Chapter 1 Introduction

A. Background

1. Due to the critical role energy plays in economic development availability of high quality energy statistics has always been a matter of concern for the international statistical community. The United Nations Statistical Commission (UNSC) has discussed issues relevant to energy statistics as part of economic statistics since its inception. In the aftermath of the energy crisis of the early 1970s the Commission put energy statistics on the agenda as a separate item and requested a special report on energy statistics to be prepared and presented for discussion.

2. Accordingly, the report of the UN Secretary General was prepared and submitted to the Commission at its 19th session (1976)[1]. The Commission welcomed the report and agreed that the development of a system of integrated energy statistics should have a high priority in the Commission's work programme. It agreed on the use of energy balances as the key instrument in the coordination of work on energy statistics and the provision of data in a suitable form for understanding and analysing the functioning of the energy economy and the interrelationships between its constituent elements. The Commission also recommended the preparation of an international classification of energy in order to provide an effective basis for the further development and harmonization of international energy statistics.

3. Following of the Commission's recommendations the United Nations Statistics Division (UNSD) prepared a detailed report on basic concepts and definitions relevant for energy statistics. The Commission at its 20th session (1979) appreciated the report and decided that it should be made available for circulation to national and international statistical offices and other appropriate agencies. In response to this decision, UNSD issued in 1982 *Concepts and methods in energy statistics, with special reference to energy accounts and balances: a technical report* (Series F.29, 1982). At its 24th session (1987), the Commission discussed again the energy statistics and recommended that a handbook on conversion factors and units of measurement for use in energy statistics should be published as well. Implementing this recommendation UNSD issued later in 1987 another technical report entitled *Energy statistics: definitions, units of measure and conversion factors,* (Series F.44, 1987). These two documents have played an important role in developing energy statistics both at the country and international level.

4. As countries were gaining experience with the compilation of energy statistics and various regions developed specific data needs, it became necessary to produce additional guidance. In 1991 UNSD published *Energy statistics: a manual for developing countries* and the International Energy Agency (IEA) and Eurostat published in 2004 *Energy Statistics Manual* to assist OECD and EU member countries in compilation of their joint energy statistics questionnaire. Both

[1] Towards a System of Integrated Energy Statistics. Report by the Secretary General to Nineteenth session of the Statistical Commission (E/CN.3/476), 15 March 1976

Manuals were welcome complements to the earlier UN publications. The IEA/Eurostat manual contains the most recent background information and clarifications of some difficult issues. In particular [**to be further developed**]

5. In view of mounting evidence that energy statistics has some serious shortcomings in terms of data availability and their international comparability, the Commission at its 36th Session (2005) undertook a programme review based on the report prepared by Statistics Norway[2]. The Commission, during its deliberations, recognized the need for developing energy statistics as part of official statistics and for revising of the existing recommendations for energy statistics[3].

6. As a part of its follow-up actions to the Commission's decisions, UNSD convened an Ad-hoc expert group on energy statistics (23-25 May 2005) which recommended that further work on energy statistics should be carried out by two complementary working groups - a city group and an inter-secretariat working group. The city group task was to contribute to the development of the improved methods and international standards for national official energy statistics and the inter-secretariat working group was requested to enhance international coordination, particularly in harmonisation of the definitions of energy products. The detailed terms of reference of both groups were drafted and approved by the Commission's Bureau[4].

7. The Commission at its 37th session (2006) commended the progress made and supported the establishment and mandate of the Oslo Group on Energy Statistics and the Inter-secretariat Working Group on Energy Statistics ISWGES [5] and requested proper coordination mechanisms between them. The present International Recommendations for Energy Statistics are the result of a close cooperation between UNSD, the Oslo Group and ISWGES.

8. *IRES and the System of Environmental-Economic Accounting (SEEA) including the System of Environmental-Economic Accounting for Energy* (SEEA-E). SEEA and SEEA-E are being prepared under the auspices of the UN Committee of Experts on Environmental- Economic Accounts and provide the international statistical standard for environmental and energy accounts consisting of agreed concepts, definitions, classifications and inter-related tables and accounts. IRES and SEEA-E are two complementary documents and their preparation is fully coordinated. While IRES complies to the extent possible with the SEEA-E conceptual structure and data needs, SEEA-E accounting standards were developed on the basis of the IRES (e.g., using IRES definitions of data items and classifications of energy products and flows).

B. Purpose of the international recommendations for energy statistics

[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
[4] See Report of the Secretary-General on Energy Statistics E/CN.3/2006/10

[5] In parallel with this decision by the Commission the IEA was undertaking efforts to create a group consisting of various regional and specialized agencies active in energy statistics. Such a group, known as InterEnerStat, was established in 2005 and acts as ISWGES reporting to the Commission.

9. The main purpose of IRES is to strengthen energy statistics as part of official statistics by providing recommendations on concepts and definitions, classifications, data sources, data compilation methods, institutional arrangements, approaches to data quality assessment, metadata and dissemination policies. Developing energy statistics in compliance with IRES will make these statistics more consistent with other fields of economic statistics such as standard international classifications of activities and products[6] as well as with the recommendations for other economic statistics (e.g., *International Recommendations for Industrial Statistics – 2008).*

10. IRES provides a common, yet flexible, framework for the collection, compilation, analysis and dissemination of energy statistics which are policy relevant, meet the demands of the users community, timely, reliable, and internationally comparable. It is applicable for all countries irrespective of the level of development of their statistical systems.

11. Although there is no internationally accepted definition of the term *official statistics,* it is in a wide use in the statistical community. *The Fundamental Principles of Official Statistics* were adopted at the Special Session of the United Nations Statistical Commission 11-15 April 1994. In international practice, a particular body of statistics is usually referred to as official statistics if it follows *the UN Fundamental Principles of Official Statistics* (see Box 1). One of the key objectives of the Principles is to stress that high quality must be an indispensable feature of official statistics. The quality of energy statistics is covered in Chapter 9. The Chapter builds on the experience of countries and international organizations in this area.

Box 1. The UN Fundamental Principles of Official Statistics.

Principle 1. Official statistics provide an indispensable element in the information system of a democratic society, serving the Government, the economy and the public with data about the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honor citizens' entitlement to public information.

Principle 2. To retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage and presentation of statistical data.

Principle 3. To facilitate a correct interpretation of the data, the statistical agencies are to present information according to scientific standards on the sources, methods and procedures of the statistics.

Principle 4. The statistical agencies are entitled to comment on erroneous interpretation and misuse of statistics.

Principle 5. Data for statistical purposes may be drawn from all types of sources, be they statistical surveys or administrative records. Statistical agencies are to choose the source with regard to quality, timeliness, costs and the burden on respondents.

[6] The International Standard Industrial Classification of All Economic Activities (ISIC), the Central Products Classification (CPC) and the Harmonized Commodity Description and Coding System (HS).

Principle 6. Individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes.

Principle 7. The laws, regulations and measures under which the statistical systems operate are to be made public.

Principle 8. Coordination among statistical agencies within countries is essential to achieve consistency and efficiency in the statistical system.

Principle 9. The use by statistical agencies in each country of international concepts, classifications and methods promotes the consistency and efficiency of statistical systems at all official levels.

Principle 10. Bilateral and multilateral cooperation in statistics contributes to the improvement of systems of official statistics in all countries.

12. *Importance of developing energy statistics as official statistics.* Energy is a necessary input in almost all activities and essential for economic development in countries. Because of the importance of energy, it is imperative that energy statistics are produced in such a way that they are of the highest quality possible. To ensure that such quality is attained, countries are encouraged to take steps to advance from collection of selected data items used primarily for internal purposes by various specialized energy agencies to establishing of an integrated system of multipurpose energy statistics as a part of their official statistics in the context of the UN Fundamental Principles and on the basis of appropriate institutional arrangements.

13. Developing energy statistics as official statistics will be beneficial in a number of ways including (i) strengthening the legal basis in order to guarantee confidentiality of data providers and protection against data misuse (see Chapter 10 for details) and (ii) improving international comparability by promoting the implementation of international standards and concepts.

14. *Actions to be taken to strengthen energy statistics as official statistics.* Developing energy statistics as part of countries official statistics is a long term goal and requires careful preparation and persistence in implementation. Actions leading towards this goal should be taken both at the international and national levels.

15. At the international level the strengthening of official energy statistics would be achieved by the development and adoption of the present international recommendations for energy statistics and carrying out the implementation programme. The implementation programme envisages, for instance, preparation of *Energy Statistics Compilers Manual (ECSM)* and other technical reports to ensure sharing of good practices and improving data quality. **It is recommended that** international organisations play an active role in IRES implementation and assist countries in developing energy statistics work programmes as part of their national official statistics.

16. At the national level further improvements in the legal base and streamlining of the institutional arrangements are needed. Certain issues, like confidentiality, can be a real challenge since there may be a strong tendency towards market concentration on the supply side for specific energy products creating a conflict

between the confidentiality requirement and demand for data. Some guidance in this respect is provided in Chapters 7 and 10.

17. Another set of actions at the national level is required to raise the user confidence in energy statistics, including by making the processes of data compilation and dissemination fully transparent. **It is recommended that** official energy statistics are treated as a public good and the agencies responsible for dissemination of official energy statistics ensure that the public has a convenient access to these statistics (see Chapter 10 on dissemination).

18. *The specific need in the current revision.* The international recommendations for energy statistics were not reviewed as a whole since the 1980s and need to be revised and updated to:

i. Take into account and provide recommendations on statistical treatment of the new developments in energy production, marketing and consumption. Examples include the increased complexity of energy markets (including their liberalization) and appearance of new energy sources and technologies[7]. The existing recommendations focus on traditional energy sources, while IRES takes into consideration new and renewable energy sources and new technologies that have penetrated or are penetrating the market and that were not covered in the previous recommendations;

ii. Provide recommendations on topics not explicitly covered in the existing UN publications such as data compilation strategies, data quality, metadata and data dissemination, as well as the legal and institutional frameworks needed for the effective compilation of official energy statistics;

iii. Provide definitions of data items for collection, identify a range of appropriate data sources and data compilation methods to assist countries in the formulation of their data compilation strategies in the context of the increased complexity of energy markets in rapidly globalizing economies and heightened confidentiality concerns;

iv. Promote an integrated approach to energy statistics, in particular to improve harmonization with other standard international classifications of activities and products and to take into account the new recommendations in the related areas (e.g., the System of Environmental-Economic Accounting for Energy (SEEA-E), the United Nations Framework Classification for Energy and Mineral Resources);

v. Recognize that depending on the country circumstances, the responsibility for official compilation and dissemination of official energy statistics may be vested in deferent national agencies. The agency responsible for official energy statistics should be committed to adhere to the statistical standards of quality;

[7] 1. The energy market is a fast-evolving market. For example, 40 years ago, there was almost no electricity produced from nuclear energy; more recently wind and solar energy have started to draw attention; tomorrow might see a fast development of biofuels and hydrogen. As a consequence, there is an obvious need for statistics and statisticians to follow, if not to anticipate, the fast evolution of the market.

vi. Ensure uniformity in international reporting of energy data required for dealing with global challenges such as climate change and for meeting other international needs including improvement in coverage and quality of the United Nations energy statistics database and energy databases of other international and regional organizations.

C. Users and uses of energy statistics

19. *Energy statistics* is a specialized field of statistics where the scope has been evolving over time and broadly covers (i) production, trade, transformation and final use/consumption of energy products (sources/carriers) and (ii) the main characteristics and activities of the energy sector (see Chapter 2 for details). Energy statistics is seen as a multipurpose body of data. Therefore, successful development of international recommendations for it has to be based on the identification of main user groups and their needs. IRES explicitly recognizes the following such groups.

20. *Energy policy makers* who use energy statistics for formulation of energy strategies and monitoring their implementation. In this context detailed energy statistics are required, *inter alia*, for:

i. *Monitoring of country energy security*. For assessment of national energy security, detailed statistics on energy stocks as well as on energy supply and demand are needed. Data on energy stocks, production and consumption are politically sensitive as problems with energy supply, especially if national energy sources do not meet the energy demand, may be perceived as a threat to national independency. This imposes additional data quality requirements.

ii. *Planning of energy sector development and promotion of energy conserving technological processes.* A basic prerequisite for such strategic planning is the availability of systematic and detailed data covering the range of primary and secondary energy products as well as their flows from production to final consumption. This would allow for evaluation of economic efficiency of various energy production processes and energy use/consumption, and for building econometric models for forecasting and planning future investments in the energy sector and in energy conserving technological processes.

iii. *Environmental policy, especially greenhouse gas emission inventories, and environmental statistics.* A growing concern can be observed for the environmental effects/emissions of greenhouse gases (GHGs) and other pollutants to air from the use of energy – especially from the use of fossil fuels. Enabling energy statistics to meet the demand from environment statistics, especially the emission to air inventories must be one of the top priorities. This is important in order to be able to see energy, climate and economy together within the frame of official statistics as a way to meet the major challenges of our time.

21. *Business community.* Availability of detailed energy statistics is critical for the business community in general and the energy sector in particular for evaluating various business options, assessing opportunities for new investments and monitoring the evolution of the energy market. Basic energy statistics have to be relevant for experts following the energy markets. Data on market changes, deregulations and market efficiency will be demanded. The latter could be a challenge for traditional official statistics. In many countries changes in energy markets and energy prices will have strong effects on the economic situation.

22. *Compilers and users of national accounts*. In most systems of official statistics, the national accounts play a crucial role as they give the national picture of the economic situation and trends, covering all production sectors, including energy, and all uses of goods and services. Basic economic statistics, including energy statistics, are needed to meet the demands of the national accounts as much as possible to provide basis for analysis of economic trends, business cycles etc.

23. *Compilers of the System of Environmental-Economic Accounting for Energy (SEEA-E).* Energy statistics should be collected to meet the requirements of energy accounts to the extent possible as the energy accounts provide additional information relevant to formulation and monitoring of energy policy.

24. *International organizations.* As international organizations were created to monitor various aspects of global energy and environmental status (including climate change), they need energy statistics to carry out their activities. International reporting obligations are an additional important factor which has to be taken into account while developing energy statistics[8] (see Chapter 10 for additional discussion and recommendations).

25. The *general public* benefit from the availability of timely energy statistics to evaluate the energy and environmental situation in order to make more informed decisions **[to be developed further]**.

D. Organization of the revision process and IRES principles and content

26. *The revision process* was discussed and agreed at the 3rd and 4th Oslo Group meetings and included preparation of an annotated outline of the IRES for a worldwide consultation, worldwide consultation with countries and international organizations on the scope and content of IRES, an International Workshop on Energy Statistics to provide an opportunity for developing countries to express their concerns and discuss possible solutions, preparation of the draft recommendations and their review by the 4th and 5th meeting of the Oslo Group, worldwide consultation on the provisional draft IRES as well as review and endorsement of the draft IRES by the UN Expert Group on Energy Statistics. **[to be amended before submission to the UN Statistical Commission]**

[8] The international organizations who are active user of energy statistics include the United Nations Framework Convention on Climate Change (UNFCCC), IPCC, the Convention on Long-Range Trans-boundary Air Pollution (CLRTAP), International reporting agreements with the European Environmental Agency (EEA), Eurostat, OECD **[to be reviewed]**

27. Both the Oslo Group and the InterEnerStat were the key content providers to IRES in accordance with the mandates given to them by the Commission. The London Group was consulted as well. The UNSD played the coordinating role and organized worldwide consultation, consolidating and editing various inputs to the successive versions of the draft IRES.

28. *Guiding principles for the revision.* The Oslo Group agreed that the preparation of IRES will be guided, *inter alia*, by the following principles:

i. needs of major user groups should be considered as a starting point and be taken into account to the maximum extent possible to ensure that the compiled data are policy relevant, meet the needs of the energy community (both producers and users) and provide a solid foundation for integration of energy statistics into a broader accounting framework;

ii. the revision should be conducted in close consultation with both national statistical offices and national energy agencies as well as with the relevant international and supranational organizations;

iii. while providing recommendations on data items and their definitions care should be taken that (a) necessary data sources are available in at least some countries to compile such data, (b) collection of such data items will not create significant additional reporting burden, and (c) collection procedures can be implemented by most countries to ensure improved cross-country comparability;

iv. the revision should be seen in the context of promoting an integrated approach in the national statistical system 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;

v. additional guidance on more practical/technical matters to assist countries in the implementation of IRES should be treated in ESCM. During the revision process, the Oslo Group will decide on what will be covered in ESCM and to what extent.

29. The IRES is structured in accordance with its objectives and the identified key areas where the revised and updated recommendations were needed. It has eleven chapters and [xxx] annexes. The content of particular chapters is briefly described below. **[to be updated to reflect actual chapter contents before finalization]**

30. *Chapter 1. Introduction.* This chapter provides background information and formulates the objectives of the IRES. It is 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 stresses the importance of energy statistics for sound decision- and policy-making, identifies major user groups and their needs, and provides reasons for the current revision of the recommendations. The

relationship between IRES, 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)* are described.

31. *Chapter 2. Scope of Energy Statistics.* The purpose of this chapter is to define the scope and coverage of energy statistics. The chapter begins with a broad definition of energy as a physical phenomenon and proceeds 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 the laws of thermodynamics in energy statistics is acknowledged. The chapter recommends to treat energy statistics as a complete system covering (a) production, import/export, transformation and final use/consumption of energy sources/carriers and (b) 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*) are 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 are discussed (e.g. use of the territory principle in energy balances and the residence principle in energy accounts). The chapter also clarifies the scope of energy statistics by defining the economic territory and the production boundary. The detailed definitions of the data items are provided in chapter 7 after all necessary conceptual/classification issues are dealt with.

32. *Chapter 3. Standard International Energy Classification.* This chapter introduces the *Standard International Energy Classification* (SIEC) which organizes the internationally agreed definitions of energy sources/carriers into a hierarchical classification system, which clearly reflects 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 describes 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 is provided in an Annex.

33. *Chapter 4. Units of Measurement and Conversion Factors.* This chapter describes physical units of measurement (SI) for the different products, recommends standard units of measurement, and recommends default conversion factors between units in the absence of country-, region-, and/or activity-specific conversion factors. The importance of specific conversion factors are emphasized. The factors are presented in a separate Annex to IRES.

34. *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/stocks defined on the basis of territory and residence principles. This chapter also contains details on classifications 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 are 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.

35. *Chapter 6. Statistical Units and Data Items.* This chapter contains 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) is provided. The list covers energy flows and stocks of all energy sources/carriers while the definitions of particular data items reflect specificity of each source/carrier. Chapter 6 is more technical than chapters 2 and 5. It recommends, 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 provides a basis for the subsequent chapters on data sources and data compilation (chapter 7) as well as the construction of energy balances (chapter 8). The list of data items and their definitions focus more on processes/transactions rather then on products since the definitions of energy products are presented in chapter 3. As chapter 5 provides general definitions of flows, chapter 6 explains any possible exceptions and details for specific products to be taken into account in the definition of particular data items.

36. *Chapter 7. Data Sources and Data Compilation Strategies.* This chapter provides 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. Guidance on the compilation of metadata is provided as well. The importance and principles of effective institutional arrangements are also 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 deferred to the ESCM.

37. *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 contains recommendations on the balances compilation based on concepts, definitions, classifications and data items described in the previous chapters. The chapter is to cover both energy supply and use/consumption. It will highlight the importance of energy balances for making informed policy decisions.

38. *Chapter 9. Data Quality.* This chapter describes the main dimensions of energy data quality and provides 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 is stressed as well.

39. *Chapter 10. Dissemination.* This chapter formulates recommendations on energy statistics dissemination mechanisms, addressing data confidentiality, release schedules, core tables, dissemination of metadata and reporting to international/regional organizations.

40. *Chapter 11. Use of Energy Balances in Compilation of Energy Accounts and Other Statistics.* This chapter contains (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 describes the use of basic energy statistics and balances for other purposes (e.g., climate change, including emission calculations, etc.)

41. IRES will contain two Annexes which provide (i) a full text of SIEC as well as the correspondence tables between SIEC, HS07 and CPC, Ver.2., Glossary, Default Conversion Factors, Index and Bibliography, and (ii) default conversion factors between units in absence of country-, region-, and/or activity-specific conversion factors.

E. Implementation and revision policy

42. It is recognized that the present recommendations are not intended to be prescriptive and should be implemented by countries in a way appropriate to their own circumstances, including identified user needs, resources, priorities and respondent burden. Additional guidance on more practical/technical matters (e.g., good practices, country case studies, etc.) relevant to the implementation of IRES and SEEA-E is provided in the ESCM. The ESCM contains guidance on practical matters which might be country specific and, as such, does not require the formal adoption by the Commission. ESCM is foreseen as a 'live document' being electronically maintained and periodically amended as needed.

43. The updating process of the IRES is envisaged as a recurrent and well organized procedure. While preparation of editorial amendments and clarification beyond dispute is to be done by the UNSD, any proposed substantive changes in IRES should be submitted to the United Nations Commission for approval.