classifications and inter-related tables and accounts. IRES and SEEA-E are seen by UNSD as two complementary documents and their preparation will be fully coordinated. While IRES will comply to the extent possible with the SEEA-E conceptual structure and data needs, SEEA-E will develop its accounting standards on the basis of the IRES (e.g., using IRES definitions of data items and classifications of energy products and flows).

6. IRES is to be drafted in close cooperation with the Oslo Group on energy statistics and InterEnerStat and SEEA-E is to be drafted in consultation with the London Group and the Oslo Group under the auspices of the UN Committee of Experts on Environmental- Economic Accounts⁴. Additional guidance on more practical/technical matters (e.g., good practices, country case studies, etc.) to assist countries in implementation of IRES and SEEA-E is to be provided in *Energy Statistics Compilers Manual* (ESCM). ESCM is seen as a compilation guidance and, as such, is not supposed to go through the formal adoption by the Commission. It is foreseen as a ‘live document’ being electronically maintained and periodically updated as needed.

7. This report will elaborate on the IRES but has been prepared taking into account the drafting process of the SEEA-E (see annotated outline and tentative time table in Annex).

II. Organization of the revision process

8. IRES is tentatively scheduled for submission to 41st session of the Statistical Commission (March 2010). To meet this deadline a well organized revision process and firm commitment of all involved parties are required. The Oslo Group, in accordance with its mandate and as the main UNSD partner in the revision process, has prepared a detailed description of the steps to be taken by its members. Taking into consideration the Oslo Group proposal as well as the UNSD practice in the preparation of international standards and recommendations for adoption by the Commission, the UNSD identified key elements (milestones) of the revision process (see para. 9) including establishing an Expert Group on Energy Statistics to review and endorse IRES. After incorporation of the Expert Group the recommendations, IRES will be submitted to the UN Statistical Commission for adoption.

9. Based on these considerations, the following elements of the revision process of IRES are planned:

- i. Preparation of an annotated outline of the IRES and a list of issues for a worldwide consultation [3rd Oslo Group Meeting, February 2007 and the follow up discussion (early March 2008)];
- ii. Worldwide consultation with countries on the outline and list of issues [March-May 2008] (for details see the UNSD report for session 4[a]);

⁴ For details, see http://unstats.un.org/unsd/envaccounting/ceea/meetings/UNCCEEA_2_10.pdf

- iii. International Workshop on Energy Statistics [2nd half of 2008];
 - iv. Preparation of the first version of IRES and its review by the 4th meeting of the Oslo Group [February 2009];
 - v. Worldwide consultation on the provisional draft IRES [May-June 2009];
 - vi. Preparation of the amended draft of IRES, its review and endorsement by the UN Expert Group on Energy Statistics [Q3, 2009]; and
 - vii. Submission of the final draft of IRES to the Statistical Commission for adoption [December 2009].
10. Preparation of the ESCM should be seen as a parallel process as topics which might be treated in IRES in general terms would need further elaboration to assist data compilers. Ideally, ESCM should be issued by the end of 2010.
11. Both the Oslo Group and the InterEnerStat are the key content providers to IRES and ESCM in accordance with the mandates given to them by the Commission. The London Group will be consulted as well. The UNSD role is to coordinate the revision process, to ensure a worldwide consultation, to consolidate and to edit inputs into the successive versions of the draft IRES, submit the final draft of IRES to the Commission, and to coordinate preparation of and publishing of ESCM.

III. Guiding principles for the revision

12. The main objective of IRES along with the SEEA-E is to firmly position energy statistics and accounts within the system of official statistics. This implies adherence to Fundamental Principles of Official Statistics and consistency, as much as possible, with other statistical standards such as the System of National Accounts, the forthcoming System of Environmental-Economic Accounting (SEEA), and standard international classifications (e.g., the International Standard Industrial Classification of All Economic Activities (ISIC), the Central Products Classification (CPC), the Harmonized Commodity Description and Coding System (HS), International Merchandise Trade Statistics: Concepts and Definitions (IMTS)).
13. IRES will be guided, inter alia, by the following principles, which are in line with the accepted practices of updates and revisions of the UN statistical documents:
- (i) the recommendations should be clearly linked to user needs;
 - (ii) it should be conducted in close consultation with both national statistical offices and national agencies currently compiling energy statistics;
 - (iii) the revision should be seen as a part of the effort of promoting an integrated approach towards national statistics which requires, to the extent possible, the use of harmonized concepts, classifications, and standardized data compilation methods in order to achieve maximum efficiency and minimize reporting burden;

- (iv) while providing recommendations on a list of data items and their definitions the care should be taken that (a) needs of major user groups are taken into account to the maximum extent possible, (b) necessary data sources are available to compile such data, (c) collection of such data items do not create significant additional reporting burden, and (d) collection procedures can be implemented by most countries to ensure improved cross-country comparability;
- (v) the revised recommendations may cover any conceptual and policy issue (e.g., institutional arrangements to support compilation of energy statistics as official statistics, data revision and data dissemination policies etc.) important for ensuring that high quality energy statistics is compiled;
- (vi) any topic discussed during the current revision process should be assessed with respect to whether it should be covered (and to what degree) in the future IRES, SEEA or ESCM.

IV. Draft scope and contents of IRES

14. The scope and contents of IRES need further and rather speedy elaboration. The 3rd meeting of the Oslo Group is seen by UNSD as a key event in this process. In the context of the revision process the initial steps to define the scope and contents of IRES include: (i) the internal UNSD discussions to clarify the relationship between IRES and recommendations on energy accounts to be provided in the forthcoming SEEA-E and SEEA, (ii) the conclusions of the Vienna meeting of the Oslo Group, (iii) worldwide consultation with countries on issues relevant for defining scope and content of IRES (March-May 2008) and (iv) conclusions of the Expert Group on Energy Statistics. The scope and contents of IRES will be finalized taking into account the results of a worldwide consultation on the provisional draft of IRES.

15. The point of departure in deliberations on the scope and contents of the forthcoming IRES is the scope and contents of *Concepts and Methods in energy statistics, with special reference to energy accounts and balance; A technical report* (F.29, New York, 1982); *Energy statistics: definitions, units of measure and conversion factors* (F.44., New York, 1987); *Energy statistics: a manual for developing countries* (F.56., New York, 1991) and *Energy Statistics Manual* by IEA/OECD and Eurostat.

16. Those documents considered such topics as the nature of energy statistics and its importance for policy making, the conceptual and methodological issues including basic concepts and definitions of energy products (commodities/sources), energy stocks and flows, units of measurement, relationships with various economic classifications, energy balances (accounts)⁵ and as well as the relationship between energy statistics and other economic statistics including national accounts.

17. An important step forward in defining the scope and contents of IRES was made by the Oslo Group in the preparation of the ‘*Proposal for a detailed disposition of the new manuals*’⁶

⁵ It should be noted that *Concepts and Methods* use terms “balances” and “accounts” interchangeably (see Annex VI, para 1)

⁶ Proposal for a detailed disposition of the new manuals by the Secretariat of the Oslo Group, draft, Oslo, November 2007.

In the UNSD view this document identifies the majority of issues in great detail which have to be researched and covered in IRES and ESCM. Using that proposal, as well as the scope and contents of the draft international recommendations for other areas of basic statistics submitted for adoption by the UN Statistical Commission⁷, UNSD prepared a draft outline of IRES as set out below.

18. In the UNSD view, IRES may be composed of 11 chapters as follows:

- (i) Introduction
- (ii) Scope of Energy Statistics
- (iii) Standard International Energy Classification
- (iv) Units of Measurement and Conversion Factors
- (v) Energy Stocks and Flows
- (vi) Statistics of Energy Supply
- (vii) Statistics of Energy Use
- (viii) Data Sources and Data Compilation Strategies
- (ix) Core Set of Tables
- (x) Data Quality and Metadata
- (xi) Dissemination

⁷ International Recommendation for Industrial Statistics (IRIS), International Recommendation for Distributive Trade Statistics (IRDTS), and International Recommendations for Tourism statistics which are submitted to the UN Statistical Commission (26-29 February, 2008); available at <<http://unstats.un.org/unsd/statcom/sc2008.htm>>

19. The table below provides a brief annotation of the contents of the proposed chapters. The topics/issues bulleted in “A summary...” column are to be seen as indicative. Further considerations on the presentation of the order of Chapters will be taken into account as we go forward.

Chapter	A summary of chapter contents
1. Introduction	(i) an overview of user needs (ii) history of recommendations; (iii) purposes of international recommendations (iv) IRES, energy accounts in SEEA and ESCM ;
2. Scope of Energy Statistics	(i) scope of IRES (ii) reference to the Fundamental principles of official statistics; what it means to be an official statistics; (ii) General description of the ‘energy sector’, ‘transformation sector’, etc. (in terms of ISIC)
3. Standard International Energy Classification	(i) definitions of energy products; (ii) standard international energy classification; (iii) links with HS, CPC and SITC; (iv) review by the UNEG on Classifications
4. Units of Measurement and Conversion Factors	(i) standard (physical) units of measurement; (ii) conversion factors
5. Energy Stocks and Flows	(i) energy stocks (inventories, subsoil assets) and flows (definitions/classification) – both in traditional (physical movements/national territory) and in the SNA sense (resident/non resident; change of ownership etc.); (ii) relationship between these two sets of definitions; (iii) principles of valuation of stocks and flows (following SNA/IRIS);
6. Statistics of Energy Supply	(i) details on boundary of the energy sector; (ii) statistical units, their characteristics; (iii) data items and their definitions (iv) key indicators on energy sector [?]
7. Statistics of Energy Use	(i) classification of energy users (ISIC, households); (ii) statistical units, their characteristics; (iii) data items and their definitions (iv) key indicators on energy use [?]
8. Data Sources and Data Compilation Strategies	(i) data sources (administrative data, statistical surveys etc.); (ii) data compilation strategies/methods; (iii) supply and use database; (iv) institutional arrangements
9. Core Set of Tables	(i) a core set of tables as minimum requirements at the national and international level to satisfy the major users’ needs (e.g. SNA, SEEA, emission inventories etc.); (ii) recommendations on compilation of the core tables
10. Data Quality and Metadata	(i) dimensions and indicators of data quality; reporting on data quality (ii) recommendations on metadata
11. Dissemination	(i) data dissemination policy (confidentiality, release schedule, etc.); (ii) reporting of energy statistics to international/regional organizations and further dissemination of such data

V. Points for discussion

20. The Oslo Group is invited to express their views on:
- (i) Organisation of the revision process of international recommendations for energy statistics;
 - (ii) Proposed scope, structure and outline of chapter contents;
 - (iii) Feasibility of the proposed timetable.

Annex

Draft outline of SEEA-E presented by UNSD to the Second Meeting of UNCEEA

The proposed outline of the SEEA-E consists of the following chapters:

Chapter 1: Introduction. This chapter will introduce the objectives of the SEEA-E, describe the target audience, present the relevance of energy accounts for policy-making including climate change and sustainable development policies, and describe the structure of the publication.

Chapter 2: The SEEA-E framework. This chapter will introduce the SEEA-E accounting framework and explain the links to energy balances. Furthermore, it will present the links with relevant international statistical standards including the 1993 System of National Accounts Rev.1, the International Standard Industrial Classification of all Economic Activities (ISIC) Rev.4, the Central Product Classification (CPC) Ver.2, and the revised Balance of Payments Manual.

Chapter 3: Physical asset accounts. This chapter will start with the description of the definitions and classification of energy resources. It will present the links with the United Nations Framework Classification for Fossil Energy and Mineral Resources and the classification of assets of the SNA Rev. 1. It will (a) introduce the basic structure of an asset account; (b) explain and define the asset accounts entries (e.g. stocks of energy resources, discoveries and extraction); and (c) provide recommendations on measurement units and conversion factors. It will present the SEEA-E standard asset accounts and tables populated with a numerical data set.

Chapter 4: Monetary asset accounts. This chapter will introduce basic concepts in the compilation of monetary asset accounts for energy resources. It will further elaborate the methodology presented in the 1993 SNA Rev.1 by providing guidance on the valuation of stocks, the treatment of decommissioning costs, discoveries and the decomposition of the changes in value between the opening and closing stocks. This chapter will present a standard table for the compilation of monetary asset accounts with a numerical example.

Chapter 5: Physical, monetary and hybrid flow accounts. This chapter will present the hybrid flow accounts for energy linking the national accounts with the physical flows in a supply and use table. It will include the classification of energy products and energy

supply and use. It will present the energy balances and discuss the concordance between the energy balances and the energy accounts.

Chapter 6: Air emission accounts. This chapter will introduce the accounts for air emission related to energy use. It will include basic concepts, definitions and classifications for emission accounts.

Chapter 7: Applications of SEEA-E. This chapter will cover the applications of energy accounts and tables to obtain a comprehensive set of derived indicators for the measurement of climate change and sustainable development policies.

Annex 1. Standard tables. This annex will present the standard tables which are presented and discussed in chapters 3 to 6. The standard tables constitute the minimum data set that all countries are encouraged to compile.

Annex 2. Classifications. This annex will present the classifications that are relevant for the compilation of energy accounts: in particular the classification of energy assets, the classification of economic activities related to energy, classification of energy products and classifications relevant for the emission accounts.

Annex 3. List of indicators. This annex will present a list of indicators that can be derived from the SEEA-E.

Glossary. An agreed glossary of terms and definitions relevant for SEEA-E will be included.

DRAFT TIME SCHEDULE FOR THE DEVELOPMENT OF SEEA-E

June 2008 – A preliminary draft will be prepared by UNSD for consultation with the London Group and the Oslo Group with the assistance of a consultant;

July-August 2008 – Consultation with the London Group, the Oslo Group and selected experts in energy statistics and accounts;

October 2008 A complete draft will be prepared by UNSD for discussion at an expert group meeting;

End 2008 – A global consultation will take place on the SEEA-E and submitted for recommendation for adoption by the UN Statistical Commission;

2009 - The final draft will be submitted to the UN Statistical Commission for adoption as an international statistical standard upon recommendation by the UNCEEA.

Progress reports will be periodically submitted to the London Group, the Oslo Group and the UNCEEA.