

RESEARCH AGENDA FOR THE SEEA CF, 2018

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1 INTRODUCTION

In 2012 the System of Environmental Economic Accounting Central Framework (SEEA CF) was adopted as an international standard by the United Nations Statistical Commission. During the preparation of the SEEA CF, some important topics were identified that would benefit from further research and consideration with the international statistical community. These topics are described in the Research Agenda that is part of the SEEA CF (ANNEX II).

Since 2012, work has started in various areas based on the issues identified during the drafting of the SEEA and other issues that have arose in subsequent years. In order to move the SEEA CF research agenda forward, a revised complete list of issues has been developed, which also provides a deeper overview outline of those issues identified. The UNCEEA also established a technical committee for this purpose. In November 2015, the SEEA CF research agenda was discussed at the London Group meeting for further input and then elaborated in more detail by the SEEA CF Technical Committee. This resulted in an updated multi-annual research agenda for the SEEA CF. The research agenda was approved by the UNCEEA in June 2016.

This document presents the outcome of these discussions through an updated SEEA CF research agenda. The research agenda is updated every year.

2 PURPOSE AND ORGANISATION OF THE SEEA CF RESEARCH AGENDA

The SEEA CF must be regularly reviewed to assess its ongoing relevance as the environment and the economy change, as understanding of the links between the environment and the economy develops, and as policy and analytical requirements evolve. In addition, as implementation of the SEEA CF advances across the world, the range of experience gained offers new insights that should be considered in the conceptualization of the environmental and economic accounts. Furthermore, new developments in the System of National Account (SNA) need to be considered as these may have implication on the SEEA which is fully consistent with the SEEA.

The SEEA CF research agenda will play a key role for investigating and determining the appropriate changes to the SEEA CF. The process for reviewing and updating the SEEA CF will follow standard processes that have developed for the review of international standards. Thus, there will be consideration within the United Nations statistical system of (a) the relative importance of updating the standard to ensure its ongoing relevance; (b) the consequences of making any changes and the potential impact on implementation; and (c) the extent to which research into a proposed area of change has been completed.

The revised version of the SEEA CF research agenda consists of two parts. The first part is focused on ‘research issues’ which are more conceptual in nature. For the main part these are issues already identified in the previous version of the research agenda, found in the Annex of the SEEA CF. The second part consists of implementation issues which have increasingly arisen as implementation of the SEEA CF expands. It should be noted that in a lot of cases, the issues of implementation and conceptual issues are closely inter-related and may need to be addressed concomitantly. The SEEA CF Technical Committee will oversee the resolution of both the research issues and implementation issues.

The research topics that are part of the SEEA CF research agenda do not cover topics related to the development of SEEA experimental ecosystem accounting (SEEA EEA). These topics are part of the SEEA EEA research agenda and are dealt with by the SEEA EEA technical committee. There are however overlaps between the SEEA EEA and SEEA CF research topics. An example is the accounting for soil resources. In some cases these topics will be part of both research agenda’s as the resolution of this issues will benefit from a joint approach. In this case close collaboration between the two technical groups is essential.

Finally, some topics were identified by the SEEA CF technical committee as potentially important, but were not considered part of the SEEA CF research agenda at this stage. They may be added at a later stage. These are issues that were considered to be ‘low

priority’ to develop them in the short term. In addition there are some topics, such as extension of SEEA into the social domain, which first require broader consultation to determine whether it is appropriate for SEEA to move in this direction. Lastly, a number of ‘broad topics’ have been further detailed in the updated research agenda in order to provide a clear understanding of the issue and concrete areas for which further work is needed. The list of the issues that are currently not incorporated in the SEEA CF research agenda is presented in section 4 of this document.

3 RESEARCH AGENDA FOR SEEA CF

The research agenda consists of two parts:

- A. A list of conceptual issues which need to be addressed.
- B. A list of Issues in Implementation which needs to be addressed, focusing more on methods of data collection/compilation.

Table 1: Overview of the topics of the revised SEEA CF Research agenda

A: Conceptual issues	
1.	Development of classifications
2.	Definition of resource management and structure of the resource management expenditure accounts
3.	Integrated framework for environmental activity accounts
4.	Losses
5.	Linkages and overlaps between SEEA CF and SEEA EEA
6.	Fossil fuel subsidies by industry as part of climate statistics
7.	LULUCF and SEEA
B: Implementation issues	
1.	Implementation issues related to classifications
2.	Approaches to the measurement of adapted goods
3.	Economy wide material flow accounts
4.	Input output techniques
5.	Global DSDs for data exchange for SDMX

3.1 Conceptual issues

1. Development of classifications

Lead agencies: UNSD / EUROSTAT/ FAO

The development of standard definitions, concepts and structures related to environmental and economic accounting is important. However, for a more complete standardization of information, especially for international reporting and comparison purposes, it is also necessary to construct agreed classifications of relevant statistical concepts. The SEEA CF contains a number of classifications that assist in explaining the breadth of various concepts and also serve as a basis for classifying different stocks and flows.

Generally, the classifications in the SEEA CF are presented only at a relatively high or summary level. However, in some cases efforts have been made to describe finer-level classes with a view to assisting in the preparation of statistics and clarifying the treatment of some specific stocks and flows.

Most of the classifications presented in the SEEA CF are still preliminary in nature and need further development to come up with a more definitive classification. Also, the detail for certain classifications would require further consideration. A review of the SEEA CF will be made by the UNSD to identify all the classifications currently identified as preliminary, with a view to developing a comprehensive list of the work needed on developing classifications for the SEEA CF.

The priorities for SEEA data collection will largely determine which classifications are prioritized. In this regard, classifications for 1) emissions (to air, water, soil), 2) land use and 3) the resource management component of the Classification of Environmental Activities are most likely to be prioritized. In addition, some work has been done by OECD to further elaborate on the classification for minerals and energy, which will also be assessed. Finally, the land cover classification should be developed in tandem with the development of the SEEA EEA.

2. Definition of resource management and structure of the resource management expenditure accounts

Lead agency: Eurostat

The environmental activity of resource management is defined in chapter IV of the SEEA CF. The definition is built on early work on the concepts to be applied to the

measurement of environmental activity first presented in *SERIEE European System for the Collection of Economic Information on the Environment 1994 Version*, 2nd ed. (European Commission and Eurostat, 2002b). Although defined some time ago, there has not been a significant amount of work on the measurement of resource management activity, especially in comparison with the other main environmental activity of environmental protection. Interest in resource management has been growing strongly in recent years, including in relation to renewable energy, climate change and recycling activities.

The finalization of the definition of resource management activity for the purposes of the CF was complicated by a lack of clarity on the ideal scope of the resources that should be considered. In some circumstances, limiting consideration only to natural resources seemed appropriate, while in other cases, the inclusion of cultivated resources seemed relevant.

The SEEA CF now contains only a small section on accounting for resource management expenditure (ReMEA). This was primarily because when SEEA CF was written, there was almost no practical experience in compiling these accounts. Based on recent experience, it needs to be determined a) whether the structure of the ReMEA is indeed the same as for EPEA, b) whether EPEA and ReMEA can be described within the same accounting structure c) whether there are specific conceptual issues related to compilation of ReMEA which need to be addressed. In this context also the CEA classification has to be revised but this is part of research topic 1 (development of classification).

3) Integrated framework for environmental activity accounts

Lead agency: EUROSTAT

Chapter IV of SEEA CF describes environmental activity Accounts and related flows. The two main accounts and statistics, the EPEA and EGSS, partly overlap, but also differ with regard to accounting structure, scope and valuation of adapted goods. These differences are explained in par. 4.3.4 of the SEEA CF. Investigation is needed to determine whether the different aspects of monetary activity accounts can be further integrated into a single accounting framework.

This topic is closely linked to the definition of resource management (topic A3) and classification of the CEA (topic A1).

4) Losses

Lead agency: ?????

There are a number of issues related to losses which are not fully described in the SEEA CF and which need to be further clarified to assist countries in implementation. These include energy losses and water losses. There are a number of papers which were drafted during the drafting of the SEEA CF which should be reviewed for better clarification of the terminology and conceptual issues and how to address them.

5) Linkages and overlap between SEEA CF and SEEA EEA

Lead agency: ?????

There are clear similarities and differences between the SEEA Central Framework and SEEA Experimental Ecosystem Accounting. Both describe environmental issues in physical and monetary terms. Both use an accounting approach and are coherent with the SNA. There is also a clear overlap, as land accounts are a key component of both systems. SEEA CF and SEEA EEA differ with respect to their perspective on the measurement of environmental assets. In both the SEEA Central Framework and SEEA Experimental Ecosystem Accounting, environmental assets are defined broadly as “the naturally occurring living and non-living components of the Earth, together constituting the biophysical environment, which may provide benefits to humanity”. However, for measurement purposes, environmental assets are considered from two complementary perspectives. In the SEEA Central Framework, the perspective for measurement purposes is on “individual” environmental assets, such as timber resources, land, mineral and energy resources, and water resources. In contrast, in SEEA Experimental Ecosystem Accounting, the perspective is on ecosystems. This approach assesses how different individual environmental assets interact as part of natural processes within a spatial area to provide a range of services for economic and other human activity.

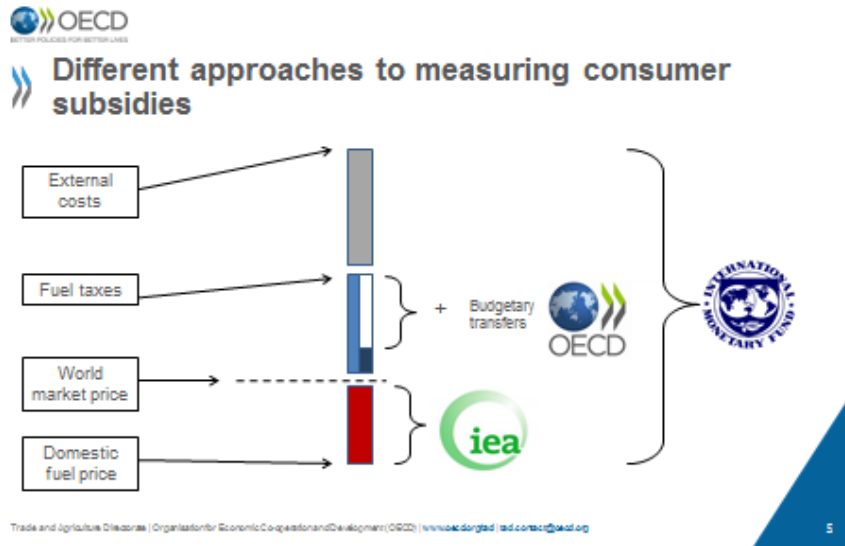
There is a clear need to better describe the relationships between both systems and where possible also strengthen the linkages. This issue clearly is an overlap between the research agendas of SEEA CF and SEEA EEA.

6) Fossil fuel subsidies by industry as part of climate statistics

Lead agency: Statistics Sweden

In the SDG Fossil fuel subsidies is one of the important indicators that are still considered to be Tier III (which means in need of definition). However, the data needed is available at the International Energy Agency and OECD. The IEA and collected data using a price-gap method since 1999 and OECD has provided the complementary data since 2010. The data has been used by the IMF that has also included calculations of external costs. These data sets should be possible to connect to the System of Economic and Environmental Accounts. Such a data set could then be allocated to the industries and be used for analysis with other information in the system.

12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels



6) LULUCF and SEEA

Lead agency: FAO

3.2 Implementation issues

1. Classifications

Lead agencies: UNSD, Eurostat

There are a number of implementation issues linked to classifications that need further clarification. There is a need to work towards harmonizing these classifications and/or providing clarification on how these classifications can be linked.

In particular:

- More clarity is needed on the linkages between land accounting and air / carbon emissions etc.
- CEA classification: For some environmental activities it is not directly clear whether they belong to CEPA or CReMA. An example is climate change related activities which are related both to CEPA1 and CReMA 13. SEEA CF provides some guidance

here for some of these border cases, but also leaves room for different interpretations. More work is needed to provide clear guidance for implementing the CEA classification to ensure international harmonized compilation. This could possibly extend to international conventions, like e.g. the Convention on biological diversity and related Biodiversity Finance Initiative (BIOFIN)

2. Approaches to the measurement of adapted goods

Lead agency: Eurostat

Adapted goods are goods that have been specifically modified to be more “environmentally friendly” or “clean” and whose use is therefore beneficial for environmental protection or resource management. Examples include mercury-free batteries and recycled paper. As described in section 4.3, the production and use of adapted goods constitutes a component of the framework of measurement of environmental protection expenditure and the production of environmental goods and services.

In concept, there is agreement on the inclusion of adapted goods in the scope of measuring environmental activity. However, in practice, measurement of adapted goods is a challenging task. Given this conceptual agreement, research should be undertaken to further develop relevant measurement techniques and approaches for adapted goods that might be applied better at a national and international levels.

3. Economy wide material flow accounts

Lead agency: OECD, ISTAT

The purpose of economy-wide material flow accounts (EW-MFA) is to provide an aggregate overview, in tonnes, of the material inputs and outputs of an economy, including inputs from the environment, outputs to the environment, and the physical amounts of imports and exports. There are several differences in treatment between EW-MFA and the physical supply and use tables, as described in SEEA CF. SEEA CF now provides a short text on these issues (section 3.3.6). A short note is needed for further clarification of the issue, pointing out the alternative solutions and possibilities for review of the SEEA CF Text. One issue the note should address is the different uses of EW-MFA and PSUTs. This could also be a long-term issue.

4. Input output techniques

Lead agencies: OECD, Eurostat

Input output is an important analytical tool that uses data from the environmental accounts. Examples include structural decomposition analyses and footprint analyses. The SEEA Applications and Extensions describes the application of SEEA data from the perspective of the type of techniques that may be applied across analysis of different topics. Environmentally extended – input-output tables, EE-IOT makes up a prominent part of the chapter describing these techniques.

Doing environmental input output analyses is quite complex. In the SEEA Applications and Extensions, several compilation issues are presented which need to be considered (par. 3.2.5). Some of these issues need further consideration to provide guidelines for the users of these analytical techniques.

5. Global DSDs for data exchange for SDMX

Lead agency: Eurostat

A set of global data structure definitions (DSDs) will be needed to ensure that data can be exchanged using SDMX.

4 ISSUES FOR LONG TERM DEVELOPMENT

The following topics are **not** part of the SEEA CF research agenda at present, but may in time be considered to be added.

A. Classifications (long term development)

As discussed in section 3.1 of this note, most of the classifications presented in the SEEA CF are still preliminary in nature and need further development with different data sets in order to assess the usefulness for different countries to come up with a more definitive classification. A review the SEEA CF has been made by the UNSD to identify all the classifications identified as preliminary, to ensure a comprehensive list of needed classifications is made.

B. Accounts and statistics relating to the minimization of natural hazards and the effects of climate change

The SEEA CF limits the scope of economic activities considered to be environmental to environmental protection and resource management activity. However, it is recognized

that there are a number of other economic activities that are related to the environment which may be of particular interest for policy and analytical purposes. A specific set of activities encompasses efforts to minimize the impact of natural hazards (such as floods, cyclones and bush fires) and efforts to mitigate, or adapt to, the effects of climate change.

Accounts and statistics on these areas of economic activity can be compiled following standard approaches to satellite accounting for economic activities that are outlined in the SNA. Nonetheless, given the analytical and policy interest in these topics and the close link to the environment, the research and development of such satellite accounts may lie within the domain of environmental and economic accounts. It is recommended that work in these areas be considered to fall within the remit of the SEEA so that alignment of accounting conventions and links to other parts of the SEEA CF can be properly established.

The UNECE group is working on statistics related to natural hazards and climate change, and ESCAP, Eurostat and FAO are also working in this area. There is a link between hazards and climate change, but this information is currently difficult to put into the accounts, especially when looking to separate climate change impacts. Much more conceptual thinking is needed, and this is more of a medium-long term priority.

C. SEEA CF and tourism accounts

In the context of the SEEA it is relevant to consider links between the accounting approach that has been developed for analysis of tourism, the Tourism Satellite Account (TSA), and the SEEA since both are based on the accounting principles of the SNA. Combining the TSA and SEEA would enable consideration of both the contribution of tourism to the economy and the environmental uses and pressures of tourism activities within an integrated dataset.

SEEA applications and extensions (2012) lists some key aspects of integrating tourism and environmental information. However, clearly more work is needed in this area. UNWTO jointly with UNSD is setting up a Working Group to work towards the extending the SEEA for tourism.

D. Extension of SEEA in the social domain

The SEEA CF provides the basis for integrating environmental-economic data, which can also be used as an input to development of broader information sets for analysis of topics such as sustainable development. This will usually require linking the SEEA with data on social conditions. Comparable data over time and across countries are needed to track performance across a range of sustainable development related goals and objectives, including the Sustainable Development Goals (SDG's).

In the beginning of 2000 a sub-group to the London group was established to further the area of SEEA in relation to social aspects, which were discussed at the 2004 LG meeting¹. The SEEA Applications and Extensions (2012) highlights some of the key aspects of the potential extensions to the SEEA CF into the social domain. However, this is a very broad issue highlighted again with the establishment of the UN Sustainable Development Goals. It requires still further work such as applications and implementations.

5 WORK PROCESS

- 1) The SEEA-CF research agenda will be updated when needed. New topics may be added based on consultation with and discussion within in SEEA CF Technical Committee. A new topic can only be added if there is a clear description of the issue and a lead agency willing to push the work forward. Issues that are solved may be removed from the research agenda.
- 2) For each topic lead agencies have been appointed. The role of these lead agencies is to advance the work on a specific research topic. They can either work on the topic themselves or approach others to do this (or work together).
- 3) In January the chair of the technical committee and the chair of the London group will ask the lead agencies to organize the work on the specific topic. Accordingly, the work can be planned and put on the agenda of the next London group meeting.
- 4) For each research topic a short (ca. 10 pages) issue paper will be written by the topic lead that a) explains the issue and b) proposes a solution / way forward. When the topic is very 'broad', more than one issue paper may be written which will be accompanied by one cover note summarising the main conclusions and proposals. It should be noted that although the issue papers will aim to consider the implications of proposed solutions to other parts of the SEEA, it may not be possible to identify all the implications or take them into account comprehensively without looking at the whole system.
- 5) In the preparation phase, the issue papers will be presented and discussed during a LG meeting and/or other expert group meetings depending on the nature of the issue under discussion. An electronic consultation may also be used if found appropriate. Based on these discussions and consultations the initial issue paper may be revised.

¹ <http://unstats.un.org/unsd/envaccounting/londongroup/meeting9.asp>

6) Once the topic lead considers that the paper is ready, it will be submitted to the SEEA CF Technical Committee for its final technical review. The SEEA TC will provide comments during a teleconference and/or in written form. The topic lead will adjust the issue paper based on these comments.

7) Next, the issue paper will be submitted to the UNCEEA Bureau who will put in on the agenda of the UNCEEA for approval. Issue papers may be circulated electronically to the UNCEEA in between in-person meetings after consultation with the Bureau.

8) After agreement by the UNCEEA, the paper may be sent out for global consultation. As a global consultation is a time consuming process, only research topics that propose significant changes to the SEEA CF will be considered for global consultation. Thus, issues that are dealing with clarification only or that deal with minor issues will not be sent out for global consultation. The UNCEEA decides whether a paper is sent out for global consultation or not.

9) After approval by the UNCEEA/ global consultation the outcome papers is published as an outcome paper on the SEEA website as a clarification or amendment of the SEEA CF. For this purpose a webpage will be created on se.un.org similar as for the SNA news and notes (see <https://unstats.un.org/unsd/nationalaccount/snanews.asp>). These outcome papers will serve as the basis for a revision of the SEEA Central Framework in due course.

6 PRIORITISATION AND WORKPLAN

The UNCEEA decided that the following criteria for prioritization should be applied for organising the work plan:

- (International) implementation priorities
- Critical for SDG's
- Work already underway
- Critical for climate change statistics
- Agency is willing to lead the work (topic lead)

Applying these criteria to the list of research issues provides the following results.

	international implementation priority	relevant for SDGs	Relevant for climate change	Work under
A: Conceptual issues				
1. Development of classifications				
--> 1a: environmental activities	X		X	
--> 1b: residuals	X	X		
2. Definition of resource management and structure of the resource management expenditure accounts	X		X	
3. Integrated framework for environmental activity	X		X	
4. Losses				
5. Linkages and overlaps between SEEA CF and SEEA EEA		X		
6. Fossil fuel subsidies by industry as part of climate		X	X	
7. LULUCF and SEEA			X	
B: Implementation issues				

Applying these priorities resulted in a work plan (see ANNEX I).

ANNEX I: Work plan SEEA CF research agenda 2017-2019

2017	January	Call for interested parties to help the lead agencies to work on: 1) Integrated framework 2) Economy wide material flow accounts 3) Global DSDs for data exchange for SDMX 4) other areas of application
	June	UNCEEA will review work done so far and propose adjustments and workplan
	September	Issue papers ready and sent to the LG members
	October LG meeting	Discussion on the research topics
	November	Comments LG incorporated in new version issue papers
	December	Issue papers reviewed by SEEA CF TC
2018	January	Call for interested parties to help the lead agencies to work on: 1) Fossil fuel subsidies by industry as part of climate statistics 2) Definition of resource management etc. 3) Implementation issues related to the CEA classification 4) other areas of application
	June	UNCEEA will review work done so far and propose adjustments and workplan
	September	Issue papers ready and sent to the LG members
	October LG meeting	Discussion on the research topics
	November	Comments LG incorporated in new version issue papers
	December	Issue papers reviewed by SEEA CF TC
	January	Call for interested parties to help the lead agencies to work on: 1) Input output techniques 2) Approaches to the measurement of adapted goods 3) Losses

ANNEX II: Current status of the SEEA CF research agenda

The table below provides an overview of the current status of the SEEA CF research agenda (August 2018).

	Topic lead	First issue paper	Discussed in LG/expert meeting	Discu SEEA
A: Conceptual issues				
1. Development of classifications				
--> 1a: environmental activities	Eurostat	At LG meeting 2018		
--> 1b: residuals	???			
2. Definition of resource management and structure of	Eurostat	At LG meeting 2018		
3. Integrated framework for environmental activity accounts	Eurostat	At LG meeting 2016	X	
4. Losses	???			
5. Linkages and overlaps between SEEA CF and SEEA EEA	???			
6. Fossil fuel subsidies by industry as part of climate change related statistics	Statistics Sweden	At LG meeting 2018		
7. LULUCF and SEEA	FAO	At LG meeting 2017	X	
B: Implementation issues				
1. Implementation issues related to classifications				