

London Group on Environmental Accounting
XVIII meeting
London, November 2013

Aldo Femia (Istat)

MATERIAL FLOW ACCOUNTS / WASTE session

Background note to guide the session

(draft of 31 October 2013)

Premise

The present note is intended *to guide the discussion* in the session, so that it can, hopefully, *lead to some concrete outcomes*. The main aims of this thematic session is, following the LG Chair's indications, to *make progress towards the SEEA Technical Notes (SEEA-TN) that will be part of the SEEA Implementation Programme*.

Flow accounts for materials (MFA) represent a wide family of physical flow accounts, whose individual components – described in section 3.6 of the SEEA-CF – descend from the application to materials of the general PSUT framework described in section 3.2 of the SEEA-CF.

Two of these individual components fall within the domain of this session: Solid waste accounts and Economy wide MFA, corresponding respectively to subsections 3.6.5 and 3.6.6 of the SEEA-CF.

Both components are quite mature from a policy-demand point of view as well as from a technical one.

The session will roughly follow the sequence of topics outlined in the draft template for SEEA-TN (background document of the June 2013 UNCEEA), and touch especially upon the following points:

1. Policy demand (corresponding to the “key questions” section of the TN template), with a focus on Resource Productivity, and therefore on Economy-wide Flow accounts for materials (EW-MFA) and derived indicators;
2. SEEA-CF research agenda – open issues;
3. Core accounts/tables;
4. Existing training and compilation material for SEEA's MFAs implementation (corresponding to the “references and links” section of the TN template);

1. Policy demand for Economy-wide Flow accounts for materials (EW-MFA) and derived indicators

(2/10 of the total time of the session)

Resource Productivity (RP, or Resource Efficiency, used as synonymous) is the buzzword of several national and international initiatives (UNEP programme, OECD recommendations, EU roadmap, ...), and one important keyword in many other policy-relevant contexts (e.g. Sustainable Development indicators sets). RP and MFA are strictly connected to concepts such as Sustainable Production and Consumption, Delinking/Decoupling, Circular economy, 3-R initiative, Resource-saving, Waste minimisation, Recycling, etc. which also inspire several decisions and programs at all levels of policy-making (from G8 meetings to municipal councils). Finally, they feature also in contexts like Measuring well-being beyond GDP.

“Material productivity or intensity indicators relate the use of material resources to the related economic activity. Such indicators can be calculated at an aggregate, economy-wide level, as well as by industry and by material groups (e.g. mineral resources (metallic minerals, industrial minerals, construction minerals); biotic resources (biomass for food, biomass for feed, wood biomass); energy carriers (oil, coal, gas, peat)).” (§ 2.39 of the *SEEA Applications and Extensions consultation draft*)

RP measures are based on indicators derived from (EW-)MFA, to which it is often directly made reference in the contexts quoted above. An important issue concerns the relation of aggregate MF indicators to monetary (NA) aggregates, and the calculation of RP indicators. Moreover, the limitations of the EW-MFA indicators currently in use are well known :

“One of the limitations with the EW-MFA indicators is that materials in different states of production

(raw materials, semi-finished products and final products) are added together. Accordingly, some measures of consumption fall short in understanding the total mass of raw materials consumed by a country as it only accounts for the mass of the final goods imported, not the raw material used to produce them. In order to get a more genuine indication of the resource productivity of a country the material flows are expressed in the amounts of raw materials (raw material equivalents, RME) that were needed during the whole production chain of a product.” (§ 2.77 of the *SEEA Applications and Extensions consultation draft*)

The calculation of MF data and indicators in Raw Material Equivalents (RME) is a “hot” topic especially in the EU, and in several countries I-O based methods for RME calculations are being experimented.

A presentation will touch upon these issues and show possible alternatives for the definition of RP, with practical examples from the Italian case. The presentation will be followed by a discussion.

2. Remaining issues on the SEEA-CF research agenda

(1/10 of the total time of the session)

Background

At its 44th session in February 2013, the United Nations Statistical Commission (UNSC) “adopted the implementation strategy for the System of Environmental-Economic Accounting (SEEA) Central Framework recommending a flexible and modular approach, and urged the Committee of Experts to agree on a medium-term programme of work for the implementation of SEEA, including advancing the issues on the SEEA Central Framework research agenda and the development of a core set of tables and accounts”¹.

Issues

Annex 2 of the *SEEA Central Framework* – the “*Research agenda for the SEEA Central Framework*” – mentions only one issue that is immediately related to MFA/Waste session:

“there are some *small differences in treatment between the SNA and the SEEA* for certain physical flows, for example, the treatment of goods for processing (see Section 3.3). The ongoing development of the SEEA will need to consider the extent to which any differences with the SNA should be maintained” (Introduction, § 4).

How important are these differences? Is there a need to address any in particular?

The same *Research agenda* enumerates “the major topics identified during the preparation of the SEEA Central Framework ... which would benefit from further consideration within the international statistical community”. One of these is the “*development of classifications*” (Introduction, § 7). To it, “highest priority should be afforded” also according to the *SEEA Central Framework - Possible priorities and approaches to advancement of the SEEA Central Framework research agenda (UNCEEA/8/7e)* paper, presented at the *International Conference* (§ 3)².

The search for a complete physical flows classification has been a topic for long in the LG (it has been discussed at least from the XI to the XVII meeting). Does the way the classification issues concerning physical flows is dealt with in the SEEA settle the question once and for all? Are there any specific (e.g. borderline) cases that need to be addressed in

¹Statistical Commission - Report on the forty-fourth session (26 February-1 March 2013) - Economic and Social Council - Official Records 2013 - Supplement No. 4, page 10 (<http://unstats.un.org/unsd/statcom/doc13/2013-Report-E.pdf>)

² Two primary streams of work are mentioned under this heading: Land use and land cover; resource management activities.

greater detail?

The floor will be open for LG members to comment on the above, point out any other issue in the SEEA-CF research agenda that may be relevant for MFA in general and EW-MFA and Waste in particular, and make proposals.

3. Core accounts/tables

(6/10 of the total time of the session)

In this part of the session we will ***have a practical discussion of technical and implementation issues, based on proposals to the LG in terms of core tables, common measurement challenges, and/or outstanding technical issues.***

Core accounts are an essential part of the SEEA-Technical Notes, as described in the draft template. According to the SEEA-CF implementation strategy adopted by the UNSC, “in order to guide the prioritization process, countries may use a predefined set of tables. A set of tables as initial scope may help to identify options for countries to choose from. SEEA-CF provides a long list of tables / accounts (see Annex B). Under the guidance of UNCEEA, a core set of tables and accounts may be developed from which indicators could be derived as part of the implementation strategy. A core set of tables may in the future also serve as a reference point for regular reporting on a minimum set of environmental-economic accounts.”³

The general framework for Core tables is provided by Physical Supply and Use tables (PSUTs), as described in general in table 3.2.1. of the SEEA-CF. An application of the PSUTs scheme to specific materials falling into the MFA/waste session's domain are provided in the *SEEA-CF* itself (Solid waste, table 3.6.3). In the *SEEA Applications and Extensions* consultation draft, other can be found (§§ 2.3.4 - *Specific analysis for resource use* and 2.3.5 - *Specific analysis for residual flows*).

As for waste, a neat, recent example of how PSUTs may be flexibly defined, is provided by the Australian Waste Accounts Experimental Estimates 2013.

A presentation providing input for possible core tables on solid waste flows, will report on this realisation, which also helps better understand the correspondence between physical and monetary flows.

The presentation will be followed by questions and substantial discussion.

As for EW-MFA, first tentative general ideas have been included in a Draft SEEA Technical note.

These will be shortly introduced by the session chair; questions and substantial discussion will follow.

4. Existing training and compilation material for SEEA's implementation

(1/10 of the total time of the session)

The aim of this part of the session is to ***overview existing training and compilation material***, and possibly to ***arrive at a recommendation on how the material we currently have could be used for training or implementation purposes.***

A Session of the recent *International Conference on the Global Implementation Programme for the System of Environmental-Economic Accounting (17-19 June 2013, New York)* was devoted to *Tools to Assist in the Global Implementation of the SEEA*. As the draft minutes report:

³ The strategy was prepared by the Committee of Experts on Environmental-Economic Accounting (UNCEEA). It [can be found at http://unstats.un.org/unsd/statcom/doc13/BG-SEEA-Implementation.pdf](http://unstats.un.org/unsd/statcom/doc13/BG-SEEA-Implementation.pdf).

“Participants commented that there may be a need to use tools that already exist within the SEEA system itself, for example, those developed for SEEA-Water that may be linked with the SEEA Central Framework and manuals, training materials and courses developed by Eurostat.”

An *ideal, complete and detailed PSUT system* is developed step-wise in the OECD documents on *Measuring Materials Flows and Resource Productivity* (namely in *Volume 2: the Accounting Framework*, presented at the 11th Meeting of the London Group - Johannesburg, 2007 - and at the 3rd UNCEEA meeting - NY, 2008). Despite some terminology difference between it and the SEEA-CF (being the OECD document based on the 2003 SEEA), the description of this ideal system provides a valuable tool for understanding the material dimension of socio-economic life and a solid background into the logic of Flow Accounts for materials in general.

As for EW-MFA, the tables included in the EU reporting tool for EW-MFA, responding to EU Reg. 691/2011 (but also those for air emissions) are accompanied by exhaustive methodological and training material.

After a brief introduction by the session chair, the floor will be open for LG members to comment on *the above and possibly indicate which other tools and instruments, besides those mentioned, should be included in a repository and/or in the references and links section of the SEEA-TN. Also examples of work in countries will be welcome.*

WRAP UP AND END OF THE SESSION