

# RESEARCH AGENDA FOR THE SEEA CF, 2016

Sjoerd Schenau  
Chair SEEA Central Framework Technical Committee

27-10-2016

## 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.

In November 2015, the SEEA CF research agenda was considered at the London Group meeting and then discussed in more detail by the SEEA CF Technical Committee. This note presents the outcome of these discussions through an updated SEEA CF research agenda. This note will be submitted to the UNCEEA for approval.

## 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

<b>A: Conceptual issues</b>	
1.	Development of classifications
2.	Development of consistent valuation techniques
3.	Definition of resource management and structure of the resource management expenditure accounts
4.	Depletion of natural biological resources
5.	Integrated framework for environmental activity accounts
6.	Losses
7.	Linkages and overlaps between SEEA CF and SEEA EEA
8.	Fossil fuel subsidies by industry as part of climate statistics
<b>B: Implementation issues</b>	
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
6.	Recording of fishery related activities in the PSUTs and asset accounts

## 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. Development of consistent valuation techniques beyond the SNA in the absence of market prices

**Lead agencies: OECD, World Bank**

The SEEA CF calls for the recording of many stocks, flows and transactions that are related to the environment, but for which there are no directly observable or measurable market values. As in the SNA, in this situation, imputed prices are required in order to record a proxy to a market value of the transaction. Such market values are deemed important to assess the economic importance of environmental stocks and flows and, more importantly, establishing the trade-off between these and non-environmental stocks and flows.

In line with the SNA, the SEEA CF outlines the market valuation of some stocks and flows by using “near market” data, whereby the valuation is based on market transactions that are close (in an economic sense) to the imputed transaction. For example, one may value a stock of coal based on the observed income of the coal extractor.

The SEEA CF does not address the valuation of stocks and flows that are neither “market” nor “near market”, but that fall within the measurement boundary in physical terms. A salient example are the types of valuation made for water stocks and flows, but may also include other environmental assets. (see for more details the ‘old’ SEEA research agenda).

This work will be done in close collaboration with the SEEA EEA technical committee.

### **3. 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).

#### **4. Depletion of natural biological resources**

**Proposed lead agency:** TBD

The depletion of natural biological resources, in particular natural timber and aquatic resources, is an important flow described in some detail in the SEEA CF (see sect. 5.4). The discussion on depletion considerably extends the discussion contained in the SEEA-2003. At the same time, the measurement of depletion in the context of resources that can regenerate is not straightforward and does not have an equivalent in traditional economic accounting.

Significantly, the measurement of depletion of natural biological resources requires an integration of economic concepts and scientific information in the form of biological models. While the principles for the purposes of the SEEA CF have been clearly outlined, there is a need for further research and application of these principles.

#### **5) 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).

## **6) Losses**

**Lead agency:** TBD

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.

## **7) Linkages and overlap between SEEA CF and SEEA EEA**

**Lead agency:** TBD

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.

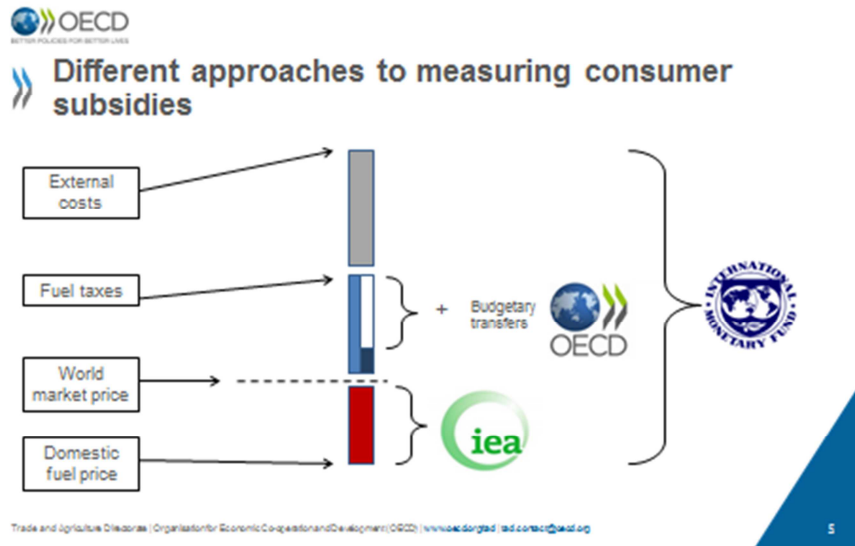
## **8) Fossil fuel subsidies by industry as part of climate statistics**

**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



## 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.

## **6) Recording of fishery related activities in the PSUTs and asset accounts**

**Proposed lead agency:** TBD

In 2004, UNSD and FAO developed a draft manual, “Handbook of National Accounting: Integrated Environmental and Economic Accounting for Fisheries” that was “prior to final editing and reproduction.” (see <http://unstats.un.org/unsd/EconStatKB/KnowledgebaseArticle10080.aspx>). This draft was also called, “SEEA-F” for SEEA-Fisheries. The plan to finalize this document was never realized and now it is outdated and the SEEA-AFF does not provide the needed information for establishing comprehensive fish accounts. It is noted that the SEEA-AFF did not have the goal of providing detailed, updated information that countries would need to have to develop SEEA-Fisheries Accounts – which would include both descriptions and recommendations regarding physical flow accounts, assets and various aspects of economic activity accounts.

There are several issues related to the recording of fishery related activities in the PSUTs and asset accounts, such as vessels’ ownership and flag that determine how the trade and FAO fisheries statistics are recorded which is not in alignment with how the SNA 2008 recommends the recording of the economic activity of these vessels. Transshipments are also a challenging topic. In addition, in the 2004 SEEA-F, there were recommendations for which fisheries related activities that could be included in a type of satellite account (similar to how tourism accounts are developed) but with the revisions of the ISIC, CPC and SNA, no updated recommendations have been made. See the 2016 London Group paper

([http://unstats.un.org/unsd/envaccounting/londongroup/meeting22/D\\_15.pdf](http://unstats.un.org/unsd/envaccounting/londongroup/meeting22/D_15.pdf)) for more details.

## 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.

The following classifications are considered for long term development:

**TBD**

### 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 meeting<sup>1</sup>. 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**

---

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

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 topic a short (ca. 10 pages) issue paper will be written 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. This paper will be presented and discussed during a LG meeting. When needed, other experts can be consulted for additional input. Based on these discussions the issue paper may be adjusted. Then for a final review the issue paper will be discussed by the SEEA CF technical committee. The issue paper will then be published on the SEEA website. Possibly, the solution of the issue may need more time and another round of discussions within the London group. The aim is to limit work on each issue to two years max. Experts are encouraged to contact the lead agencies if work is underway or planned locally.

5) When the issue papers are considered 'finished' they are published on the SEEA website. A process still has to be developed by the UNCEEA how these solved issues eventually will be incorporated in the SEEA CF. A possibility is to introduce 'SEEA News and Notes', similar as for the SNA.

6) To push the work forward criteria for prioritization were developed (see below) in June 2016 by the UNCEEA.

7) This work plan should be evaluated and adjusted every year

## 6 PRIORITISATION AND WORKPLAN

Work on the SEEA CF will be prioritised based on the following criteria:

- (International) implementation priorities
- Critical for SDG's
- Work already underway

- ???

Based on these criteria the topics of the research agenda can be prioritised as follows:

	priority
<b>A: Conceptual issues</b>	
1. Development of classifications	High
2. Development of consistent valuation techniques	High
3. Definition of resource management and structure of the resource management expenditure accounts	High
4. Depletion of natural biological resources	Medium
5. Integrated framework for environmental activity accounts	High
6. Losses	Medium
7. Linkages and overlap between SEEA CF and SEEA EEA	High
8. Fossil fuel subsidies by industry as part of climate statistics	High
<b>B: Implementation issues</b>	
1. Implementation issues related to classifications	High
2. Approaches to the measurement of adapted goods	Medium
3. Economy wide material flow accounts	High
4. Input output techniques	Medium
5. Global DSDs for data exchange for SDMX	High
6. Recording of fishery related activities in the PSUTs and asset accounts	Medium

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

## ANNEX I: Work plan SEEA CF research agenda 2016-2019

2016	<b>October LG meeting</b>	Discussion on the following research topics: 1) Integrated framework (first discussion) 2) Fish related issues (first discussion) 3) Scope environmental activities (first discussion)
2017	<b>January</b>	Call for interested parties to help the lead agencies to work on the following topics: 1) Classification land 2) Definition of resource management etc. 3) Economy wide material flow accounts 4) Global DSDs for data exchange for SDMX 5) Fossil fuel subsidies by industry as part of climate statistics 6) other areas of application
	<b>June</b>	UNCEEA will review work done so far and propose adjustments to the prioritisation and workplan
	<b>September</b>	Issue papers ready and sent to the LG members
	<b>October LG meeting</b>	Discussion on the research topics
	<b>November</b>	Comments LG incorporated in new version issue papers
	<b>December</b>	Issue papers reviewed by SEEA CF TC
2018	<b>January</b>	Call for interested parties to help the lead agencies to work on the following topics: 1) Classification of residuals 2) Development of consistent valuation techniques 3) Implementation issues related to the CEA classifications 4) Linkages and overlap between SEEA CF and SEEA EEA 5) Integrated framework 5) other areas of application
	<b>June</b>	UNCEEA will review work done so far and propose adjustments to the prioritisation and workplan
	<b>September</b>	Issue papers ready and sent to the LG members
	<b>October LG meeting</b>	Discussion on the research topics
	<b>November</b>	Comments LG incorporated in new version issue papers
	<b>December</b>	Issue papers reviewed by SEEA CF TC
2019	<b>January</b>	Call for interested parties to help the lead agencies to work on the following topics: 1) Recording of fishery related activities in PSUTs and asset accounts 2) Input output techniques 3) Approaches to the measurement of adapted goods 4) Losses 5) Depletion of natural biological resources 5) other areas of application
	<b>June</b>	UNCEEA will review work done so far and propose adjustments to the prioritisation and workplan
	<b>September</b>	Issue papers ready and sent to the LG members
	<b>October LG meeting</b>	Discussion on the research topics
	<b>November</b>	Comments LG incorporated in new version issue papers
	<b>December</b>	Issue papers reviewed by SEEA CF TC

## **ANNEX II: Description of work done so far on the topics of the SEEA CF research agenda**

### **A Conceptual issues**

#### **1. Development of classifications**

**Land:** The land cover classification in the SEEA CF will benefit from testing and application for SEEA purposes, although its basis in the FAO Land Cover Classification System v. 3 provides a strong underpinning, from a classification perspective. Building on the existing classification of land cover in the SEEA CF, there is a need to develop a hierarchical land cover/use classification that is coherent with the physiographic (i.e. bioclimate, landform, lithology, hydrology, etc.), socio-economic and biotope related attributes of the ecosystem units. This research overlaps significantly with the research agenda for SEEA Experimental Ecosystem Accounting.

#### **Environmental activities**

Handbooks for EW-MFA, EGSS and EPEA are in the process of being published during 2016 by Eurostat. A statistical guide on environmental taxes was updated in [2013](#). New guidelines have been written on environmental transfers (released in [2015](#)) and on ReMEA (to be released in 2017).

One particular issue is the definition of the scope of EGSS. Work on this area has been done both conceptually (approach to address the problem) and operational (lists of products and activities).

#### **Air emissions:**

The manual for air emissions accounts has been updated by Eurostat to take into account recent developments and conceptual changes (including the changeover to the IPCC 2006 guidelines). The manual was released in [2015](#).

#### **Energy and minerals:**

OECD has been working on a classification for mineral and energy in the context of the SEEA taskforce for SEEA implementation.

#### **2. Development of consistent valuation techniques beyond the SNA in the absence of market prices**



### **3. Definition of resource management and structure of the resource management expenditure accounts**

Draft guidelines on ReMEA have been produced by Eurostat. A final version will be published in 2017.

### **4. Depletion of natural biological resources**

FAO has been doing work on this related to depletion of biological resources for forest degradation.

### **5) Integrated framework for environmental activity accounts**

Eurostat has recently been developing an integrated framework for environmental activity accounts (Eurostat, 2015). The aim of this integrated framework is to unify concepts and terminology across the modules of the monetary environmental accounts (MEA), including the EPEA, EGSS and environmental transfers. This simplifies comparison of the (scope of the) different MEA modules, identifying the missing bits bridging them and clarifying linkages. This leads in turn to a neater conceptual framework for MEA, facilitating a joint compilation of the MEA modules and a simpler learning curve for newcomers. Statistics Netherlands has completed a study (2016) on the compilation of the Integrated framework for environmental activity accounts. This study was discussed in the LG meeting in Oslo (2016). Further testing by countries is now required.

### **6) Losses**

Different types of losses are described in the SEEA CF. Papers and discussions about the conceptual treatment and practical measurement of losses exist and can be consolidated.

### **7) Linkages and overlap between SEEA CF and SEEA EEA**

SEEA-EEA already contains a short section on the links between SEEA CF and SEEA EEA. This should be further elaborated.

## **B Implementation issues**

### **1. Classifications**

Eurostat has made a proposal how to deal with some border cases with regard to the CEA classification.

### **2. Approaches to the measurement of adapted goods**

There has been very little activity in this area. Some positive contribution can come from the work on an integrated approach, especially linking EPEA and EGSS.

### **3. Economy wide material flow accounts**

Eurostat has established early estimates at T plus 9 months for the EU. A revision of the Eurostat handbook is being prepared.

### **4. Input output techniques**

Work on environmentally related IO analyses using data from SEEA has been done by OECD and Eurostat, but also by several NSI's and research institutes. Eurostat has started to produce [guidelines](#) for EU Member States on how to compile raw material equivalents, and is working on further standard methods on decomposition etc. Eurostat is working on updated multi-region IOT for Europe. This is the foundation for further work (environmentally-extended IOT, IOT beyond Europe, etc.) which is necessary for further IO modelling.

### **5) Global DSDs for data exchange for SDMX**

### **6) Recording of fishery related activities in the PSUTs and asset accounts**

A paper by Julie Hass highlighting some important issues related to fisheries was presented and discussed in the LG meeting in Oslo (2016)