



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS  
STATISTICS DIVISION  
UNITED NATIONS

ESA/STAT/AC.131  
UNCEEA/2/8

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

**SEEA-2003 Revision Research Agenda  
List of Issues  
A Proposal from the London Group<sup>1</sup>**

*(for decision)*

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<sup>1</sup> Prepared on the basis of the preliminary draft list discussed by the UNCEEA at its meeting in June 2006 and discussion at the London Group meeting on Environmental Accounting (Johannesburg 26-30 March 2007).

## Introduction

1. The SEEA-2003 represents a major step forward in the harmonization of concepts and methods in environmental-economic accounting. The SEEA-2003 presents best practices in environmental-economic accounting. It is a combination of a conceptual handbook, providing concepts, definitions and classifications which serve as the basis for the development of standards, and a compilation handbook providing examples on how countries have implemented environmental-economic accounting. In those cases in which there is consensus, the SEEA-2003 reports best practices. In those cases in which a variety of approaches exist, the SEEA-2003 presents a list of options, including a discussion on advantages and disadvantages of each option.

2. Since the issuing of the SEEA-2003, countries have gained further experience in the implementation of environmental-economic accounting. They have expressed the need to reach a consensus on a range of the unresolved issues in the SEEA-2003 as well as on furthering research in new and emerging issues (e.g. measurement and valuation of ecosystems, etc.). The UN Statistical Commission established in 2005 the UN Committee of Experts on Environmental-Accounting (UNCEEAA) with the objective of elevating the System of Environmental and Economic Accounting 2003 (SEEA-2003) to an international statistical standard (Secretary General Report to the Statistical Commission E/CN.3/2006/9). This requires a revision of the SEEA. The revised SEEA-2003 will be as far as possible a statistical standard. It is important from the outset to agree on the scope and coverage of the handbook. For this purpose UNSD will submit a paper explaining the nature and scope of a statistical standard.

3. The UNCEEAA requested the London Group to provide a list of conceptual issues to be solved as part of the revision process. The UNCEEAA also requested the London Group to provide their recommendations on a new structure of the SEEA. This document provides the recommendations of the London Group on those revision items related to standardising and improving SEEA concepts and classifications, as well as those related to a new SEEA structure design.

4. The list of issues presented in this has been compiled and discussed in several meetings: a preliminary list of issues was compiled for discussion by the UNCEEAA in August 2005 on the basis of contributions received by countries and organizations that were the major contributors of the SEEA-2003. The list was then discussed at the Preliminary Meeting of the UN Committee of Experts in August 2005. It has then been revised on the basis of the contributions received in the response to a call for issues which was widely circulated by the UNCEEAA among various groups active in environmental environmental-economic accounts and related statistics, including energy statistics<sup>2</sup>.

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<sup>2</sup> The call for issue was circulated among the following groups: the London Group on Environmental Accounting, the Oslo Group on Energy Statistics, the Inter-Secretariat Working Group on Environment Statistics, Inter-Secretariat Working Group on Energy Statistics, Inter-Secretariat Working Group on National Accounts, the Working Group on Environmental Information and Outlooks, the

National accountants, balance of payments, financial and government statisticians were consulted with the objective of (a) ensuring consistency with major standards like the 1993 SNA, Balance of Payments Manual – Fifth Edition (BPM5) and Government Finance Statistics (GFS) which are presently under review; and (b) seeking their views on outstanding issues that were not solved during the revision processes because of time constraints.

5. Finally, the London Group at its 11<sup>th</sup> meeting in Johannesburg (26-30 March 2007) reviewed all the conceptual issues of the SEEA revision process on the basis of the chapters of the SEEA-2003. The outcome of the discussions at the meeting are reflected in the revised list of issues proposed by the London Group in this paper and submitted for approval by the UNCEEA. Some of the issues may only need “clarification papers” describing the current developments on the topic. On the basis of such clarification papers, the topics may be included in the issue list if further work is required or, if not, may be dropped from it.

6. The present list of issues focuses on the refinement and clarification in particular of those issues that will allow for elevating the SEEA to the level of a statistical standard. This list covers all those issues that the London Group considered necessary for the revision of the SEEA-2003. The issues listed below cover mostly methodological issues. But also the recommended changes concerning the SEEA structure are reflected in the issues list. Issues linked to implementation are not included in the issue list as deemed beyond the scope of the update of the SEEA-2003.

7. Country names added to issues indicate that the London Group has found representatives in their Group that are willing to prepare issue papers for discussion in the London Group, and subsequently, outcome papers for discussion in the UNCEEA. For the other issues (without country names), the UNCEEA has to identify the most appropriate country/organization or group to advise on this particular issue.

8. For the continuation of the revision process the UNCEEA is requested on the basis of this document to take decisions on:

- An approved list of SEEA-2003 revision issues;
- The involvement of the various advisory bodies in advising the UNCEEA on each of these issues;
- The time table of the issues review process.

## SEEA-2003 REVISION ISSUES LIST

### **CHAPTERS 3 & 4 - PHYSICAL FLOW AND HYBRID ACCOUNTS**

*1. Economy Wide Material Flow Accounting (Destatis and Statistics Denmark in collaboration with OECD and Eurostat)\*)*

The ‘family of MFA accounts’ and the SEEA share together one single body of physical supply-use type of accounts. This main body must be described univocally and conceptual differences (in terms of residence versus territory principle) must be as much as possible removed. When the differences cannot be removed, then bridge tables linking the MFA to the SEEA should be developed. It is important that the MFA be presented from the outset as a satellite system of the SEEA, the future standard on environmental-economic accounting, and not as a separate and competing system to the SEEA, although with strong links to it. Also harmonisation of terminology is highly needed.

*\*) Expectedly this issue may need a clarification paper only.*

*2. Classification of flows and their recommended unit of accounts: products, natural resources, ecosystem inputs and residuals (Statistics Netherlands together with Statistics Norway and Oslo Group)*

Standardisation of physical flow accounts requires a standardised set of classifications of the various flow categories and recommended list of units of accounts (as well as underlying conversion factors) for each type of flows covered in the accounts. Existing classifications of flows (e.g. SEEA-2003, the draft OECD manual on MFA, the Eurostat directive on waste, OECD, IEA, Eurostat Manual of Energy Statistics and the UN Manuals on Energy statistics) should be taken as starting points. Specific attention is needed for energy and waste flows. The issue paper will also elaborate the boundaries between products, residuals, natural resources and ecosystem inputs.

*3. Linking energy flow accounts, energy balances and energy statistics (Statistics Norway in collaboration with Statistics Netherlands, Statistics New Zealand and Statistics Denmark, Statistics Sweden, Australia Bureau of Statistics and Destatis)*

Looking at the importance of climate change issues in sustainability debates, a clear description of the scope and coverage of energy accounts in the SEEA is needed. Such an issues paper should also explain differences between energy statistics and balances (subject to research by the Oslo Group) and energy accounts.

Several countries produce bridge tables between energy statistics and energy accounts and greenhouse gas emissions based on presence versus resident principle. In the SEEA bridge tables for energy as well as greenhouse gas emissions are a key tool for linking energy balances and energy accounts. Therefore standard tables linking energy statistics, balances and accounts should be developed. Another difference between the energy accounts and the energy balances is the statistical discrepancy, which is accepted within the scope of energy statistics but cannot be an entry in the energy supply and use tables.

*4. Renewable energy resources (Oslo Group and London Group)*

Renewable energy resources (e.g. hydropower, solar energy, bio fuels etc.) are becoming increasingly important. Several National Statistical Offices are developing statistics to include renewable energy in their energy statistics. Methodology should be developed to expand the energy accounts to include renewable energy so as to link this information to the economic variables.

## **CHAPTERS 5 & 6 - ACCOUNTING FOR ENVIRONMENTAL ACTIVITIES, PRODUCTS AND OTHER ENVIRONMENTAL RELATED TRANSACTIONS**

### *5. Environment industry (Statistics Sweden and Eurostat)\*)*

Reconciliation of findings from the Eurostat Task Force on Environmental Goods and Services is required.

*\*) Expectedly this issue may need a clarification paper only.*

### *6. Environmental taxes (Statistics Sweden and Eurostat)\*)*

The SEEA-2003 already includes a description of environmental taxes. It must be examined if the definition of environmental tax in the SEEA-2003 is still consistent with the 1993 SNA Rev.1. On the basis of this paper it will be decided whether the definition of an environmental tax would need to be included in the issue list. An issue paper on environmental subsidies is needed.

*\*) Expectedly this issue may need a clarification paper only.*

### *7. Environmental subsidies (Statistics Sweden and Eurostat)*

The SEEA-2003 does not provide full and systematic coverage of environmental subsidies. This policy relevant issue requires the necessary attention in the SEEA.

### *8. Permits to access the resources (e.g. fishing and water rights) and emission permits – (Statistics Sweden and Eurostat in collaboration with UNSD and Statistics Denmark)*

The treatment of permits leases and licenses to access natural resources and emission permits has changed in the 1993 SNA Rev. 1 as opposed to the 1993 SNA and the SEEA-2003. First a clarification paper will be prepared by Statistics Sweden and Eurostat, with the assistance of Statistics Denmark and UNSD. An evaluation of these recommendations in the 1993 SNA Rev.1 is needed. Further it must be decided whether it would be necessary for the revised SEEA to divert from the recommendations in the 1993 SNA Rev.1 and in case of a positive response, in which cases this may lead to a subsequent issue paper.

### *9. Classification of natural resources management expenditure (Statistics Sweden and Eurostat)\*)*

For this purpose the existing classification of industry and functional classification of government (COFOG) will be looked upon. The Eurostat Working Group on Environment Expenditures Statistics will be asked to develop the classification of natural resource expenditures.

*\*) Expectedly this issue may need a clarification paper only.*

## CHAPTERS 7 & 8 - ASSET ACCOUNTS

### *10. Classification of assets (UNSD)*

The SEEA asset classification needs to be aligned where possible with the 1993 SNA Rev. 1 classification of assets. If there is a need to deviate from the 1993 SNA Rev.1 classification of assets in the revised SEEA-2003, the differences should be clearly specified and motivated. Also, the classification of asset related transactions and flows, also in comparison with the SNA93 Rev.1, must be developed. However, this requires that first of all the discussion on the recording of natural resource depletion in the SEEA must be finalised. Special attention is needed for renewable resources.

### *11. Definition of physical reserves (UNSD in consultation with Statistics Denmark)*

A classification scheme is needed for mineral and energy resources based on UNFC recommendations. Other issues that need to be addressed are developing aggregation methods over different fields and heterogeneity of resources.

### *12. Valuation of asset stocks (Statistics Denmark, Statistics Canada)*

In absence of market prices the net present value method has been identified as being the preferred valuation method. Issues on how to apply the net present value still remain unsolved. They include, e.g. rate of return to capital to be used, determining resource rents of different assets in case of joint production (e.g. in the case of a combined silver and copper mine), fluctuations in resource rents over relatively short periods of time, volatility and negative resource rents (e.g. should a moving average be recommended), selection of a discount rate, determining the service lives, treatment of resource extraction related taxes, determining deflators.

### *13. Recording of natural resource depletion (ABS)*

A characteristic of the SEEA-2003 is the provision of multiple options including a number of aspects of natural resource depletion. A statistical standard requires that these options be replaced with unambiguous accounting recommendations. This includes:

- i. identifying the income element;
- ii. recording of mineral exploration and mineral deposits;
- iii. recording of additions and subtractions from resource stocks;
- iv. recording of asset ownership;
- v. recording of depletion.

All these options need to be translated into unambiguous accounting recommendations. It is expected that these will together lead to clear cut recommendations on the compilation of depletion adjusted national accounts aggregates (product, income and saving).

### *14. Determining depletion of renewable resources (ABS, Statistics Finland, New Zealand, etc.)*

These accounting recommendations on measuring resource depletion need to be extended also to *renewable* natural resources.

### *15. Decommissioning costs and recording ownership of mineral-related assets (UNSD)\*)*

The SEEA-2003 suggested more than one option in recording decommissioning costs and recording of ownership of mineral-related assets. The Canberra II group and the AEG have agreed with changing the current SNA treatment of decommissioning costs. The SEEA will have to be updated to reflect the changes in the 1993SNA Rev.1.

\*) *Expectedly this issue may need a clarification paper only.*

#### *16. Treatment of water in artificial reservoirs as a produced asset*

Considerable money is spent to build dams to retain the water from flowing downstream to the sea. Also, continuous control and management of the water resources is exercised both in the case in which the water is used for abstraction, purification and distribution, or for other uses such as hydroelectric power generation. Therefore, in line with the definition of cultivated assets in the SEEA and now agreed in the SNA revision process<sup>3</sup>, water in the reservoirs should be considered a produced asset. In parallel with the treatment of natural growth of cultivated forest and fish as produced asset, precipitation and inflows of water in the reservoirs should be considered as capital formation. As a result, water in the reservoir should be added to the classification of produced asset.

#### *17. Treatment of illegal tapping*

In many countries, especially developing countries, an illegal connection to the water distribution network from households and industries is frequent. The question is how to treat illegal tapping in the water accounts and, more in general, in the national accounts. The following two options come to mind:

- 1) Water used as a result of illegal tapping could be considered a loss and thus included as part of water consumption. In this case, the flows in the physical supply and use table (PSUT) would correspond to the flows in the monetary SUT, but, for example indicators of water efficiency by industry would be misleading. Also, whom should the water consumption be allocated to? To the industry that collects, purifies and distribute water (ISIC 36)?
- 2) Water used as a result of illegal tapping could be allocated to the end user. In this case, the production of water by (ISIC 36) is a legal activity but consumption is illegal. If we allocate the water used as a result of illegal tapping to the users, the following questions arise: what value for the production of water should be used (e.g. imputed at purchasers' price)? Should we impute some type of transfer from say ISIC 36 to the households or industries? How should these transfers be classified? (They cannot be social transfer as they are from a corporation to household)

The Advisory Expert Group on National Accounts has deliberated not to change the 1993 SNA treatment of illegal activities. Option 1 will thus be in line with the updated 1993 SNA. Option 2 seems more policy relevant.

#### *18. Valuation of water (Sub-group on Valuation)*

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<sup>3</sup> Cultivated assets are defined as: “livestock for breeding, dairy, draught, etc. and vineyards, orchards and other trees yielding repeat products **whose natural growth and/or regeneration is** under the direct control, responsibility and management of institutional units. (SEEA-2003 para 7.58)

Water is increasingly a scarce resource. International agreements such as the Johannesburg Plan of Implementation, the Water Framework Directive, etc. recognize that water is an economic good. How to value water in national accounts framework? A proposals of valuing water as a mineral asset and, in case this is not feasible using payments for water rights as proxy has been put forwards during the update of the 1993 SNA. The issue of water valuation has to be further considered.

*19. Land valuation (Sub-group on Valuation)*

The 1993 SNA recommends, whenever possible, valuing the land separate from the building which lies on it. If the value of the buildings based on the perpetual inventory method calculation is deducted from the value of the combined asset, the land value captures all the market fluctuations and, in the cases in which there are big capital losses, it can be negative. This issue needs further investigation.

*20. Soil (Valuation sub-group)*

Soil has only marginally been addressed in the SEEA-2003. Although it appears in the asset classification, there is very little text addressing the issues on how to measure changes in soil quantity and quality and valuing soil degradation this is definitely an important issue.

*21. Forest accounts (Statistics Finland, FAO[?], in cooperation with the Sub-group on Valuation)*

A proposal is needed to streamline the various forest related classifications in the SEEA-2003, considering also related developments of FAO and Kyoto.

*22. Land and ecosystems (EEA in cooperation with the Subgroup on Land and Ecosystem Accounts)*

The classifications on land cover, as well as land use and ecosystem services need to be revised. The work may benefit from the cooperation with the on-going Millennium Ecosystem Accounts project being undertaken by the European Environment Agency. Further an outline needs to be developed for the SEEA Land and Ecosystems accounts. It needs to be decided whether land and ecosystem accounts can become part of the statistical standard.

*23. Fish {TO CONTACT FAO}*

**CHAPTERS 9 & 10 VALUATION TECHNIQUES FOR MEASURING DEGRADATION AND ADJUSTMENTS TO NATIONAL ACCOUNTS**

*A separate paper on valuation issues, including also issues related to Chapter 8 (e.g. valuation of mineral and energy assets, forest, water, land and soil) will be developed.*