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**SEEA-MFA: DRAFTING PROCESS**

Progress report prepared by UNSD

*(for discussion)*

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Progress report prepared by UNSD

UNCEEA meeting, New York, June 2009

### **A. Introduction**

1. At its third meeting the UNCEEA approved the scope and coverage of the SEEA-MFA as proposed in the UNSD discussion paper presented at the meeting, summarized below. It also discussed the annotated outline for the revision process (annex I).
2. This paper provides an update on the process for drafting the SEEA-MFA, including a timetable. It is being submitted to the UN Committee of Experts on Environmental-Economic Accounting for approval, given its mandate to ensure the overall coordination of activities in environmental-economic accounting and related statistics. The last section of the paper presents questions to the UNCEEA.

### **B. Scope and coverage**

1. The broad aim of the SEEA-MFA is to provide an international statistical standard for material flow accounts, consisting of concepts, definitions, classifications, accounting rules and inter-related tables and accounts for multi-purpose analytical and policy use. These accounts will focus on the extraction of material resources from the environment, their physical supply and use within the economy, and their return environment, including in particular the treatment of waste.
2. The emphasis of the SEEA-MFA will be on concepts and definitions that should be universally valid and invariant to the particular circumstances in which they are applied. Similarly, the classifications and accounting rules should be universally applicable whatever the industrial structure or stage of economic development reached by a country.
3. The SEEA-MFA framework is an elaboration of the handbook of national accounting *Integrated Environmental and Economic Accounting*, SEEA 2003, in the sense that it further develops the SEEA modules with focus on material flows.
4. The development of the SEEA-MFA will contribute to the process of the revision of the SEEA. In particular, it will contribute to the clarification and solution of material flow related issues on the research agenda for the revision of the SEEA, as well as to the development of a standard reporting and classification of physical flows, including waste.
5. The SEEA-MFA will provide a set of standard tables which show the general format and minimum level of detail that countries should apply when implementing the material flow accounts. To support the understanding of the concepts, the SEEA-MFA will include a set of tables populated with a fictitious data set.
6. The SEEA-MFA will not provide advice on the implementation of the material flow accounts, which will instead be addressed in supporting documents to be developed

at a later stage. Further, since the SEEA-MFA is written to be a universal standard, it does not contain country examples. However, a collection of country practices is included in the searchable archive posted on the UNCEEA website<sup>1</sup>.

### **C. Process and timetable for the preparation of the SEEA-MFA**

7. The United Nations Statistics Division (UNSD) has embarked on the drafting of the *System of Environmental-Economic Accounting for MFA* (SEEA-MFA) as part of its regular work programme.

8. In preparing the SEEA-MFA, UNSD continues to work in close cooperation with the London Group on Environmental Accounting, the Eurostat/EFTA Task Force on MFA which has updated its mandate to reflect this activity, the OECD WGEIO which has contributed to the methodological advancement of the MFA as well as other experts in NSOs and academia.<sup>2</sup>

9. A number of activities in support of the preparation of the SEEA-MFA have taken place since the previous UNCEEA meeting in June 2008. These include:

- (a) An issue paper on the classification of physical flows has been prepared by UNSD and was discussed at the 14th session of the London Group on Environmental Accounting (Canberra, Australia December 2008).

This paper proposes to use the Central Product Classification (CPC) for all intra-economy flows, except waste flows. For waste, it is proposed to use the European Waste Classification (EWC) as the classification system of reference (i.e. replacing CPC 39 – *Waste and scrap* related to solid waste). This concept of waste covers both wastes that are discharged to a landfill and wastes reused as intermediate products by other establishments, as well as those returned to the environment after treatment.

- (b) The London Group did not reach a final decision on the proposal but recommended forming a small group of key stakeholders to develop a consensus proposal on the classification. Group members include UNSD as well as CBS, DESTATIS, Eurostat, ISTAT, Statistics Denmark and Statistics Canada. There is a need to consult with important stakeholders including those from outside of Europe. This group will complete a proposal on physical flow classifications, including consideration of water and MFA flows, which will: consider improving or replacing the SEEA-2003 definitions of residuals, waste, and ecosystem inputs; achieve a complete coverage of all issues including overlap between the three subsystems (materials, water and energy flow accounts); and report on classifications by purpose required to distinguish between such things as combustion-related and other fuel consumption (though any proposal on classification by purpose for energy

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<sup>1</sup> <http://unstats.un.org/unsd/envaccounting/ceea/archive/Introduction.asp>

<sup>2</sup> “The Task Force on Material Flow Accounting will need to meet the following challenges: Follow up on and contribute to the international developments concerning the revision of the SEEA-2003 Handbook/standard including a separate SEEA-MFA manual and the publication of the OECD Guidance Manual” (Draft Updated Mandate for the Taskforce on Material Flow Accounting)

would need to be discussed by the Oslo Group). (However, soil will not be considered by this subgroup.)<sup>3</sup> Group discussion/conclusions will form input for consideration by the UN Expert Group meeting on Classifications in September 2009.

- (c) An outcome paper on the treatment of cultivated biological resource flows will be submitted for review by the London Group. The paper reflects the conclusions of the London Group discussions, proposing a new convention for the recording of the physical flows from the environment to the economy for cultivated biological resources. This treatment is suggested as the preferred method because it aligns the MFA approach with the SEEA-2003 and SNA concepts as well as for practical considerations (data availability). The convention proposes the following:
    - When the cultivation process is dominated by a natural process, in which cultivation occurs under near-natural conditions and in direct interaction with the environment, the flows from the environment to the economy consist of the used biomass growth—that is, the biomass that is drawn into the economy.
    - when the cultivation process is dominated by an economic process in which cultivation occurs under artificial conditions and there is little direct interaction with the environment, the flows from the environment to the economy consist of ecosystem inputs—that is, the natural inputs (e.g., nutrients, carbon dioxide) required by plants and animals for growth.
  - (d) A draft of chapters 1 through 4 of the SEEA-MFA has been completed by the UNSD consultant and is currently being revised.
10. Future activities in the preparation of the SEEA-MFA will include:
- (a) A review group, consisting of members of the Eurostat Taskforce as well as other MFA experts in NSOs and academia, will be established to assist UNSD in the drafting of the SEEA-MFA and to provide comments on draft chapters.
  - (b) A website will be created to facilitate the consultation on the SEEA-MFA.
  - (c) Remaining chapters of the SEEA-MFA will be drafted and reviewed by the drafting group.
  - (d) Technical papers addressing some of the remaining issues on the research agenda for the SEEA revision will be prepared for discussion at the 14<sup>th</sup> London Group meeting.
  - (e) An Expert Group Meeting on material flow accounts and statistics will be organized to discuss the complete draft of the SEEA-MFA.
  - (f) World-wide consultation on the new draft of the SEEA-MFA resulting from the discussion during the Expert Group Meeting will be undertaken. The consultation will involve countries and international organizations to ensure

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<sup>3</sup> See Draft Report on the London Group Meeting, Canberra, April 2009, Agenda Item 3.

universal relevance, applicability and feasibility of implementation for the SEEA-MFA.

- (g) Finally, the SEEA-MFA will be submitted to the UNCEEA for its recommendation on adoption to be made to the United Nations Statistical Commission (UNSC).
11. Table 1 presents the revised timetable for the preparation of the SEEA-MFA.

**Table 1. Timetable for the preparation of the SEEA-MFA**

	2009			2010				2011
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
<b>Inputs to the drafting</b>	Discussion of classification issue paper by London Group (Canberra, April)	Expert Group Meeting on Classification (NY, Sept.)	Discussion of MFA issues, including classification-LG Meeting (Germany, Dec.)		Expert Group Meeting to review complete draft SEEA-MFA	Final comments on complete draft from London Group		
<b>Drafting</b>		Revise Chapters 1-4	Draft Chapter 5 (Sub-Accounts) Draft Chapter 6 (Applications) (with UNEP, OECD, DEFRA)	Revise Chapters 1- 6 for review group comments	Revise complete SEEA-MFA draft for comments of Expert Group	Last revisions of complete draft for comments from expert groups	Final revisions of draft	
<b>Consultation</b>	UNCEEA reviews progress of work and process (NY, June)	Set up review group (July)	Chapters 1-4 circulated to review group for comments	Chapters 5 and 6 circulated to review group (Jan.)	UNCEEA review of progress (NY, June)	World-wide global consultation to review the revised SEEA-MFA		
<b>Final draft SEEA-MFA</b>				First complete draft ready for review			Final draft SEEA-MFA completed	Approval of the UNCEEA of the SEEA-MFA and recommendation to the UNSC

**D. Questions to the UNCEEA**

12. The UNCEEA may wish to express its views on the following:

- 1) *Does the UNCEEA agree with the process and timetable for the preparation of the SEEA-MFA [Section C]?*
- 2) *Does the UNCEEA agree in principle with the draft Annotated Outline of the SEEA-MFA [Annex I]?*

## Annex I

### Draft annotated outline

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

*Chapter 2: SEEA-MFA framework.* This Chapter introduces the SEEA-MFA accounting framework and explains the fundamental principles and features of the system. It will also present the material balance principle and the boundaries between the economy and the environment used in MFA and the links between the SNA/SEEA and the MFA. It will introduce the classification of physical flows and the accounting units.

*Chapter 3: General standard physical supply and use table (PSUT) and physical input-output table (PIOT).* The complete PSUT / PIOT shows the physical flows by economic activity from the environment to the economy (natural resources and ecosystem inputs), within the economy (products) and from the economy to the environment (residuals). The final consumption of consumer durables is separately identified because in physical accounting the time of discard is important, not the time of acquisition of the goods. Controlled landfills are separately identified from GFCF as they are considered part of the economy.

Although the general PSUT/ PIOT provides the conceptual framework for SEEA-MFA, its compilation is highly data demanding and resource consuming.

*Chapter 4: Economy-wide Material Flow Accounts.* This chapter provides standard tables for EW-MFA. It will discuss specific boundary issues between economy and the environment such as for cultivated crops and trees, landfill, grazing, and human respiration. It will describe how EW-MFA aggregates can be derived from the accounting framework. It will also discuss changes in stocks due to accumulation within the economy.

*Chapter 5: MFA sub-accounts for specific materials or groups of materials.* This chapter provides standard supply and use tables for the main groups of materials such as water, energy products, agricultural products, wood products, metals and other minerals. They are an elaboration of the standard PSUT for selected materials. In the case of water and energy, these tables will be fully consistent with water and energy accounts standard tables in the SEEA-W and SEEA-E, with the unit being tons instead of cubic meters or joules.

*Chapter 6: Application of material flow accounts.* This chapter provides examples of applications of material flow accounts. These include, for example, the derivation of hybrid indicators to monitor and evaluate policies such dematerialization, decomposition analyses of economic growth and material use; and scenario modeling including input-



output analysis to estimate for example the indirect flows (or raw material equivalents) associated with imports;

*Annex 1. Standard tables.* This annex will present the standard tables which are presented in the various chapters. The standard tables constitute the minimum data set that all countries are encouraged to compile. An Excel file with templates for standard tables and populated with the fictitious data set will be available on the UNSD web-site.

*Annex 2. Classifications.* This annex will present the classifications that are relevant for the compilation of material flow accounts: in particular the classification of physical flows (ecosystem inputs, natural resources, products and residuals).

*Annex 3. List of indicators.* This annex will present a list of indicators that can be derived from the SEEA-MFA. It will link the MFA indicators most commonly used with the SEEA-MFA standard tables.

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