United Nations Committee of Experts on Environmental-Economic Accounting (UNCEEA)

UNCEEA Taskforce on the Implementation Strategy for the System of Environmental-Economic Accounting (SEEA) Central Framework

Implementation Strategy for the System of Environmental-Economic Accounting (SEEA) Central Framework

Draft version

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Implementation Strategy for the System of Environmental-Economic Accounting (SEEA) Central Framework

Contents

I. Introduction

1 In February 2012, at its forty-third session, the Statistical Commission adopted the 2012 System of Environmental-Economic Accounting (SEEA) Central Framework as the initial version of the international standard for environmental-economic accounts.

2 The Commission recognized that the SEEA Central Framework implementation should be considered as a long-term program, to be implemented flexibly and incrementally, giving full consideration to national circumstances and requirements; And urged the Committee of Experts on Environmental-Economic Accounting (UNCEEA) to continue its work on the development of a detailed strategy for the global and regional implementation program for SEEA Central Framework, in particular a road map for countries to follow, and encouraged Member States and regional or international organizations to initiate compilation activities in accordance with the Central Framework.

3 Also at the forty-third session the Commission

- Recognized that the detailed implementation strategy for SEEA Central Framework should reflect the need for regional and sub-regional coordination, given the different levels of statistical development, and emphasize an advocacy strategy to engage users, especially those in policy formulation and analysis; and
- Requested international agencies and other donors to make resources available for technical assistance for the implementation of SEEA Central Framework and the development of basic economic and environmental statistics in countries, in particular in developing countries.

4 Later that year, at the Rio+20 – United Nations Conference on Sustainable Development (June 2012) – the need to strengthen the monitoring of sustainable development, through improved data collection and the establishment of indicators, has been stressed.

5 According to the requests of the Statistical Commission (2012) the proposed strategy for the implementation of the SEEA Central Framework takes into account, as point of departure, the different levels of development of environmental statistics and economic statistics in various countries and regions. It is recognized that the implementation strategy should reflect the need for regional and sub-regional coordination, given the different levels of statistical development between countries. An assessment of the current level of SEEA Central Framework implementation (including planned programs and activities) by Member States and international agencies is presented in section II.

6 Like other international statistical standards, it is expected that SEEA Central Framework will be implemented incrementally taking into account policy demands, national statistical office and other line ministries resources and requirements. To support this, the SEEA Central Framework accommodates a flexible and modular approach to implementation within national statistical systems which can be aligned with the particular policy context, data availability and statistical capacity of countries. The proposed implementation strategy of the SEEA Central Framework is described in

Section III, showing how the Committee envisages flexible and incremental implementation through specific instruments and modalities.

7 Environmental accounts do not necessarily require a large amount of new data. The amount of new data depends on the availability of source statistics and also on the scope of the initial start of a particular country. The SEEA Central Framework provides the organizational structure to bring all the available data together to improve understanding of their interrelationships and verify consistency. This facilitates the identification of data gaps and overlaps as well as the improvement the quality of the data. Complete implementation of SEEA Central Framework clearly is a long term objective. The current implementation strategy will only provide guidance for the short and medium term.

8 Section IV describes specific activities planned by the UNCEEA for the implementation of the SEEA Central Framework. An explicit communication strategy will be described in a separate document.

9 Proposed mechanisms for coordination, monitoring progress and for facilitating cooperation and a funding strategy are outlined in section V and section VI, respectively.

II. Assessment of the current level of SEEA Central Framework implementation and planned programs/activities

II.a. SEEA Central Framework implementation by countries

10 An increasing number of countries are compiling or planning to compile environmental accounts (see Annex C for an overview). These countries cover both developed and developing regions. Examples of countries with extensive EA programmes can be found across all continents e.g. Australia; Canada; China; Colombia; Italy; Mexico; Norway; Philippines; South Africa; Sweden.

11 An important recent development in the EU context has been that in July 2011 the European Parliament and Council adopted the first EU Regulation (and law) on environmental accounts which requires all Members States to compile annual data for three modules in a first stage (first data delivery at the End of 2013). The legal base contains three modules that countries within the European Economic Area need to conform to. These modules are Air emission accounts, Environmental related taxes by industry and Economy-wide material flow accounts. An extension of the legal base is being discussed within the European Commission and with the statistical offices. The SEEA Central Framework provides overall guidance in the development of the modules for EU-regulation.

12 The overall picture that emerges from assessments is that whereas in the EU the focus has been to a large extent on physical flow accounts and monetary accounts (environmental expenditure, environmental taxes, subsidies and EGSS), outside the EU there seems to be a greater interest in natural resource (asset) accounting. This difference in compilation practices may be due to differences in environment related policy perspectives. The policy demand in developing countries may be understood from the need for resource management of their endowments of natural resources and specific security issues related to water and energy. This developing country perspective differs

from the developed world, where flow issues of expenditures, economic instruments, resource efficiency and environmental degradation related to economic production and consumption take prominence and preference. Also data availability issues may be a relevant factor in this context. Emission accounts require energy statistics and emission inventories which may be less readily available in developing countries.

13 These experiences underline the need for a flexible and modular approach towards implementation.

II.b. Relevant activities by international organisations

14 Several initiatives have been taken by international agencies to encourage countries to compile statistics in economic and environmental statistics. Many more initiatives are likely to be undertaken in the context of the follow up to the "Future we Want" (UNCSD 2012) adopted in Rio. By way of examples, below some initiatives that hinge on the SEEA as the multi-purpose statistical system to answer policy demand are described below. The SEEA Central Framework implementation strategy should harness on the synergies of these initiatives, which may respond to particular policy demands.

- **Natural Capital Accounting (formerly known as: WAVES)**

15 To support countries with the move to Natural Capital Accounting, the World Bank initiated a partnership called WAVES - Wealth Accounting and the Valuation of Ecosystem Services − which includes several UN agencies (e.g. UNEP, UNDP, UNCEEA, etc.), national governments, NGOs, academic and other institutions. WAVES works as a global partnership. Some are developing countries – Botswana, Colombia, Costa Rica, Madagascar, Philippines – working to establish environmental accounts in practice. Developed countries like Australia, Canada, Japan, Norway, France, and the United Kingdom that have extensive experience in the compilation of the accounts and are already exploring environmental accounting and have valuable lessons to share are also part of the partnership. Others include UN agencies – UNEP, UNDP, UN Statistical Commission – that will help implement environmental accounting in countries and review scientific evidence and methods.

16 SEEA Central Framework will serve as the reference point in implementing environmental accounting. At the same time the WAVES project will contribute to the further development of ecosystem accounting.

17 Over the next four years, it is hoped that this partnership will nurture a vibrant community that shares experience and expertise and raises awareness of the importance of environmental accounting for sustainable development.

- **The Green Growth Strategy**

18 The Green Growth Strategy, delivered at the 2011 OECD Ministerial Council Meeting, marks the start of OECD's longer term agenda to support national and international efforts to achieve green growth. The Strategy aims to help countries foster economic growth and development while ensuring that natural assets continue to provide

the resources and environmental services on which our well-being relies. It develops a flexible policy framework that can be tailored to different national circumstances and stages of development. An important part of the Green Growth strategy is a measurement framework which provides a set of indicators for Green Growth.

19 Following the delivery of the Strategy in May 2011, green growth is being integrated into OECD analytical work to provide concrete, targeted advice as member and partner countries advance with the design and implementation of green growth strategies. The OECD is building green growth considerations into national policy surveillance, such as Economic Surveys, Environmental Performance Reviews, Investment Policy Reviews and Innovation Reviews. These will cover OECD, emerging and other economies.

20 The OECD advocates that indicators for green growth should, where possible, be directly obtained from the SEEA framework. Future work will focus on the selection of a small set of core indicators. The OECD is working closely with other organizations, such as the United Nations Environment Program (UNEP), the United Nations Statistics Division, other UN agencies, the World Bank, EUROSTAT, and the European Environment Agency, to develop a common set of core indicators for green growth.

- **Green Economy Initiative**

21 The United Nations Environment Program (UNEP) launched the Green Economy Initiative in late 2008. This initiative consists of several components whose collective overall objective is to provide the analysis and policy support for investing in green sectors and in greening environmental unfriendly sectors.

22 The Green Economy Report ‘Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication’ (2011) is compiled by UNEP’s Green Economy Initiative in collaboration with economists and experts worldwide. It demonstrates that the greening of economies is not generally a drag on growth but rather a new engine of growth; that it is a net generator of decent jobs, and that it is also a vital strategy for the elimination of persistent poverty. The report also seeks to motivate policy makers to create the enabling conditions for increased investments in a transition to a green economy.

23 Beyond UNEP, the Green Economy Initiative is one of the nine UN-wide Joint Crisis Initiatives (JCI) launched by the UN System's Chief Executives Board in early 2009. In this context, the Initiative includes a wide range of research activities and capacity building events from more than 20 UN agencies including the Bretton Woods Institutions, as well as an Issue Management Group (IMG) on Green Economy, launched in Washington, DC, in March 2010.

- **Beyond GDP**

24 The high level conference "Beyond GDP" in November 2007 at which Commissioner Dimas concluded that "we [The European Commission] will also need to speed up and improve the development of integrated accounting in the social and environmental spheres" increased the interest for SEEA. The idea of Beyond GDP is to

increase the use of indicators related to environment and social aspects in relation to indicators such as the Gross Domestic Product (GDP) "...to address global challenges such as climate change, poverty, resource depletion and health" (Beyond GDP web-site). In 2009 the European Commission issued a communication GDP and beyond Measuring progress in a changing world describing the need to complement economic indicators such as the GDP with social and environmental indicators. According to this communication, the European Commission plans to extend the existing data collection further, ready for policy analysis by 2013.

- **EU Strategy for Environmental Accounting**

25 In June 2006, the European Council adopted "an ambitious and comprehensive renewed EU Strategy for Sustainable Development". It was then stated that: "For better understanding of interlinkages between the three dimensions of SD [Sustainable Development], the core system of national income accounting could be extended by inter alia integrating stock and flow concepts and non-market work and be further elaborated by satellite accounts, e.g., environmental expenditures, material flows and taking into consideration international best practices." The strategy has been revised in 2009. As part of the strategy, a legal base on Environmental Accounting was established.

III. Proposed strategy for global implementation of the SEEA Central Framework

26 In response to the above demands the statistical community has developed the SEEA Central Framework. A first version of the SEEA was presented at the World Conference on Sustainable Development in 1993. Building on increasing experience by countries and international organisations, the SEEA was gradually developed, and eventually adopted as an international statistical standard. The implementation of the SEEA over the next years will ensure the statistical infrastructure on the environment and its relationship with the economy in countries.

III.a. Objective, approach and scope

27 The proposed global implementation strategy has a twofold objective:

- to assist countries in the adoption of the SEEA Central Framework as the measurement framework for environmental-economic accounts and supporting statistics, and
- to establish incrementally the technical capacity for regular reporting on a minimum set of environmental-economic accounts with the appropriate scope, detail and quality.

28 A key element of the proposed SEEA Central Framework implementation strategy is to allow for a flexible and modular approach. This entails that rather than

proposing a ‘one size fits all approach’, it takes as its point of departure the recognition that countries differ in terms of their specific environmental-economic policy issues and their level of statistical development. Accordingly, countries may prioritize the accounts they want to implement over the short to medium-term based on the most pressing policy demands.

29 This approach recognizes that countries do not have to implement all accounts at the same time. Few, if any country, compiles all possible accounts. It is up to individual countries to decide upon scope and coverage of their envisaged environmental accounting programs. In addition, it should be up to countries to develop a specific time frame for implementation. A flexible and modular approach for individual countries is compatible to efforts by international organizations (such as Eurostat and the OECD) that wish to collect data from SEEA Central Framework for regional or global monitoring efforts

30 In situations of partial statistics and pressing policy needs, indicators could be developed first, however effort should be made to ensure that such indicators are consistent with accounting rules and principles.

31 The implementation strategy covers both developed and developing countries. The focus of the implementation strategy lies on the assistance of countries with ‘poor’ statistical systems on the one hand and on the other hand, have shown commitment for SEEA activities through their own initial funding.

III.b. Flexible and modular approach

32 The flexible and modular approach for SEEA Central Framework implementation is operationalized by a number of phases. The **first phase** of the implementation strategy consists of the establishment of a national institutional mechanism that will drive the implementation strategy. This includes an initial screening to identify whether there is commitment and potential to sustain a program over time. Minimum institutional support is needed before a successful implementation can start.

33 The **second phase** of the implementation strategy consists of a self-assessment phase. Figure 1 in Annex A provides a possible diagnostic tool designed to assist countries in performing such a self-assessment concerning their SEEA Central Framework implementation. Using this tool countries identify which accounts have to be implemented to serve certain policy needs and what basic data sources are needed to compile these accounts.

34 In several ways this self-assessment accommodates a flexible and modular approach towards implementation:

35 First, implementation should be as much as possible a demand driven process whereby those accounts are developed first that address the most pressing policy needs. For example, countries that aim at reducing the air emissions to meet climate change commitments, may decide to develop air emission accounts on a priority basis, while countries affected by resource scarcity may wish to consider developing natural resource accounts. The diagnostic tool may help countries to prioritize during the self-assessment phase which accounts should be developed first, using a top-down approach.

36 Second, environmental accounting is in essence about integrating various data sources such as environment statistics, energy statistics and economic statistics. As evidenced by environmental accounting programs in several developed countries, when relevant data sources are readily available, environmental accounts can be compiled with relatively little effort. However, when basic data sources required for compilation of specific types of accounts are either nonexistent or of low quality, investments may need to be made first in developing these basic data sources. For example, when the policy interest is reducing the air emissions to meet climate change commitments, but an emission inventory is not available, an outcome of the self-assessment could be that the implementation strategy should focus on making a specific investment in development of such a data source first (either by establishing a survey program or developing administrative data). An important aspect is therefore to perform a quality assessment of the data sources required for the compilation of the prioritized types of accounts.

37 The third phase is the data quality assessment. When the accounts for implementation have been prioritized, the next step is an assessment of the basic data sources that are needed for the compilation of these accounts. Such an assessment can be performed using the data quality assessment framework (DQAF) which was originally developed by the IMF, or country equivalent[1]. The DQAF was developed as an assessment methodology that aims to provide structure and a common language for the assessment of data quality. The DQAF comprehensively covers the various quality aspects of data collection, processing, and dissemination. The Framework is organized in a cascading structure that progresses from the abstract/general to the more concrete/specific details. It covers five dimensions of quality, namely integrity, methodological soundness, accuracy and reliability, serviceability and accessibility, and a set of prerequisites for the assessment of data quality. The coverage of these dimensions recognizes that data quality encompasses characteristics related to the institution or system behind the production of the data as well as characteristics of the individual data product.

38 **The fourth phase.** Following the outcome of the self-assessment and the data quality assessment a strategic development plan for environmental accounting can be drafted, which contains at minimum a prioritization of types of accounts and an assessment of the status of the required data sources. The development plan should also be explicit about improvement activities related to the source data. Subsequently, capacity building efforts could be tailor-made to these country specific circumstances and needs. At national level, strategic planning refers to formulation of a strategic vision based on a detailed national assessment of existing capacity and needs, followed by the formulation of a national implementation program.

39 The international community could develop common diagnostic tools to aid countries to undertake self-assessments and common guidelines for the drafting of strategic visions and national implementation plans for the various modules. These diagnostic tools would typically cover the evaluation of the existing institutional arrangements for managing integrated statistics like a) legislative, operation and process management frameworks, b) coordination and governance arrangements like advisory

[1] http://dsbb.imf.org/pages/dqrs/dqaf.aspx

committees, service level agreements and c) human and financial resources. Moreover, tools would include the assessment of the existing statistical production processes which cover the components of: a) the use of agreed standards and scientific statistical methods, data editing, metadata and data warehousing and data quality frameworks, b) business registers and frames, c) use of survey and administrative data sources and d) dissemination and communication practices, e) planning about improvement activities related to the source data.

40 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 Central Framework 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.

IV Activities for the Implementation of the SEEA Central Framework

41 The SEEA Central Framework is expected to be implemented with a flexible and modular approach taking into account national statistical office resources and requirements. The most important issues of the implementation process are institutional capacity building and the development of data sources. This section provides an overview of the activities by the Partnership Group (see section V.b.) to facilitate and stimulate the (global and national) implementation process: training and technical cooperation, the development of training materials, cooperation with the research community, and advocacy.

IV.a. Training and technical cooperation

42 Training and technical cooperation programs for countries requesting assistance put a further emphasis on direct country involvement. The training and technical cooperation programs will emphasize the integration of statistical capacity building in national planning and programming cycles to secure resources for sustainable statistical programs for environmental economic accounting and basic environmental statistics..

43 Training and technical cooperation is dependent on the availability of people who can teach. The number of experts on environmental accounting available for this type of training needs to increase. The training of people who can become teachers is one of the challenges that lies ahead. Training and technical cooperation by institutional capacity building like the WAVES project and by other twinning projects for transferring know-how has proven to be a successful way of acting and is recommended, but need more resources (see chapter VI on funding).

44 The training programs will be implemented mainly through organizing training seminars, workshops and meetings. Actively pursuing these initiatives at a (sub) regional level should enable regional organizations and their member countries to share experiences (peer-to-peer) in developing sustainable economic statistics programs.

IV.b. Manuals and training material

45 The implementation of the Framework could also benefit from the activities undertaken in different countries to implement the 2008 SNA. To support the implementation of the 2008 SNA there will be a series of new and revised manuals and handbooks that also could be of good support for the implementation of the Framework.

46 The European development of environmental account[2] has involved networking and cooperation between countries to agree on measurement practices. Similar regional cooperation networks would be valuable to identify and to develop local training material.

47 There is already a lot of training material available. In the last years several workshops on environmental accounting have already been organized (for example by Eurostat etc.). The challenge will be to put it all together and make it available is a consistent way. Also certain IT-tools that have been developed to compile specific accounts maybe helpful in this regard (for example the IT-tool that is currently being developed by Eurostat to compile energy flow accounts).

IV.c. Cooperation with research community

48 The users of environmental accounts data can often be found in the research community. In countries that do not produce accounts, researchers and consultancies often are the ones to provide similar analyses on an ad-hoc basis. A close cooperation with the research community can therefore be a means to recruit potential teachers, increase the number of users and implement the environmental accounts ideas in a broader context. The scheduled handbooks SEEA2 on ecosystem accounts and SEEA3 applications and extensions will be realized in close operation with universities and research institutes.

49 Cooperation can be established in different ways. Applying for research grants in cooperation between researchers and statistical offices and joining forces in common projects is one. It has proven a good way to increase the understanding for the principles of the statistical system and the advantages of using statistical classifications in analyses related to environmental socio-economic issues.

IV.d. Advocacy

50 As an integral component of the implementation strategy, advocacy aims to support an ongoing dialogue among statistical producers, the various levels of government, business sector, the academic community, and the general public about user needs for official statistics and the progress in meeting those needs. This recurrent communication can be established through targeted workshops, conferences, press releases and promotional materials that highlight the benefits of good quality official

[2] http://epp.eurostat.ec.europa.eu/portal/page/portal/environmental_accounts/introduction

statistics in general, and environmental-economic accounts in particular. These regular engagements between the producers of statistical outputs and the providers of basic data on one hand and the users of environmental-economic accounts on the other will reinforce a better funded and more effective environmental-economic accounts program that provides reliable data for an evidence-based economic policy formulation. The focus of the advocacy should be on stimulating demand and engaging with users.

51 Advocacy should be achieved through the development of a communication strategy promoting the Central Framework of the SEEA. This strategy will be described in a separate document. The objective of the Communication strategy is to effect information sharing with all stakeholders (target groups). The communication strategy makes it clear that through statistical integration of basic statistics with macroeconomic accounts, a coherent set of statistics and indicators can be derived for evidence-based policy formulation for green growth/green economy and sustainable development at regional, national and international levels. Therefore, promoting good quality environmental-economic accounts statistics is essential in establishing a sound sustainable policy within a coherent medium-term budgetary framework.

52 An explicit communication strategy will become an integral component of technical assistance and training programs undertaken by the UNCEEA member organizations, Eurostat, IMF, OECD, UNSD and World Bank. Supporting materials and guidelines are to be developed for this purpose by the UNCEEA in cooperation with PARIS21[3].

V. Mechanism for coordination, monitoring progress and facilitating cooperation

V.a. Information structure for coordination, monitoring and reporting

53 The principle of coordination, monitoring and reporting ensures that the roles of international and regional organizations, other donors and recipient countries are clear and their actions are complementary, effective and efficient. Coordination comprises the timing and sequencing of events. Monitoring comprises assessing the efficiency of technical assistance programs, evaluating lessons learned, and using resources effectively. Reporting communicates progress and operational issues to interested stakeholders. Better coordination, monitoring and reporting collectively help meet national and regional goals, as well as providing a means to evaluate and to assess the progress of the implementation of SEEA Central Framework. Monitoring, reporting and evaluating should also be used to identify risks to the implementation process so that timely interventions can be made to keep plans on track.

54 The UNCEEA proposes to apply the proven program information structure to facilitate the coordination, monitoring and reporting on the SEEA Central Framework implementation in this multi-stakeholder environment. This proposed information system, as was successfully used in the Implementation Strategy of 2008 SNA, is built on

[3] PARIS21 focuses its efforts on encouraging and assisting all low-income and lower middle income countries to design, implement, and monitor National Strategies for the Development of Statistics (NSDS) and to have nationally owned and produced data for all Millennium Development Goals (MDG) indicators.

the structure of the statistical production process and an established data quality assessment framework for evaluating statistical project outcomes. Together, the two dimensions will allow the UNCEEA to develop a coherent information system for programming, monitoring and reporting. The statistical process dimension will be used to program and monitor the implementation and the Data Quality Assessment Framework (DQAF) dimension will be used to evaluate and report on outcomes.

55 As described for the implementation of SNA 2008[4], the SEEA Central Framework implementation strategy uses standards for the statistical production process to support programming and monitoring, and the DQAF to support program reporting. Both are vital for overall coordination at regional and country level and, the UNCEEA will work with the regional commissions to seek the adoption of an information system. A commonly accepted system is highly desirable for effective project programming, monitoring and reporting, especially in the SEEA Central Framework context with multiple compiler stakeholders within a country and often multiple funding agencies within and across countries.

V.b. Mechanism for coordination, monitoring progress and facilitating cooperation

56 In the multi-stakeholder environment for the SEEA Central Framework implementation strategy, a mechanism is needed in order to coordinate, monitor and report progress at (sub) regional and international level. The purpose of this mechanism would be to share information on the development and the execution of the SEEA Central Framework implementation strategy.

57 UNCEEA proposes to install a Partnership Group, consisting of the partners active in this field (see section II). This partnership will be responsible for facilitating and stimulating the implementation of SEEA Central Framework. A trust fund for the implementation will be created by a separate entity. The role for UNCEEA will be the overall global coordinating body. In particular, it is proposed that this group will consist of representatives of (existing[5]) regional coordinating mechanisms and will advise the UNCEEA on maintaining and managing a coherent program of work to implement SEEA Central Framework. If these proposals are accepted, the UNCEEA would further reflect on the modalities of the mechanisms.

58 The new project information model described in this document (section V.a) will be used to facilitate cooperation among agencies in delivering technical assistance and training through more timely and effective communication on work programs and program developments. Agencies will characterize their program activities in terms of the statistical process and in terms of DQAF indicators to evaluate and report the activities in the recipient countries. This coherent information system will assist in providing timely notice of possible synergies and impending duplications and gaps in work programs. For the review of national and regional SEEA Central Framework implementation plans,

[4] Implementation Strategy for the System of National Accounts, 2008; Prepared by the Intersecretariat Working Group on National Accounts; Statistical Commission Background document; Fortieth session, 24 - 27 February 2009

[5] In the case of Africa UN Econ Commission for Africa as an example.

regional coordination mechanisms may wish to establish such advisory groups to share information on the development and the execution of the SEEA Central Framework implementation strategy on the regional level.

59 In addition to implementing a standard program documentation structure across its member agencies, the UNCEEA proposes to support an extension of the web-based knowledge base[6] on economic statistics and macroeconomic standards sources from and hyperlinked to other organizations as relevant to ensure a single point access to normative documents, compilation guidance and country experiences. This instrument, developed by UNSD as part of the Implementation Strategy for the SNA 2008, will help ensure that UNCEEA organizations are delivering a consistent message on the implementation of the SEEA Central Framework and related macroeconomic standards.

60 The Partnership Group will further assist in promoting practical instruments of implementation across the (sub) regions such as handbooks, compilation guides, textbooks, advocacy modules, software tools for the various components of the statistical production process and the use of SDMX as a common data transmission system.

VI. Strategy for funding

61 The strategy for funding arrangements for the SEEA Central Framework implementation can only be based on a cooperative and partnership model. It should build largely on the existing resources and comparative advantages of all stakeholders and partners, as described in section IV (preferably resulting in a trust fund created by the partnership). Various sources of funding are viable:

- countries should include funding needs for 2012 SEEA Central Framework implementation in their national plans and actively seek additional sources of funding for their plans;
- international agencies providing technical assistance and financial support and other donors are requested (by the Statistical Commission) to make resources available for technical assistance for the implementation of SEEA Central Framework and the development of basic economic and environmental statistics in countries, in particular in developing countries; and
- all agencies involved should build on synergies with the other similar programs such as work of PARIS21, provision of training and technical assistance.

62 The limited resources (of the trust fund) should be focused on assistance of countries that have shown commitment for SEEA Central Framework activities through their own initial funding to assist them in achieving some success, rather than being used mostly for “seed” money where the chance of continued activity is limited.

[6] http://unstats.un.org/unsd/EconStatKB

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6) WAVES (Wealth Accounting and the Valuation of Ecosystem Services). 2012. *Moving Beyond GDP: How to factor natural capital into economic decision making.* Available online at www.wavespartnership.org/waves/sites/waves/files/images/Moving_Beyond_GDP.pdf
7) UNEP, 2011, Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication, Available online at www.unep.org/greeneconomy

Annex A: Diagnostic tool to perform a self-assessment

A.1 The flexible and modular approach for SEEA Central Framework implementation is operationalized by a number of phases. The first step of the implementation strategy consists of a self-assessment phase. Figure A.1 provides an example of a diagnostic tool designed to assist countries in performing such a self-assessment concerning their SEEA Central Framework implementation.

A.2 The diagnostic tool consists of multiple layers.

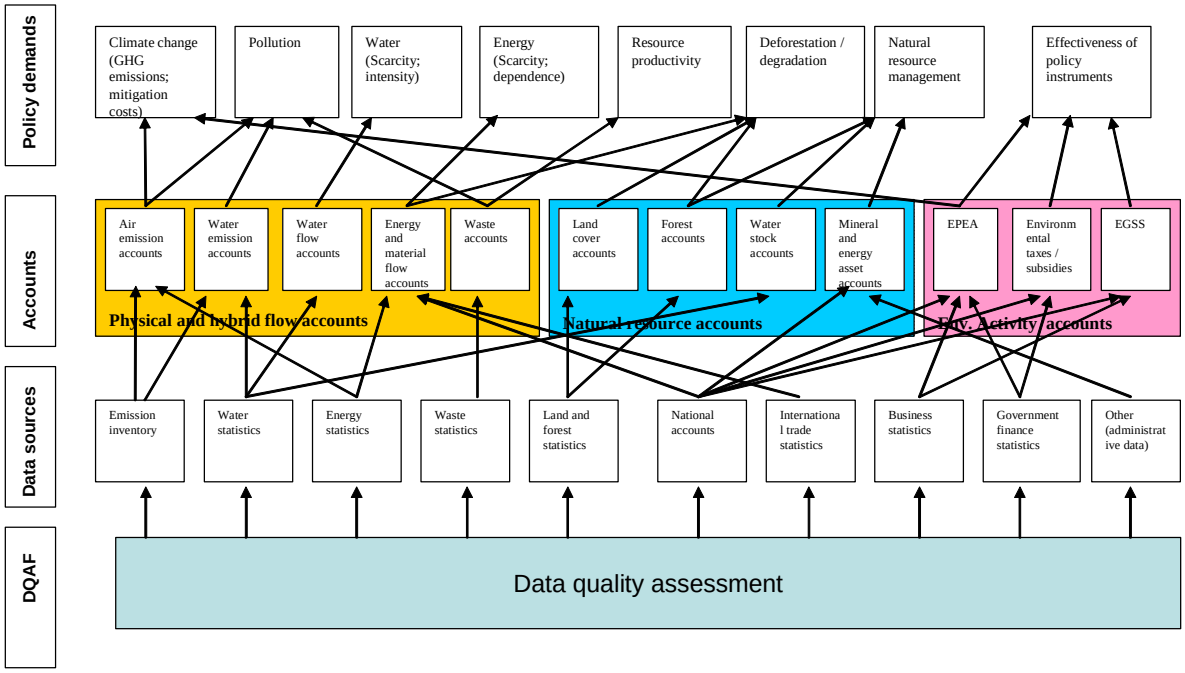
A.3 **At the top-level**, **in the first layer**, examples of key policy issues are shown which form the main elements of these policy frameworks. For instance, assessments of the natural capital base (and its depletion) are important to sustainable development, whilst resource productivity is a key element of green growth. Other examples are policy issues such as pollution, climate change, water scarcity, etc.

A.4 **The 2nd layer** depicts a list of the various types of environmental accounts (i.e modules) as described in SEEA Central Framework and indicates through the connecting arrows which accounts can be used to address the various types of policy issues. Not shown in this figure are the overarching policy frameworks which are usually connected to the objectives of environmental accounting, namely sustainable development and green economy / green growth. The measurement framework needed for these two general policy issues are often assessed through selected indicator sets, that can in part be derived from the SEEA Central Framework.

A.5 **The 3rd layer** indicates the main data sources that are commonly required to compile specific types of environmental accounts. There may be differences between countries in terms of the specific data sources used, but the diagram is meant to provide a general overview of basic data requirement.

A.6 **The 4th layer** shows the data quality assessments that can be done on these required data sources. The data quality assessment framework (DQAF) covers five dimensions of quality (integrity, methodological soundness, accuracy and reliability, serviceability and accessibility) and a set of prerequisites for the assessment of data quality. The coverage of these dimensions recognizes that data quality encompasses characteristics related to the institution or system behind the production of the data as well as characteristics of the individual data product.

Figure A.1, Flow chart



B. Annex B: List of tables in SEEA-CF

C. An overview of the current level of SEEA Central Framework implementation in countries

C.7 Table C.1 (Source: Edens et al. (2011)) provides a very rough picture of environmental accounting experiences by non-EU countries cross-classified by the different chapters of SEEA Central Framework. More detailed information on country practices is available through the results of the Global Assessment (UNSD 2008) and an assessment of wealth accounting (World Bank 2011). The countries listed here are known to have (had) environmental accounting programs. Obviously, there are many more countries that have done work on environmental accounting, for example on a one-off basis or through academia. In addition, there are many more countries with an interest in, or in the process of compiling, environmental accounts.

Table C.1 Experiences outside the EU with environmental accounting

	Ch3 Flows	Ch 4 Monetary	Ch5 Assets	Ch 6 Sequence
Australia	x	x	x	x
Botswana			x	
Brazil			x	
Canada	x	x	x	
China	x			x
Colombia		x	x	
India	x		x	x
Indonesia	x		x	x
Japan	x	x	x	x
Jordan	x		x	
Mexico	x		x	x
Namibia			x	
New Zealand	x	x	x	
Philippines	x		x	x
Korea			x	
South Africa	x		x	
USA	x		x	x
EU	x	x	x	x

Source: Edens *et al.* (2011)

C.8 Natural capital accounting is a tool for policy makers that is being used for informed decision making in developing and developed counties. Some 24 countries now regularly compile at least one account (see map by UN Statistics Commission; Figure B.1.) Across all countries, the most widely implemented accounts are flow accounts for energy, air emissions, and water. Asset accounts focus on minerals, oil and gas, forests, and land. Developing

countries like Mexico, Columbia, the Philippines, and South Africa are compiling accounts ranging from energy and water tot how minerals and timber contribute to national economic growth. Uptake in Europe is strongly influenced by EU regulations mandating certain accounts.

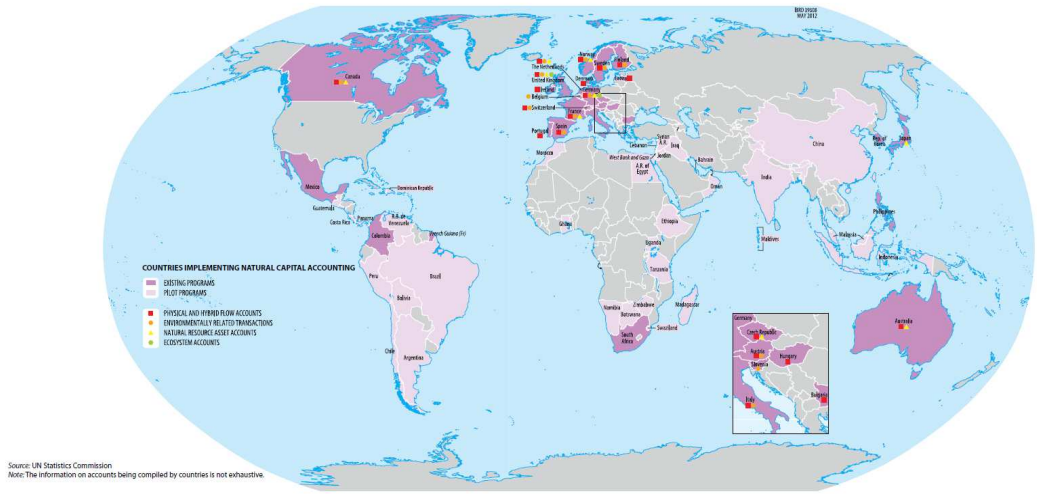


Figure B.1, Source UN Statistics Commission