UNITED NATIONS
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION

Worldwide consultation on the International Recommendations for Energy Statistics

Consultation Paper

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Worldwide consultation on the International Recommendations for Energy Statistics

The first stage

The main objective of the first stage of a worldwide consultation is to provide countries with an opportunity to express their views on the intended scope, structure and contents of the future recommendations as identified in the draft outline of *International Recommendation for Energy Statistics* (IRES) contained in Part I of this consultation paper. Countries are invited to review the draft outline of IRES, answer questions contained in Part II of the paper and provide additional comments as necessary.

Part I. International Recommendations for Energy Statistics: Draft outline

Foreword

Acronyms

Acknowledgements

Chapter 1. Introduction

This chapter is intended to formulate the objectives of *International Recommendations for Energy Statistics* (IRES). It will be emphasized that the main objective of IRES is to provide a firm foundation for a long-term development of energy statistics as a part of official statistics based on the *Fundamental Principles of Official Statistics*. The chapter will stress the importance of energy statistics for sound decision- and policy-making, identify needs of the major user groups and describe how they are dealt with in the subsequent chapters. The historical background of IRES will be presented with a special reference to the recent decisions of the United Nations Statistical Commission on updating the UN handbooks on energy statistics, energy balances and accounts. This chapter will also describe the relationship between IRES and the *Energy Statistics Manual* by IEA/Eurostat and the forthcoming United Nations publications, namely *Energy Statistics Compilers Manual* (ESCM) and *System of Environmental-Economic Accounting (SEEA)* which is expected to provide international standards on energy accounting.

Chapter 2. Scope of Energy Statistics

The purpose of this chapter is to define the scope and coverage of energy statistics. The chapter will begin with a broad definition of energy as a physical phenomenon and proceed to its definition in a statistical context, so that the concept of energy content of energy source/carriers is made operational for statistical purposes. The role of laws of thermodynamics in energy statistics will be acknowledged. The chapter will recommend to treat energy statistics as a complete system (a) covering production, import/export, transformation and final use/consumption of energy sources/carriers and (b) describing the main characteristics and activities of the energy sector. The existing differences in terminology currently used in energy statistics and other economic statistics (such as *use* versus *consumption*, *stocks* versus *inventories*) will be recognized with the intention to resolve them and/or clearly define their areas of application. The use of *International Standard Industrial Classification of All Economic Activities, Revision 4* (ISIC Rev 4) as well as of the territory and residence principles and the related definitions of the statistical population will be discussed (e.g., use of the territory principle in energy balances and the residence principle in energy accounts). The chapter will clarify the scope of energy statistics including by defining the economic territory and the production boundary. The detailed definitions of the data items will be provided in chapter 7 after all necessary conceptual/classification issues are dealt with.

Chapter 3. Standard International Energy Classification

This chapter will introduce *Standard International Energy Classification* (SIEC) which is intended to organize the internationally agreed definitions of energy sources/carriers into a hierarchical classification system, which would clearly represent the relationships

between them and provide a coding system for use in data collection and data processing. It is proposed that SIEC will use physical/chemical properties, including energy content, of the energy sources/carriers as an underlying classification criterion. It is also expected that SIEC will provide a clear identification of the energy sources/carriers as primary/secondary and renewable/non-renewable. The chapter will describe the classification scheme of SIEC and its relationships with other international product classifications such as the Harmonized Commodity Description and Coding System 2007 (HS07) and Central Product Classification, Version 2 (CPC, Ver.2). The full text of SIEC will be provided in an Annex. Every effort will be made to ensure that SIEC is ready on time. However, if it will not be possible to finalize it prior to IRES submission to the UN Statistical Commission for adoption, the chapter will limited to description of a list of agreed definitions. SIEC, in such a case, might be issued as a separate publication.

Chapter 4. Units of Measurement and Conversion Factors

This chapter will describe physical units of measurement (SI) for the different products, recommend standard unit of measurement (currently, joule), describe other measurement units (ton of oil equivalent, etc.) and recommend default conversion factors between units in absence of country-, region-, and/or activity-specific conversion factors. The importance of specific conversion factors will be emphasized in this chapter. The factors will be presented in a separate Annex to IRES.

Chapter 5. Flows, Stocks and Related Concepts

The main purpose of this chapter is to provide (a) a clarification of the boundary between flows and stocks, (b) a description of the relationship between stocks and other related concepts (reserves, resources, inventories etc.), (c) a definition of the boundary between energy and non-energy flows, (d) general definitions of particular energy flows such as energy production, transformation, non-energy use, final energy use/consumption, etc. and (e) a description of the differences between flows/stock defined on the basis of territory and residence principles. This chapter will also contain details on classification of the energy sector and energy users (in terms of ISIC, Rev.4 for industries) and households. The recommendations on measurement of flows and stocks in standard units of volume, weight and energy will be given and the issues relevant to a monetary measurement will be introduced and discussed. In general, chapter 5 is intended to provide an overview of the flows from extraction, production to use/consumption in order to facilitate the understanding of data items presented in Chapter 6.

Chapter 6. Statistical Units and Data Items

This chapter will contain recommendations on the statistical units (and their characteristics) for use in data collection from both energy and non-energy sectors. The reference list of data items for collection (together with their definitions) will be provided. The list will cover energy flows and stocks of all energy sources/carriers while the definitions of particular data items will reflect specificity of each source/carrier. Chapter 6 will be more technical than chapters 2 and 5. It will recommend, for instance, from what units (e.g., establishments, enterprises, households) data items are to be collected and what kinds of data items can be collected from each of them. This chapter will provide a basis for the subsequent chapters on data sources and data compilation (chapter 7) as well on construction of energy balances (chapter 8). It is envisaged that the

list of data items and their definitions will focus more on processes/transactions rather then on products since the definitions of energy products will be presented in chapter 3. As chapter 5 will provide general definitions of flows, chapter 6 will explain any possible exceptions and details for specific products to be taken into account in the definition of particular data items.

Chapter 7. Data Sources and Data Compilation Strategies

This chapter will provide an overview of data sources (for example, administrative data, surveys etc.) and data collection/compilation strategies/methods relevant for both supply and use/consumption of energy. The guidance on the compilation of metadata will be provided as well. The importance and principles of effective institutional arrangements would also be emphasized and promoted. The purpose of this chapter is to focus on the main types of data sources and key elements of data compilation strategies such as organization of data collection from the various sources and merging those data. Details on methodology of estimation, imputation and seasonal adjustments are to be deferred to ESCM. The exact boundary between IRES and ESCM in this respect is to be clarified during the IRES drafting process.

Chapter 8. Energy Balances

The objective of this chapter is to describe energy balances and their role in organizing energy statistics in a coherent system. It will contain recommendations on the balances compilation based on concepts, definitions and classifications and data items described in the previous chapters. The chapter is to cover both energy supply and use/consumption. It will highlight importance of energy balances for making informed policy decisions including by the identification of a set of indicators that can be derived from the balances and used for this and other analytical purposes. The forthcoming ESCM will start off where IRES will stop and is intended to provide an overview of good practices in the compilation of energy balances, elaborate selected country cases etc.

Chapter 9. Data Quality

This chapter will describe the main dimensions of energy data quality and to provide recommendations on how to set up a national energy data quality framework, including development and use of indicators of quality and data quality reporting. The importance of metadata availability for ensuring a high quality of energy statistics will be stressed as well.

Chapter 10. Dissemination

This chapter would provide recommendations on energy statistics dissemination mechanisms, addressing data confidentiality, release schedules, core tables, dissemination of metadata and reporting to international/regional organizations.

Chapter 11. Use of Energy Balances in Compilation of Energy Accounts and Other Statistics

The chapter will contain (a) an explanation of the conceptual relationships between basic energy statistics and balances, on one hand, and energy accounts on the other, including a description of how energy might be integrated into the national accounting framework on the basis of the forthcoming international standards on energy accounts which is being developed as a part of the SEEA revision and (b) a description of bridge tables that allow

the compilation of energy accounts from the energy balances. Details on good practices in the compilation of bridge tables are to be elaborated in ESCM. Also, this chapter is to provide examples on the use of basic energy statistics and balances for other purposes (e.g., climate change, including emission calculations, etc.)

Annex

Standard International Energy Classification (SIEC)

The Annex provides a full text of SIEC as well as the correspondence tables between SIEC, HS07 and CPC, Ver.2.

Glossary

Default Conversion Factors

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Bibliography

Part II. Questions

Please send the completed questionnaire to Ms. Ilaria DiMatteo (dimatteo@un.org), Officer in Charge of Energy Statistics Section, by 14 June 2008.

Please provide your contact information:

Name:

Position:

Agency:

E-mail address:

A. Objectives

Question 1. Do you agree that IRES should contain a comprehensive set of recommendations aiming at strengthening energy statistics as a part of official statistics serving multiple data users?

YES ☐

NO ☐

Respondent comments:

Question 2. Do you agree that the recommendations should be flexible enough to ensure their implementation in all countries irrespective of the level of development of their statistical systems? In particular, that the list of data items to be described in IRES should be seen as a reference list from which countries can select the relevant items according to their situation taking into account, for example, identified user needs, resources, priorities and respondent burden?

YES ☐

NO ☐

Respondent comments:

B. Scope

Question 3. Do you agree that IRES should cover all relevant aspects of the statistical process from underlying concepts and classifications to data compilation strategies and data dissemination polices?

YES ☐

NO ☐

Respondent comments:

Question 4. Do you agree that IRES should focus on basis energy statistic and energy balances?

YES ☐

NO ☐

Respondent comments:

C. Structure

The draft structure of IRES and the draft content of its particular chapters are subject to possible changes during the drafting process. However, it is very important to know from the start whether there is a broad endorsement of the IRES draft outline in general and of its particular chapters. In this context we would highly appreciate your answers the question 5.

Question 5 Do you broadly endorse the draft content of:

Chapter 1: **YES** ☐ **NO** ☐

Chapter 2: **YES** ☐ **NO** ☐

Chapter 3: **YES** ☐ **NO** ☐

Chapter 4: **YES** ☐ **NO** ☐

Chapter 5: **YES** ☐ **NO** ☐

Chapter 6: **YES** ☐ **NO** ☐

Chapter 7: **YES** ☐ **NO** ☐

Chapter 8: **YES** ☐ **NO** ☐

Chapter 9: **YES** ☐ **NO** ☐

Chapter 10: **YES** ☐ **NO** ☐

Chapter 11: **YES** ☐ **NO** ☐

Respondent comments:

Question 6. Are there topics that in your view should be addressed in IRES, but are not included in the draft outline? If, Yes, please specify in **Respondent comments**

YES ☐

NO ☐

Respondent comments:

D. Your country involvement

Question 7. Is your agency interested in an active participation in the revision process? If, Yes, please identify in **Respondent comments** the topic(s) on which you would like to provide input.

YES ☐

NO ☐

Respondent comments:

Thank you very much for your answers and comments.