12th Meeting of the London Group on Environmental Accounting Rome, 17-19 December 2007

Report of the Meeting

12TH MEETING OF THE LONDON GROUP ON ENVIRONMENTAL ACCOUNTING

(Rome, Italy 17-19 December 2007)

REPORT OF THE MEETING

MONDAY 17 DECEMBER 2007

Agenda item 1 – Opening

1. Ms. Vittoria Buratta opened the meeting

Agenda item 2 – UNCEEA Business

2. Ivo Havinga, Chief of the Economic Statistics Branch, United Nations Statistics Division, summarized the activities of the United Nations Committee of Experts on Environmental-Economic Accounting (UNCEEA) on behalf of Walter Radermacher, Chair of the UNCEEA.

Agenda item 3 – Issues related to Chapters 5 and 6

- 3. Statistics Sweden and Eurostat presented the paper LG/12/1 providing a general overview of the issues in Chapters 5 and 6. In particular the following issues were identified for the revision of the SEEA: (a) definition of environmental taxes and subsidies; (b) treatment of property rights and permits to access and use natural resources; (c) classification of natural resource management expenditures; and (d) environmental goods and services industry.
 - (a) Environmental taxes and subsidies
- 4. The London Group agreed that an issue paper proposing definitions for environmental taxes and subsidies should be prepared for discussion at the next London Group meeting. It is important that the revised SEEA is clear about the underlying concepts and definitions. The paper should start from the OECD definition of environmental taxes and compare this definition with the general definition of taxes in the 1993 SNA Rev.1 and the IMF Government Finance Statistics Manual (2001). The paper should then develop a proposal on the definition of environmental taxes. A similar approach should also be followed for the definition of environmental subsidies.
 - (b) Property rights and permits to use natural resources
- 5. The 1993 SNA Rev.1 includes in Chapter 10 and Chapter 17 discussion on treatment of permits, leases and licences. An issue paper elaborating the 1993 SNA

Rev.1 treatment for the various natural resources and the most common contractual arrangements should be prepared. The paper should explain if the revised SEEA should align with the updated SNA guidelines. UNSD will take the lead with inputs from Statistics Sweden and other countries.

- (c) Classification of natural resource management expenditures
- 6. The London Group considered the development of the classification of natural resources management expenditures as an important issue to be addressed during the SEEA revision for inclusion in the standard.
- 7. Istat presented its work on the development of a classification of resource use and management expenditure accounts (CRUMA) which is fully consistent with the Classification of Environmental Protection Activities (CEPA). The London Group considered Istat's work very promising and recommended that Istat, in consultation with IMF and FAO and Eurostat, prepare an issue paper discussing: (a) the underlying principles of the classification of resource use and management expenditures for the various resources (e.g. water, fisheries, forest, ecosystems, etc.) and its link with CEPA and other functional classifications (e.g. COFOG); (b) present a realistic proposal on the way forward to reach an agreement on the classification.
 - (d) Environmental goods and services industry
- 8. The compilation of accounts for environmental goods and services industries is at present not widespread. The London Group recommended the preparation of an issue paper to make a decision of whether environmental goods and services industry accounts should be included as part of the standard or Volume 2 on non-standard accounts. The London Group recommended that the issue paper look into the classification of activities (ISIC Rev. 4) and the classification of products (CPC ver.2) as starting points for further extensions to environmental goods and services, taking also into consideration the activity and product dimensions of CEPA. Eurostat will take the lead in preparing the issue paper under the auspices of its Task Force on Environmental Goods and Services.

Agenda item 4 – Issues related to Chapter 3 and 4

Material Flow Accounts

- 9. The London Group discussed papers LG/12/2 and LG/12/3.
- 10. Paper LG/12/2 discussed issues on the harmonization of the SEEA and the OECD Guidance Manual on Material Flow Accounts. In particular, it addressed the following four issues: (a) terminology; (b) consumer durables; (c) use of the territory vs residence principle; (d) treatment of cultivated crops and trees in the MFA and SEEA; and (e) treatment of waste.

(a) Terminology

- 11. The London Group discussed the changes in terminology suggested in the paper. It did not consider necessary to change the acronym, MFA, used in the SEEA-2003 to indicate the accounts related to material flow accounts should be maintained. This is not in line with the OECD guidance manual which uses the term MFA to indicate material flow analysis and MFAcc to indicate material flow accounts.
- 12. The London Group recommended using the term *physical flow accounts* to indicate flows of material, energy, water and other supplementary flows. About the supplementary flows referred to in the paper as *physical services flow accounts*, the Group recommended that these could be introduced in supplementary tables or indicators but not as part of the standardised set of SEEA physical flow accounts.
- 13. The proposal to avoid the term *socio-economic system* was discussed. About half of the London Group members preferred the term socio-economic system for the MFA, and the other half did not think that there were sufficient arguments to warrant the change of terminology from economy to socio-economic system, term used in the OECD Guidance Manual. Preferable the term economy should be used in all parts of the revised SEEA. Divergent terminology should only be introduced when absolutely necessary.

(b) Consumer durables

14. The London Group considered it useful to separately identify consumer durables in the physical and monetary flow accounts and to extend the asset boundary in the SEEA to include consumer durables. This is in response to the consideration that there is a time lag between the consumption and the residual flows generated from using up the durable goods.

(c) Territory vs. residence principle

15. Although the economy-wide MFA (EW-MFA) as presented in the OECD Guidance Manual use the territory principle, the London Group considered important that the EW-MFA follow the residence principle in order to maintain full consistency with other parts of the SEEA as well as the SNA. It was also considered important to develop bridge tables linking the two principles, in particular concerning energy and air emissions for consistency with greenhouse gas emission inventories reported to the United Nations Framework Convention on Climate Change (UNFCCC).

(d) Cultivated crops and trees

16. The paper presented the modified harvest approach to address the boundary issue of how to deal with the inputs from the environment to the economy and the outputs from the economy to the environment in the case of cultivated assets. The London Group supported in principle the proposal that ecosystems inputs be replaced by the inputs from harvested crops and trees and the changes in inventories of non-harvested crops and trees to ensure a proper balance between supply and use of mass. The London Group however recommended that additional work be done in

particular to understand the implications for the standard tables and the balancing items.

17. There is a boundary issue on how to present growth of cultivated crops and trees. In fact, growth is considered in the SNA as output of the economy and not as an input from the environment as in the MFA. The London Group agreed that a proposal for an alternative presentation of the mass balances should be developed. This alternative should take into consideration that the harvest of cultivated assets are considered as inputs from the environment into the economy, contrary to standard national accounts concepts. In the context of MFA, it was proposed to include in the SEEA a consistent representation of flows and stocks of materials, similar to that of water and energy.

(e) Waste

- 18. The London Group agreed with the proposal of considering the disposal of waste in controlled landfills as a flow within the economy. This recommendation is in line with the SEEA-2003.
- 19. The paper LG/12/3 presented the general structure of the standard tables, including issues of classification of flows and the structure of the SEEA-MFA. The London Group agreed with the general structure of the SEEA-MFA linking the economic flows of the SNA to those of the SEEA. In particular it agreed that the SEEA-MFA should include energy products as measured by their mass. Further considerations have to be given to the breakdown of agricultural products, including for aquaculture.

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Agenda item 4 – Issues related to Chapters 3 and 4 (Cont'ed)

Classification of physical flows

- 20. The London Group discussed paper LG/12/7 on the classification of physical flows. The London Group endorsed the recommendation in the paper to develop separate classifications for the three main flow categories: materials (MFA); water; and energy. It was recommended that overlaps between these three main categories of physical flows should be consistently classified to the extent possible.
- 21. The London Group suggested that in addition to the flow classifications, classifications by purpose should be developed. These classifications would allow to specify how materials (e.g. packing), water (e.g. cooling) and energy products (e.g. for energy or non-energy purpose) are used, which is crucial for a better understanding of environmental impacts.
- 22. A proposal for the physical flow classifications will be developed by Statistics Netherlands, in cooperation with UNSD (energy and water) and Karl Schoer

(materials) for final approval by the London Group in one of its future meetings, preferably the next London Group meeting in Brussels.

Agenda item 5 – Issues related to Chapters 7 and 8

Depletion of renewable resources

- 23. The London Group discussed the paper LG/12/14 on measuring the depletion of renewable natural resources and LG/12/16 recording changes to the stock of natural resources. The London Group acknowledged that issue of asymmetry in measuring depletion of renewable resources in the sense that, at present losses in value due to extraction are not counterbalanced in the production account by increases in value resulting from net natural growth (natural growth natural mortality). The London Group agreed in principle with the recommendations in the paper to expand the production boundary of the SEEA to include net natural growth as 'other non-market output'. As a consequence, depletion of renewable assets would be defined by the losses in the asset value due to extraction less the increase in the value due to natural growth (eq. 4 in the paper).
- 24. The recording of renewable resources appears somewhat comparable to the case of non-renewable resources, although in the case of non-renewable resources discoveries are not considered production but enter the economy through other changes in volume of assets.
- 25. When market prices for the assets are not available, renewable resources are valued by the net present value of current and future earnings. Also, the resource rent of renewable resources, as determined in the (extended) production account, is split into an income and a depletion element.
- 26. While the London Group agreed with the central points of the paper i.e. for renewable natural resources, extractions be treated as 'consumption of natural capital' (akin to COFC), and natural growth be treated as an 'other non-market output', it was felt that further consideration is required in this area. In particular, further consultation with the national accountants is needed and further discussion on the implications of changing the SEEA production boundary should take place for example: how to account for uncontrolled natural growth in renewables (the SEEA 'output') alongside harvest of these resources (the SNA output); consider bioeconomic modeling (and similar) to make judgement on whether 'depletion' has occurred rather than just a simplistic net natural growth vs harvest; and attribution of ownership of the renewable natural resource under special circumstances (e.g. fish stock legally owned by the government but subject to quotas purchased by producers).

Classification of assets

27. The London Group discussed the paper LG/12/12 presenting a proposal for aligning the classification of assets in the 1993 SNA Rev. 1 and the revised SEEA. The classification of assets of the 1993 SNA Rev.1 was still under discussion during the

London Group meeting. A paper with a proposal for a classification of assets for the revised SEEA-2003 will be discussed at the next London Group meeting, once the 1993 SNA Rev 1 asset classification is finalized

Fisheries accounts

28. The London Group subsequently discussed paper LG/12/11 on fisheries accounts. The paper proposed to value fish stocks on the basis of issue values of fish quota. The London Group accepted this method as a meaningful and practical solution to determine the value of fish stocks. It noted that although in an increasing number of countries commercial fish catch is managed by tradable quota, this may not be widespread. The Group has suggested that a comparability study be carried out in which results derived form quota values are compared to the resource rent calculations. The results of this study will be useful in testing the veracity of the alternative methodologies.

Soil accounts

- 29. The London Group welcomed the clarification paper LG/12/9 on accounting for soil. The paper illustrates the economic and ecological importance of soil and soil degradation, including its important role in the global carbon cycle. In the near future abating soil erosion may become a very important policy measure for mitigating climate change. However, the measurement margins of error are still very high.
- 30. The London Group requested that an issue paper be prepared covering the following issues:
 - a. Classification of soil- should soil be classified independently from land as in the SEEA-2003 or should it be classified with land as in the 1993 SNA?
 - b. Depletion of soil can soil depletion be measured in physical (i.e. loss of top soil) and/or monetary terms (i.e. via the future losses in services derived from land)?
 - c. Measurement of soil as a carbon sink Should the SEEA account for all possible carbon sources and sinks including soil (and forests) in a similar way as the IPCC greenhouse gas inventory?
- 31. FAO in collaboration with EEA will prepare a paper for discussion at the next London Group on how to include soil in the revised SEEA.

Forests

- 32. The London Group discussed the paper (LG/12/10) on the scope of the forest accounts in the revised SEEA. The paper recommends expanding the scope to include accounts tree biomass and carbon stocks in biomass and soil. The London Group also discussed the presentation by FAO on the Global Forest Resources Assessment and valuation of forest.
- 33. The London Group concluded that the classification of forest and forestland in the revised SEEA should be revisited and aligned as much as possible with the FAO

- definitions. Further, given the importance of climate change which was also identified as one of the policy themes in the revision of the SEEA, the forest classification should take into account the classification used in the IPCC.
- 34. Valuation of forest should also be further examined especially in light of emission trade agreements including forests as sink.
- 35. The London Group recommended that Statistics Finland in collaboration with FAO prepare issue papers covering (a) a revised classification of forest and forest land, taking into account FAO FRA and IPCC classifications; (b) a proposal of accounts for timber biomass and carbon stock; (c) valuation of forest covering not only timber but also the use of forest as sink.

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Agenda item 6 – Issues related to Chapter 7 and 8 (Cont'ed)

Ownership of mineral resources

- 36. The London Group discussed paper LG/12/15 which addresses the issue of economic ownership of mineral natural resources. The paper makes reference to the multiple options of determining ownership (D1 versus D2) as exposed in the SEEA-2003.
- 37. The London Group agreed that a logical consequence of rejecting the notion of a mineral asset as a "developed natural asset" implies that mineral exploration, as a selfstanding asset, is recorded in the balance sheet of the legal owner, being in most cases the mining corporation.
- 38. The London Group further supported the option D2 of partitioning the ownership of the mineral resources between the legal owner and the extractor using the financial lease approach in which a financial lease is imputed, equal to the expected rental payments to the legal owner (the lessor). The expected rental or royalty payments provide the basis for the imputed interest and principle payments.
- 39. For making depletion adjusted income and saving figures option D2 seems the only feasible solution since the depletion adjustments are logically made in the income generation as well as the balance sheet of the extractor. A disadvantage is that the approach is complex and requires sufficient knowledge on current and future government shares of resource rents.
- 40. The paper suggests in the revised SEEA to recommend a default option in case the required information is not available to split ownership. In this case the paper recommends that the legal owner, usually the government, is identified as the economic owner. The London Group argued that is default option will lead to distorted balancing items adjusted for natural resource depletion. The operating surplus of the mining corporations will be adjusted for natural resource depletion

- while at the same time the balance sheet of the legal owner is charged for this natural resource depletion. Due to this inconsistency, the default option seems infeasible
- 41. The London Group requested additional time to consult with national accountants in their own countries to check for consistency with the 1993 SNA Rev.1. The Group recommended that for this purpose an electronic consultation process should be carried out.

Agenda item 7 – SEEA structure questions

- 42. The Chair of the London Group presented the paper LG/12/17 outlining a list of open questions related to the structure of the revised SEEA and summarized the discussion which took place during the Second Meeting of the UNCEEA. The London Group agreed that the structure questions raised in Section B of the paper should be part of the SEEA revision process. No other issues related to structure were addressed by the Group.
- 43. The London Group discussed the paper LG/12/18 on different options for the organization of Part III of the revised SEEA on Applications. The SEEA-2003 Chapter 11 is organized following the different types of accounts rather than by policy theme. It was considered that although this structure may be relevant for statisticians, the audience for Part III should include policy makers as well as analysts and researchers rather than statisticians. The Group considered that this required a more even-handed treatment of both environmental issues and applications of particular accounts, and suggested the following structure: section 1 would select a few key issues such as climate change and would show how the accounts contributed to policy development; section 2 would deal with key assets and demonstrate how the accounts supported integrated resource management; and a further section, section 3, would cover other, in particular cross-cutting, applications. It was recommended that Rocky Harris would prepare a more detailed paper on the basis of the general structure outlined above for discussion at the next London Group meeting.
- 44. The London Group discussed the paper LG/12/19 presenting a gross list of main aggregates that could be derived from the standard tables in the revised SEEA Part I. These accounting aggregates should provide the linkage between detailed accounts and indicators. The London Group agreed with the proposal to explicitly define key accounting aggregates in the standard tables of Part I. Indicator building (such as resource productivity indicators) is typically subject to Part III of the revised SEEA, stressing the policy relevance of the accounting aggregates. The London Group requested Statistics Netherlands to prepare a proposal of key aggregates that should be presented in Volume 1 of the revised SEEA including the standard accounts (i.e. physical flow accounts, asset accounts, depletion accounts, environmental expenditure and economic instruments accounts).

Agenda item 8 – Ecosystem Accounts

45. The London Group discussed the paper LG/11/19 presenting several issues on the ecosystem accounts. As a first step, the London Group considered important to: (a) look into standardizing a classification of land cover/land use; (b) develop a typology of ecosystem services to be included in the physical and/or monetary accounts. It requested EEA to prepare for the revised SEEA a concrete proposal on the classifications of land cover/land use and ecosystem services and a proposed.

Agenda item 9 – Future work

- 46. The Minutes of the meeting were not available for discussion at the end of the meeting. Suggested actions will be circulated with the Minutes (see Annex I).
- 47. Eurostat offered to host the next meeting of the London Group in Brussels at the end of September 2008. The meeting will be preceded or followed by an outreach meeting with policy makers.

Special session on energy accounts

48. Selected participants of the London Group participated in the special session on energy accounts. The outcomes of the special session are summarized in separate paper to be posted on the London Group website.

Annex I - List of actions

	Tasks	Leading country / organization	Timeline
1.	Issue paper on environmental taxes and subsidies	Eurostat & Statistics Sweden	13 th LG meeting, Sept. 2008
2.	Issue paper on treatment of permits, leases and licenses in the revised SEEA, following up on the SNA revision	UNSD	13 th LG meeting, Sept. 2008
3.	Issue paper on classification of resource use and resource management expenditures	Istat	13 th LG meeting, Sept. 2008
4.	Issue paper on emission permits	Statistics Denmark	13 th LG meeting, Sept. 2008
5.	Clarification paper on environmental goods and services accounts	Eurostat & Statistics Sweden	13 th LG meeting, Sept. 2008
6.	Issue paper on consumer durables in SEEA-MFA	Karl Schoer/UNSD	13 th LG meeting, Sept. 2008
7.	Clarification paper quantifying the effects of the modified harvest approach on physical flow accounts	Karl Schoer/UNSD	13 th LG meeting, Sept. 2008
8.	Issue paper on classification of physical flows	Statistics Netherlands	13 th LG meeting, Sept. 2008
9.	Issue papers on energy flow and energy asset accounts	Ole Gravgaard/ UNSD	13 th LG meeting, Sept. 2008
10.	Forest and carbon	Jukka Muukkonnen and FAO	13 th LG meeting, Sept. 2008
11.	Outcome paper: Depletion of renewable assets	ABS	3 th UNCEEA meeting, June 2008
12.	Outcome paper: Ownership of mineral resources	ABS	3 th UNCEEA meeting, June 2008
13.	Comparison of fish stocks values: fish quota versus standard resource rent calculations (based on production account)	Statistics New Zealand	13 th LG meeting, Sept. 2008
14.	Issue paper on soil accounting	FAO and EEA	13 th LG meeting, Sept. 2008
15.	Proposal organisation revised SEEA Part III	Rocky Harris	13 th LG meeting, Sept. 2008
16.	Proposal on main aggregates to be defined in the revised SEEA – Volume 1	Statistics Netherlands and UNSD	13 th LG meeting, Sept. 2008
17.	Issue paper on presentation of ecosystem accounts in the revised SEEA	EEA	13 th LG meeting, Sept. 2008

Annex II

AGENDA

Registration 9:30 – 10:00 AM

Monday December 17, Morning Session 10:00 AM - 1:00 PM

1.	Opening (prof. Luigi Biggeri, President of Istat)	
2.	UNCEEA business (Ivo Havinga)	
	 SEEA revision - timing and management issues 	
3.	Issues related to Chapters 5 and 6	
	 Clarification / issues paper (Nancy Steinbach, Viveka Palm and Ute Roewer) 	
	• (5) Environmental industry	
	• (6) Environmental taxes	
	 (7) Environmental subsidies 	
	• (8) Permits	

Monday December 17, Afternoon Session 2:00 PM - 5:30 PM

- 4. Issues related to Chapters 3 and 4
 - (1) MFA-SEEA
 - Harmonization of SEEA and OECD manual LG12/2 (Karl Schoer, Ole Gravgård and Aldo Femia)
 - Structure of the SEEA-MFA manual (Karl Schoer) LG12/3
 - SEEA user needs for energy statistics
 - (3) Scope and coverage of energy flow accounts
 - SEEA/Environmental accounting's user needs with regards to energy statistics (Julie Hass and Kristine E. Kolshus) LG12/4
 - Scope of energy accounts in the revised SEEA LG12/5
 (Ilaria Di Matteo and Alessandra Alfieri)
 - (4) SEEA/Environmental accounting's user needs with regards to renewable energy (*Julie Hass* and *Kristine E. Kolshus*) **LG12/6**
 - (2) Classification of physical flows LG12/7 (Roel Delahaye, Mark de Haan and *Sjoerd Schenau*)

Tuesday December 18, Morning Session 09:30 AM – 1:00 PM

- 5. Issues related to Chapters 7 and 8
 - (20) Soil (Jean-Louis Weber) LG12/9
 - (21) Carbon binding and forest asset accounts (Jukka Muukkonen) LG12/10
 - Forest resources assessment (*Lars Gunnar*)
 - Forest valuation some issues (*Adrian Whiteman*)
 - (23) Fisheries accounts, a summary of current work in New Zealand and Australia (*Jane Harkness*, David Bain) **LG12/11**

Tuesday December 18, Afternoon Session 2:00 PM - 5:30 PM

- 6. Issues related to Chapters 7 and 8 (Cont'd)
 - (10) Asset classification (Alessandra Alfieri and Ivo Havinga) LG12/12
 - (14) Depletion of renewable environmental resources (David Bain) LG12/14
 - (15) Recording the ownership of mineral-related assets (*Peter Comisari*) LG12/15
 - (13) Recording changes to the stock of natural resources
 (Peter Comisari and Andrew Cadogan-Cowper) LG12/16

Wednesday December 19, Morning Session 09:30 AM – 1:00 PM

- 7. SEEA structure Questions
 - Open questions related to the structure of the revised SEEA (Mark de Haan) LG12/17
 - The organisation of Part III on applications of the SEEA (*Rocky Harris*) LG12/18
 - Identifying the main aggregates in SEEA Part I (Sjoerd Schenau) LG12/19
- 8. (22) An ecosystem approach to SEEA (Jean-Louis Weber) LG12/20

Wednesday December 19, Afternoon Session 2:00 PM - 5:30 PM

- 9. Future actions
- 10. Special session on energy accounts

Annex III

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