



Minutes of the 23rd meeting of the London Group on Environmental Accounting

17-20 October 2017, San José

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Background documentation presentations here:

<https://seea.un.org/events/london-group-environmental-accounting-23rd-meeting>

Brief summary

The London group is an expert group on environmental economic accounts and the purpose of the meeting was threefold; to discuss priority issues from the research agendas of the central framework and experimental ecosystem accounting, to highlight issues of implementation and sharing of information.

Siliva Charpentier of the board of the Central Bank of Costa Rica welcomed the group and emphasised its importance to promote and strengthen the methodology on environmental and ecosystem accounting. Mrs Charpentier also stressed the importance to deepen relations between statistics, accounts and sustainable development and be involved in all areas of sustainable development.

The first day focused on the research agenda of the central framework. 5 areas of priority have been identified by the UNCEEA and were discussed: material flow accounts, fossil fuel subsidies, adapted goods, integrated framework for monetary activity accounts and global DSDs (data structure definitions, a syntax that helps automated sending of data packages). For the material flow accounts, the suggestions will be taken into account and hopefully this issue will then be solved. For the fossil fuels subsidies, the coming year needs some practical testing of a suggested methodology that is being developed. Several countries showed interest in participating. For adapted goods the work will continue at Statistics Canada and Eurostat and the London group will be informed about the progress. Concerning the integrated frameworks there was a discussion and there will be follow up. The global DSD work is proceeding well.

The group was also informed about the ongoing work of the UNCEEA and more in-depth about one item of the work programme

from the UNCEEA on global coordination that Statistics Canada is developing.

Day 2 focused on the research agenda of the experimental ecosystem accounting. Topics covered a range of fields, e.g. valuation, integrating and scaling of data, the use of GIS and urban and condition accounts and classifications and nitrogen flows. Some of the key messages that came out was that there is still much work to do. Further work is required in the development of extent accounts: clarifying accounting principles, stock taking best practises and more large scope considerations on the atmosphere and its treatment in the accounts of the CF and the ecosystem accounts. On Condition accounts further work of benchmarks are necessary and identifying indicators suitable for analysis. On Ecosystem services methodological work is needed for clarifying treatment practises with regards to intermediate/supporting services, the identification of beneficiaries an users and discuss SNA benefits and non-SNA benefits. On valuation of services and monetary asset accounts several issues were highlighted such as further guidance on projections and NPV calculations, and the meaning of the monetary assets in themselves and the role of national statistical institutes in this line of work. A new issue was identified related to potential services, there was a link to this, and capacity accounts noted.

Day 3 finished the discussions on ecosystem accounting research agenda, and went on to implementation and extensions of the environmental and ecosystem accounts. For example, FAO and Istat have raised the issue of how to deal with Land Use, Land Use Change and Forestry (LULUCF) in the accounts and a product dimension in the accounts from LULUCF data. It was recommended to add this item to the CF research agenda.

Special dedication was given to energy accounts, where Eurostat and some countries informed the group on their experiences of energy accounts and where UNSD presented a proposal for a roadmap leading to a new global data collection on energy accounts. The group sat in small groups discussing the proposal and suggested ideas on how to move forward with regards to the proposal.

The group was also informed about the ongoing work on implementing different accounts in Latin America (Colombia, Costa Rica and Brazil) lead by UN ECLAC (Economic Commission for Latin America and the Caribbean).

The final session of the last day provided input to the discussion of policy applications of the environmental accounts presented by the World Bank and an example of the Estonian experience of green tax

reform was highlighted. In addition the group discussed how to link the data stemming from the central framework and the ecosystem accounts (and vice versa). Examples from UK and Sweden were given. The Bureau of Economic Analysis in the US presented their project on SEEA with links to both areas.

Session A: Introductions and UNCEEA up-date

Silvia Charpentier from the Central Bank of Costa Rica gave the welcome address speech highlighting the importance of the London group to promote and strengthen methodology on environmental accounting. The work have to deepen relations between economics, statistics and sustainable development and be involved for our future as society.

Nancy Steinbach, Chair of the London group welcomed the participants to the meeting and thanked everyone for their ongoing support and collaboration. Mrs Steinbach presented the status of the work plan, which moves in planned order. The scope contains Methodological research, Implementation, advices & best practices and Development and sharing of the year's applications and extensions. The same procedure will follow 2018 meeting, with the call for abstracts to be sent out in early 2018. Preliminary dates for the 24th London group meeting is Monday 1st October – Thursday 4th October 2018 in Dublin, Ireland.

Alessandra Alfieri, UNSD presented the work of the UNCEEA and 6 work programme areas that the UNCEEA has developed: Development of global database, coordination, methodology (divided into SEEA CF and SEEA EEA), capacity building and communication. Mrs Alfieri also presented a new proposal for a road map on global energy accounts for which UNSD is the lead organization to further work on. In addition a 7th area has been recently developed: Mainstreaming SEEA in SDGs.

Kevin Roberts, Statistics Canada presented one of these work programme areas: Coordination for which Statistics Canada is the lead organization. Mr Roberts presented the objectives of the group which covers coordination of training and global reporting initiatives. A work plan is to be developed and a group established to work on the issues at hand.

Key points and messages:

- The work of the London group is important for the continued work in improving statistical methodology and provide objective information to further the work on sustainable development.

- The London group's work plan is going according to plan. Call for abstracts will go out in early 2018 for the 24th meeting in Ireland, Dublin.
- The UNCCEA has created 7 work programmes to initiate further improvements globally for the System of Environmental-Economic Accounts and Ecosystem Accounts.
- Statistics Canada is leading one of these 7 work programmes, on coordination of training and global reporting initiatives. The London group provided feedback such as clarifying the role of universities, importance of virtual networks, local and international consistency, setting up a process for international reporting obligations and the need for standardization and quality control and ultimately simplifying the key message of our data and take heed of regional specific needs.

Session B: Methodological work SEEA CF

Sjoerd Schenau, Chair of the Technical Committee on SEEA CF introduced the work on the SEEA CF research agenda. The current timeline for the resolution of the topics have been identified to 3 years (2017-2019). Lead agencies have been assigned to each topic in order to ensure its research progress. The process is such that for each topic an issue paper will be discussed at the London Group and after a final review by the SEEA CF technical committee and UNCEEA the solutions to the issues will be published on the SEEA website. The prioritization of issues is divided by conceptual issues and implementation issues and has been set by the UNCEEA.

Arturo de la Fuente from Eurostat presented the issue of SDMX standard data structure definitions for statistical data transmissions. Currently the SEEA priority accounts for global databases and the SDMX is Air emissions, material flows, energy and water flows and land cover.

Aldo Femia, ISTAT presented from the research agenda the topic of different treatment of the economy-wide material flow (EW-MFA) and the supply and use approach of the SEEA CF. The proposal is that EW-MFA can be recognized as an application of the SEEA CF. This means showing how EW-MFA characteristic aggregates (DE, DMC, DMI, DPO...) fit in and can be derived from the PSUTs.

Arturo de la Fuente, Eurostat presented the work of Eurostat of Material flow accounts in raw material equivalents. The London group was asked if this work could be included in the issues discussed by the group.

Sven Kaumanns, Federal Statistical Office of Germany presented the German experience of MFA in raw material equivalents and the issue of material flows to final use and the actual final use of a material that can be recycled and re-used several times in contrast to the definition

of final use in the national accounts. Several questions were identified, the time of recording, difference in value and in physical terms, cultivated and not cultivated biomass and the domestic technology assumption.

Arturo de la Fuente, Eurostat presented the work of Eurostat on the integrated framework for environmental activity accounts. The areas of environmental taxes, environmentally motivated subsidies, environmental goods and services sector and environmental protection expenditures have developed separately although within the framework of SEEA. Eurostat proposes a system of integrated modules with common accounting structures which would lead to efficiency gains and provide consistent estimates in the same manner as the GDP can be calculated on the basis of supply or demand.

Viveka Palm, Statistics Sweden, presented the ongoing work to identify a statistical methodology to compile statistics on fossil fuel subsidies as a response to the data needs of the SDGs. UNEP has started a Task Force that is now discussing the path forward and in which the SEEA can contribute. The London group was asked to contribute to this work by testing the methodologies that will be developed.

Cindy Lecavalier, Statistics Canada, presented their work on adapted goods and efforts to identify and define them for statistical work. The area of work focuses on energy efficiency and will be tested in a survey currently in progress.

Key points and messages:

- Overall, the areas in the research agenda sees activity are moving forward. The Technical committee of the SEEA CF is asked to assist in the further clarification on how the issue papers can better target a solution. This will assist in the work of the London group to make recommendations and guidance.
- On DSDs: the work is moving fast and is close to resolve, for the priority areas of air emissions, material flow, energy flows, water and land. Next will be testing the draft DSDs in the first half of 2018.
- On MFA the solution to the issue of different technical treatments of the EW-MFA and the SEEA CF is close at hand. The SEEA CF technical committee will be asked to make one final review.
- The work of RME can be recommended to be included in the research agenda of the SEEA CF. A lead agency needs still to be identified and a proposed text clarifying the issue to take this forward in cooperation with interested parties should be written and sent to Sjoerd Schenau.

- On the integrated framework, Eurostat collected feedback from the London Group and will report to the SEEA CF technical committee. The London group is encouraged to test the current proposal, contact can be taken with Arturo de la Fuente.
- The next step with regard to the topic of fossil fuel subsidies is to further discuss and test the measurement definition for the transactions of interests and propose a SEEA consistent methodology. Volunteer participants were identified to test the methodology on the new statistics: Germany, Australia, Netherlands, UK, New Zealand, Italy and Costa Rica. They will be further contacted by Viveka Palm.
- On the issue of adapted goods the London group anticipates the results of the Canadian experience of their survey.

Session C: Methodological work SEEA Experimental ecosystem accounting

Rocky Harris, Defra, introduced the SEEA EEA research agenda and the past of the work. Mr. Harris presented the pre-meeting survey results of the state of the art in the field at national level (10 countries responded). The result showed that within these countries the work is still in experimental phases with extent accounts mostly developed.

The round table showed that there are many initiatives currently ongoing, at national statistical offices, universities, research institutes and global organisations, however, the prevailing note is still that the work is highly experimental.

Specific country presentations

Michael Vardon, ANU, informed the group about the integration and scaling of data to create ecosystem accounts. The research focused on measuring the benefits obtained from forests in physical and monetary measures.

Takahsi Hayashi, Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries, made a presentation about Ecosystem service valuation and ecosystem asset account in Japan. The data is estimated in monetary and physical terms, to do this they use two different valuation methodologies: exchange value and surplus value methodology.

Sjoerd Schenau, Statistics Netherlands, gave a presentation about the modeling ecosystem services for ecosystem accounting. The Netherlands has developed an ecosystem type map and physical supply and use tables for 13 ecosystem services on a national scale to compare the development of the ecosystems by type of unit.

Raul Figueroa, INEGI, informed the group on a number of principles and advices for countries with scarce experience in the valuation of experimental ecosystem accounts.

Urban Accounts

David Barton, NINA, made a presentation about experimental ecosystem accounting in Urban Areas and key messages in communicating the results. The presentation identified the view of no obvious choices for monetary valuation methods – all have different benefits and drawbacks.

Emily Connors, ONS, presented the UK experience of working with a sub-set of the accounts, in urban areas.

Condition accounts

Michael Vardon, ANU, presented a review concepts and methodology used for ecosystem condition indicators. 17 studies were reviewed the conclusion was that there are limited examples of presentation of condition by ecosystem characteristics as proposed in the SEEA-EEA.

Issue 2: Ecosystem services definition and classification

Rocky Harris, Defra, provided a quick update of the stage of CICES v5.1 – to be released in November 2017. One of the key features is that final services are included to provide precision.

Alessandra La Notte, JRC described the work done to find similarities between services classification CICES and NESCS. Using the cascade schematic, she explained that each classification looks at different aspects.

Issue 3: Valuation methods

Rocky Harris, Defra, presented 3 broad approaches to valuing non-provisioning services: welfare-values, posited exchange values and observed exchange values. A case study of valuation of Carbon sequestration, Air filtration and enabling outdoor recreation, using the 3 approaches was presented, and values discrepancies discussed.

Michael Vardon, ANU, informed the group on work related to valuation of water. The considered 3 valuation techniques (resource rent, production function, and replacement cost), and Replacement cost was the seen as the best one to use (e.g. resource rent was negative).

Emily Connors, UK, informed the group on the work of the UK in using Net Present Value to value their asset accounts. This development comes from the demand from their independent Natural Capital Committee, and because it has the potential to tell info about ecosystem health in one number. This type of info is easy for media to present. It is important to be aware that that 'one number' may change a lot with revision and take lots of time/work to obtain.

Alessandra La Notte, JRC, informed the group on the work on valuation conducted at the JRC. Alessandra stressed two main points: 1 - the changes in biophysical terms have to lead to monetary valuation; when using modelling techniques the integration between the biophysical and economic parts might take place at the very beginning and not being just a price attached to a final quantity: this was exemplified with the water purification example.

2 - there must be full coherence between quantities in stock and flows and their monetary translation so that (in the example of water purification) for each tonnes of N you simultaneously know the hectares of constructed wetlands and the euro/ton and euro/ha

Matías Piaggio, Environment for Development (EfD), presented *the Ecosystem Services Accounting for Development (ESAfD)*. ESAfD is a four year collaborative and multi-country research program that aims at developing and testing empirical methods of economic valuation of ecosystem services. It focus on assessing three regulating services, water purification, crop pollination, and urban green areas, in seven different countries; China, Costa Rica, Ethiopia, Kenya, South Africa, Sweden and Tanzania. The objective is to develop empirical estimates of the value of ecosystem services using methods consistent with both economic theory and SEEA. The main following ups from this presentation are how to incorporate these results into the SEEA-Ecosystem Experimental Account, how to build a general framework to consistently compile the information needed to feed national accounts, and how to extend this approach to other ecosystem services.

Capacity accounts -

Alessandra La Notte, JRC informed the group on work ongoing to assess sustainability from the SEEA EEA. Starting with SEEA-EEA and Technical notes, her team realized that ecological boundary requires to be pushed further. Ecosystem units are not only able to be an input to production, as known, but the work also suggest it to be seen as an institutional sector to consume and accumulate (ecological notion). This has 2 implications: 1) account for the potential flows; 2) embedded services and benefits. A complementary Supply tables, which covers the potential flows (which can be used, underused or overused/degradation) was presented, as well as its reflection in the Use Table.

Thematic accounts

Sjoerd Schenau, Statistics Netherlands, presented the overall carbon account for the Netherlands. The overall carbon account is composed by the Biocarbon, Geocarbon, carbon in the economy and carbon in

the atmosphere. The overall methodology, data sources and policy applications and issues/questions (e.g.. carbon in seas/oceans, is structure adequate, etc.) were presented.

Steven King, UNEP-WCMC, presented the work done on compiling biodiversity account in Uganda. Work was performed to achieve Aichi target and implement SGDs. Data sources and accounting outputs were presented. To achieve the work, among others, the country natural capital was characterized, time series account were prepared for trees and flagship species (national or regional, when possible). National ecosystem extent account, and other accounts (ex. Shea butter nut tree) were presents and discussed. Report available at www.wcmc.io/0524/.

Key points and messages

1. Extent accounts
 - i. Further discussion is required of differences between **land cover and ecosystems**. To what extent can the extent of the asset be defined broadly by land cover, with additional information used if necessary to isolate particular ecosystem types?
 - ii. Where should **management practices** be recorded in the account? They are important determinants of ecosystem services, and can be viewed as a quality of the ecosystem in terms of its capacity to deliver services, but different management practices do not necessarily change the nature of the ecosystem or its extent.
 - iii. In developing a **classification of ecosystem types**, it would be worthwhile reviewing the different classifications currently in use in countries.
 - iv. Further consideration needs to be given to the **treatment of the atmosphere** within the scope of the accounts: it is an environmental asset but not an ecosystem (but essential to ecosystems).
 - v. There was much interest in accounts specifically for **urban areas** (as opposed to the administrative areas of municipal authorities or to built-up land). Due to the high policy relevance, this suggests there is a need to recognise this type of area within the EEA guidance on the classification of extent although it could be seen simply as an application or extension.
2. Condition accounts
 - i. Further clarification is needed on the types of ecosystems where an historical **reference condition**

would be appropriate, and those where other reference conditions might apply.

- ii. Is it possible to identify some key/**core indicators** which should be a minimum requirement, e.g. measures of water quality in open water ecosystems?
- iii. The review of condition indicators shows fairly limited experience: it would be useful to add to the review and categorise **proposed or ideal indicators** which have been identified by a number of countries, whilst recognising that such measures may not be readily developed.

3. Ecosystem services

- i. More clarity is needed on the treatment and development (and valuation) of **intermediate/supporting services**.
- ii. A couple of presentations raised issues about the **identification of beneficiaries and users** and the distinction between them. This needs further work, particularly for spatially disaggregated accounts.
- iii. There was some confusion about what is an **SNA benefit** and what is **non-SNA benefit**. To what extent should indirect SNA-benefits (e.g. of health benefits to the productivity of workers) be distinguished from benefits completely outside of the SNA? Are all SNA benefits products?
- iv. The boundaries and time of recording between ecosystem services, natural inputs, SNA and non SNA benefits and products need to be more clearly defined.
- v. The **link with FECS** needs to be established.

4. Valuation of services

- i. Two presentations discussed the relationship between different **uses of valuations**, especially with regard to the robustness and conceptual basis of the estimates. This analysis needs to be built on so that there is more clarity about how different methodologies can be applied within the accounts.
- ii. Much work has been done on the **valuation of specific services**, albeit using a relatively limited range of methodologies. We now need to work through the main services systematically with a view to establishing guidance on how to ensure more consistency between the valuations of different services. As an example of the process, see attached

summary of approaches to valuing recreation, courtesy of David Barton. We would need to agree the criteria used (e.g. to include comprehensiveness) and the assessment in each cell.

5. Monetary asset accounts
 - i. There was a need for the SEEA to give further guidance on the **range of factors** to be taken into account in projecting expected future flows of services for the NPV calculation.
 - ii. It was not clear how such projections could be meaningfully applied **at a spatially detailed level**.
 - iii. At the aggregate level, it was felt that the objective of having a 'Big Number' (the 'value of the environment') did not have much meaning on its own and did not add much to the information about the value of current flows unless the projections assumed some future change in the flow of services. However, there was some concern that making such projections was not **a role for National Statistical Institutes**.
6. Potential services and capacity accounts, thematic accounts
 - i. There was a proposal to include **potential services** within the accounts but more clarity on terminology, scope and relationship to capacity is required. The links to the concept of capacity were noted and there was a suggestion that both potential services and capacity would be better addressed through asset accounting. This is an area for further investigation.
 - ii. Good progress had been made on completing a **carbon account** which provided proof of concept (although uses had yet to be established). The atmosphere was viewed as a key component of the accounting structure.
 - iii. **Species accounts** had also been developed and were expected to have a direct impact on policy. It would be worthwhile identifying global datasets that can provide data for these types of accounts. It was also noted that there were differences between national and international listings of endangered species.

Session D: Implementation and extensions

The session kicked-off with a round table on work going on in the area of SEEA-CF. The round table confirmed that the area keep expanding and growing world-wide.

Air emission accounts

Siliva Cerilli, FAO, presented the issue of mapping Land Use and Land use change emissions to the SEEA CF framework. The work of the SEEA-Agriculture and Fishery provides an expanded table for the air mission accounts.

Aldo Femia, ISTAT presented the link between the UNFCCC category of the LULUCF and the SEEA- AFF air emission accounts. Mr. Femia asked to re-open the issue of LULUCF in the central framework for air emission accounts.

Physical energy flow accounts

Arturo de la Fuente, Eurostat gave a historical background about the implementation of physical energy flow accounts in Europe and lesson learnt from this experience.

Alessandra Alfieri, UNSD, presented the new road map proposal for energy accounts and a global data collection of it. The idea is for the UNSD to develop a tool that will transform energy balances to energy accounts for those countries not producing their own energy accounts. Contacts with the IEA has been taken who is carefully positive to the idea.

Five countries (Australia, Finland, Canada, Italy and Costa Rica) presented their work on energy accounts, the methodology, communication and data sources was the focus.

The London group separated into smaller groups to discuss what has been heard, and identify key issues to consider when further developing the UNSD road map for energy accounts. Annex 1 lists the ideas brought forward on this. In general the user needs scores high in the development of the road map, the international coordination requirements, the methodology, the data collection, validation, analysis and dissemination and communication followed suit.

Terminology on EGSS, bioeconomy and clean tech

Sami Hautakangas, Statistics Finland gave a presentation on the differences and connections between EGSS, bio-economy, circular economy and clean tech. The work pinpoints the issue of quantifying these topics within the EGSS.

Implementing the accounts

Three presentations on the implementation of the environmental economic accounts in the Latin Americas was given to the London group and a discussion panel lead by Franco Carvajal, UNECLAC ended the session. Irene Alvarado, Central Bank, CR, presented the develop development, implementation and use of energy and CO2

accounts, Bayron de Jesús Cubillos, DANE, presented the work in Colombia on waste and air emission accounts and Jose Antonio Sena, IBGE presented the Brazilian forest accounts.

The following panel discussion identified the importance of the implementation of those account in Latin/South America, and 3 main challenges faced. In Latin America, production of statistics are divided by several organizations; there is a need to link together many institutions to well coordinate the production of a full coordinated environmental economic accounting Harmonization of the information received from different places is a requirement for future work.

Key points and messages

- Istat and FAO have been encouraged to include the issue of LULUCF and clarifying its position in the SEEA-CF to the research agenda.
- The UNSD road map for global energy accounts was given feedback from the London group. The group considered that the steps to be taken should include an evaluation of the user needs, cooperation with existing organisations such as IEA, the OECD and Eurostat to accomplish the best results possible and give ample consideration to how the process of data collection, validation, dissemination and communication should be planned for and implemented in the roadmap. In addition consideration in the road map should be taken in order to extend the physical energy flows with the data from the national accounts.
- The emerging new issues, such as circular economy and clean tech has close connections to the environmental goods and services sector.
- The work in the Latin American countries is moving forward. Though the challenges are great, with gaps between resources and policy needs of new data, steps are moving in the right direction.

Session E: Policy applications and links between SEEA CF and SEEA EEA.

Interlinkages between SEEA-CF and SEEA-EEA

Emily Connors, ONS presented work on integrating the two frameworks, however, distinctions that are clear in theory were difficult to convey in practice. As example they, linked CO₂ emissions and carbon sequestration, but statistics shows UK sequester more Carbon than it emitted; which leads to the wrong assumption they have no pollution issues. Other issues were the link between Material Flows and provisioning services (different data sources caused a large data discrepancies). Lesson learnt are, among

others, that areas that overlaps should be identified and difference in concepts and methods explained.

Scott Wentland, BEA, informed the group on recent work in the US on Natural Capital Accounting (land and water account). The aim is by 2019, to demonstrate some results from the project. Data availability is the key driver to which account they focus on and they should be able to visualize the policy applications of the results. The project is also discussing linking land cover /land use data with industry classification (NAICS).

Nancy Steinbach, Statistics Sweden, presented a proposition to link Land use-cover to ecosystem services through the use of ISIC classification. The methods used to distribute the ownership was described, and how the link was made to the service (carbon capture and other). Mrs. Steinbach asked the London group if this approach could be tested and if it was an appropriate area to be included in the forthcoming revision process of the SEEA-EEA.

Policy use of the accounts

Juan-Pablo Castaneda, World Bank, presented a summary of the efforts done per several institutions to harmonized the national work to 'attract policy' user of Natural Capital Account, and as result embed the NCA into the policy discussion. From the experience gained, a list of 10 living principles for making NCA fit for policy was presented to the LG members. The LG was encouraged to test and implement the ideas laid out in the document.

Kaia Oras, Statistics Estonia, introduced an analysis of green tax reform and the use of SEEA data to do the work. The analysis described the basis of the tax, presented different results to illustrate the actual state (share of different taxed over the years, among others, effectiveness), and discussed the way forward, the policy cycle/statistical role in monitoring the tax, and some challenges.

Key points and messages

- The issue of identifying areas where the SEEA CF and the SEEA EEA overlaps/don't overlap was proposed to be included in the research agenda and the ONS/Defra to take the lead. It has to be decided research agenda this belongs to though.
- The LG welcomed the work going on in the US and is looking forward to hearing more about the progress.
- A few countries expressed interest in the land account by ISIC conducted by Sweden, and the US and the Netherlands indicated their interest in working toward the same idea.

- The London group was encouraged to look further into the work by the World Bank and Statistics Estonia on the policy applications and the considerations highlighted in their work.

Ideas for next meeting

Some ideas for the next meeting included the coverage of marine assets and fisheries, and subsidies and taxes. Ideas on how to improve the possibility to respond to all the questions posed by the presenters was also given, such as providing a consolidated the list of questions to the group.

Annex 1: Roadmap for global energy accounts – input from the London group 2017

Group 1:

1. Identify policy needs
2. Institutional or inter-institutional coordination
3. Identify data sources and assess the data quality
4. Develop methodology to compile energy account
5. Data collection and compilation
6. Validation
7. Analysis on indicators derived from PEFA
8. Dissemination and communication
9. Evaluation

Group 2:

1. Be careful with excel, which may not allow spaces to allocate energy as needed
2. Can we use Eurostat or other country compilation schematics?
3. How will the Excel reflect the classifications used by every country?
4. Who will be responsible to develop the concordances?
5. Careful thoughts need to be made on the UNSD dissemination, make sure it is not before the country are, in case different data are published.

Group 3:

1. Cooperation IEA and UNSD
2. Create a converter from JQ to SUT
3. Convert the country data
4. Training for countries
5. Revisions
6. UNSD publish

Group 4:

1. Focus on standardization and categorization of industries concepts, classifiers in detail
2. Choose the minimum data needed to begin
3. Identify key indicators

Group 5:

1. Implement standard statistical process for energy account production
2. Bring production of energy balances and energy accounts under control of same entity
3. Design a consistently applied survey
4. Establish a legal instrument for data production
5. International process to harmonise import/export data between countries to get balance in energy transfers
6. Harmonise classifications (especially products) for both energy balances and accounts
7. Harmonise and integrate monetary estimates of energy flows with national accounts

Group 6:

1. Define global goals focusses on the uses of energy accounts to address global issues such as climate change, carbon markets
2. Perform a global national assessment to determine which countries have more needs to strengthen national capacities to develop a program
3. Develop a test of UNSD tables on at the country level
4. Review the road map to adapt the strategy

Group 7:

1. What are the proposed uses of the energy accounts?
2. What data do we need for the proposed purpose?
3. What data are available? (classifications, time series, aggregations, precision)
4. What tools can we use with the data available? (Eurostat PEFA-tool, UN sub PEFA, own systems?)
5. Fill gaps with best available methods
6. Seek feedback on preliminary results and methods
7. Revise and finalize
8. Do it all again

Group 8:

1. The challenges: what are the applications and uses of the energy accounts?
2. What is the value of the energy accounts if we already have the energy balance?
3. Developing the supply table, not only the use

4. Path forward: having a tool that is easy to implement and comprehensive (Eurostat PEFA-tool has turned out to be a little bit complicated).
5. Have the necessary institutional arrangements

Group 9:

1. First year convert energy balances to accounts
2. Second year- no more converter but learning by doing and correct statistics follow
3. Will need SAS programmes, handbooks and a model to combine the issues of a country
4. Show how energy accounts is useful for users