



System of  
Environmental  
Economic  
Accounting

# Minutes of the 29<sup>th</sup> meeting of the London Group on Environmental Accounting

Pretoria, South Africa  
11-14 September 2023

1. The London Group on Environmental Accounting (LG), established in 1993, serves as a platform for environmental accounting practitioners to discuss and work towards the conceptual and methodological development of environmental-economic accounts. The members of this group, comprising experts from national statistical offices but also international organizations, meet annually to discuss research topics and issues related to the advancement of science and application of the SEEA in countries around the world.
2. The 29<sup>th</sup> meeting of the LG took place on 11-14 September 2023 in Pretoria, South Africa and was hosted by Statistics South Africa. It was attended by approximately 50 participants from 22 countries, mostly from national statistical offices, and also international organizations and academia. This year's meeting has focused on substantive issues related to the upcoming revision of the SEEA Central Framework, as well as on other conceptual topics related to the development of the SEEA, such as accounting for ecosystem services in physical and monetary values, integrated accounts, input-output models and seasonal adjustments in environmental time-series.
3. All of the documents related to the 29<sup>th</sup> meeting of the LG, including the agenda, papers and presentations, are available on the [meeting website](#).

#### I. Opening of the meeting

4. The 29<sup>th</sup> meeting of the LG was opened with the opening addresses from the Chair of the LG, the host organization:
  - Sven Kaumanns, Chair of the London Group and representative from the Federal Statistical Office of Germany, welcomed participants to the meeting, thanked Statistics South Africa for hosting this year's meeting of the LG and introduced the agenda for the four-day meeting;
  - Risenga Maluleke, Statistician-General of Statistics South Africa, highlighted the importance of global collaboration in advancing natural capital accounts within countries, regions, and continents; and
5. Marko Javorsek, United Nations Statistics Division (UNSD), delivered a presentation outlining the work of the Committee of Experts on Environmental-Economic Accounting (UNCEEA) over the last year according to the five workstreams of the UNCEEA.

#### II. Session 1: Accounting for physical ecosystem services

6. This session covered the compilation of physical ecosystem service accounts, which requires measuring, modelling or estimating provisioning, regulating or cultural services in physical units. It aimed to cover broad topics including accounting for supply and use, as well as conceptual issues and modelling approaches regarding service potential and demand.
7. There were six papers and an emerging issue talk discussed at the meeting. The session was chaired by Marko Javorsek (UNSD).
  - Quantifying and reporting uncertainty in biophysical ecosystem service accounts for local policy and planning: the case of satellite-based ecosystem extent maps (Zander Venter, Norwegian Institute for Nature Research)
  - Issues in Regulating Ecosystem Service Accounts: Baselines and Demand (Simon Schürz, German Federal Statistical Office)

- Soil Erosion Prevention from Croplands- A Service or A Disservice? (Ruchi Mishra, Ministry of Statistics and Programme Implementation, India)
  - Accounting for ecosystem service vulnerabilities to support financial disclosures (Alessandra La Notte, Joint Research Centre of the European Commission)
  - Accounting for marine ecosystem services. A pilot application in the Mediterranean Sea (Alessandra La Notte, Joint Research Centre of the European Commission)
  - Accounting for water resources at catchment scale: understanding the role of ecosystems (David Clark, Centre for Water Resources Research, South Africa)
  - Emerging issue on Natural Capital and Ecosystem Accounting: Conceptual Differences (Aldo Femia, Istat, Italy)
8. The key outcomes of the session can be summarized in the following points: (1) it was suggested for the authors of the first three papers to further develop their suggestions and present possible solutions at the next meeting of the LG; (2) pointed out that the challenges with catchment data allocation to spatial areas is very relevant for ocean accounting and will need to be further researched in collaboration with the SEEA EA Working Group on Ocean Accounting; (3) demonstrated the importance for the use of correct and consistent terminology, while agreeing that multiple values perspectives are important calling for the need to emphasize that accounting is not only about monetary values, but rather systematic analysis.

### III. Session 2: Accounting for ecosystem services in physical and monetary terms

9. This session covered accounting for ecosystem services in both physical and monetary accounts. It aimed to provide conclusions and recommendations on various aspects, including the relationships between different monetary valuation methods, the role of price formation mechanisms and/or market structures for valuation of non-traded ES, alternatives to exchange-value-based monetary aggregates related to ES and EA; and communication strategies for monetary service accounts.
10. There were four papers discussed at the meeting. The session was chaired by Aldo Femia (Istat, Italy).
- Challenges related to the communication of the ecosystem accounts (Kaia Oras, Statistics Estonia)
  - Physical metrics for recreation related ecosystem services and the use of mobile big data for valuation of the services from free access open spaces (Takashi Hayashi, Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries, Japan)
  - Comparison of crop provision and wood provision ecosystem services (Kaia Oras, Statistics Estonia)
  - Water valuation at a global scale: how can we add water to the wealth of the nations using the SNA and SEEA? (Michael Vardon, Australian National University)
11. The LG welcomed the document on communication challenges as a useful starting point for guidance on the issue, accepted as sound and useful Takashi's conclusions on the dangers of using mobile phone data, highlighting additional sources of possible distortion (such as e.g. people not bringing along their phones). Kaia's reasoning in her second presentation opened a discussion on "what exactly is the ecosystem contribution", connected to the "system boundaries" problems (arisen several times in this LG meetings before), and the LG noted the relevance of the issues raised but did not reach any particular conclusion concerning the proposed alignment of crop and wood provisioning. The group welcomed Michael's effort to systematize the approaches to valuation and provided some feedback.

#### IV. Session 3: Integrated accounts

12. This session aimed at exploring the integration of information from SEEA CF and SEEA EA to build up comprehensive thematic accounts, aligning methodology to account for provisional services with SEEA CF, integrating information on environmental activities, and linking data on carbon from various accounts to produce comprehensive carbon accounts.
13. There were three papers discussed at the meeting followed by a panel discussion. The session was chaired by Michael Vardon (Australian National University).
  - The SEEA as a conceptual framework for “Ridge-to-Reef” management (Michael Vardon, Australian National University)
  - Integration of EGSS and EPEA in the form of a supply and use table (Antti Hörkö, Statistics Finland)
  - Integrating natural capital accounts into the SNA (Harry Davies, Office of National Statistics, UK)
14. The presentations demonstrated the importance to integrate different SEEA accounts to increase user uptake, facilitate communication to users and to inform decision-makers with a more comprehensive view on environmental issues.
15. The panel discussion concluded with the importance of integrating the accounts, and in particular its relevance for policymaking. The relation with the ongoing SNA update was also discussed at lengths and participants argued for continued relevance of the SEEA in light of the expansion of the SNA’s scope.

#### V. Session 4: Issues for an update of SEEA CF

16. This session covered topics related to the upcoming update of the SEEA CF. The session aimed to contribute to the advancement of particular substantive topics relevant for the update of the SEEA CF and discuss the contribution and role of the LG in the update process.
17. There was an introductory presentation and six papers discussed at the meeting. The session was chaired by Sjoerd Schenau (Statistics Netherlands).
  - Introductory presentation: Starting signal for a SEEA CF Update, LG’s role in the process (Sjoerd Schenau, Statistics Netherlands)
  - Carbon tax disaggregation per industry (François Soulard, Statistics Canada)
  - Emission Trading Schemes and Taxes (Sven Kaumanns, Federal Statistical Office of Germany)
  - SEEA and SNA – what should be integrated and what should remain separate (Peter Meadows, Statistics Australia)
  - Measuring Climate Mitigation and Adaptation Expenditures in the Economy (Scott Wentland, U.S. Bureau of Economic Analysis)
  - Potentially Environmentally Damaging Subsidies (Jose Antonio Fuentes Galan, Eurostat)
  - LULUCF and SEEA CF (Sjoerd Schenau, Statistics Netherlands)
18. The session concluded that the LG should play an important role in the update of the SEEA CF. As an expert group, it is well paced to work on a range of issues. It was suggested that the LG should identify a set of topic as a focus of its work programme, and produce position papers as input for the SEEA CF update process. In particular, the following topics have been identified: treatment of emissions permits and related issues in tax and subsidies accounts, climate change

mitigation and adaptation expenditure, treatment of human-induced flows within the environment, and accounting for water.

19. The LG also agreed to prepare work on cross-cutting topics such as the role of modelling, baselines and counterfactuals in SEEA, valuation and natural capital, and potentially environmental damaging subsidies.

## VI. Session 5: Input-output models

20. This session covered topics related to the input-output (IO) analysis aiming to address questions, such as, calculating footprints or analyzing carbon border adjustments. The session welcomed contributions related to standardization and harmonization of issues for global multi-regional input-output tables, cases of IO-applications with strong methodological focus in the context of environmental accounts and more specific policy-level analyses, and IO-applications for estimating footprints.
21. Five papers were discussed in this session followed by a panel discussion. The session was chaired by Bhanumati (IMF). The session was conducted in a fully hybrid format.
  - The IMF MARIO Project - Multi-Analytical Regional Input-Output Model (Joaquim Guilhoto, IMF)
  - Preliminary methods and calculations for national statistics on the emissions effects of exports (Nils Brown, Statistics Sweden)
  - Meeting user needs with national statistics on the emissions effects of exports (Nils Brown, Statistics Sweden)
  - Environmentally extended multi-country input-output models: models and data structures (Stephan Moll, Eurostat)
  - Towards harmonised global input output databases for calculating footprint indicators (Stefan Giljum, Stephan Lutter, Vienna University, Austria)
22. The paper presentations were followed by a panel discussion on the Environmental-Economic Accounting and the Input-Output Analysis. The following points were highlighted during the panel discussion: (1) collaboration across the international agencies may help in reducing the response burden of the countries, leveraging the existing workstreams of these organizations; (2) it is important that users are able to understand how the underlying tables are related to each other, and include examples of the relevance of the tables for specific applications to elaborate on the fitness of use; (3) there is a need to set up a communication mechanism between the various initiatives, so that to the extent possible, there is an alignment of concepts; and (4) there is a need for the agencies involved in the MRIOs to connect with the IO communities and the relevant research groups to get their inputs for improving the tables/models, and for the international organizations to provide the necessary coordination. The LG concluded that the topic of IO analysis showed important analytical possibilities, but no new developments relevant for a SEEA CF update were found.

## VII. Session 6: Quarterly accounts – seasonal adjusting and communication

23. This session covered topics related to the communication concepts of infra-annual time series based on the SEEA and on the evaluation of existing seasonal adjustment procedures from a technical point of view, suggesting suitable concepts for the seasonal adjustment on time series such as emissions or material flows.

24. There were three papers discussed at the meeting followed by a panel discussion. The session was chaired by Nils Brown (Statistics Sweden). The session was conducted in a fully hybrid format.
- Quarterly Interpolation of Emissions from Economic Data Evidence from an Integrated Air Emissions Physical Flows Account in the U.S. (Matthew Chambers, U.S. Bureau of Economic Analysis)
  - Empirical Evaluation of Seasonal Adjustment of Time Series for Compiling Quarterly GHG Emissions Account (Achille Pegoue, IMF)
  - Seasonal adjustment and extreme weather correction: the case of quarterly greenhouse gas emissions (Roberto Astolfi, OECD)
25. The presentations of papers were followed by a panel discussion on technical aspects of seasonal adjustment procedures. During the panel discussion the following two points were highlighted: (1) it is important to present data that is seasonally adjusted as well as to present non-seasonally adjusted data according to the needs of users; and (2) differing opinions were expressed in the room as to the maturity of calculation procedures for seasonal adjustment to support their application in the production of quarterly (and other sub-annual divisions) statistics on greenhouse gas emissions. The LG concluded this topic within its work programme with reference to the existing technical literature.

## VIII. Closing Session

26. The Chair provided a high-level summary of the 29<sup>th</sup> meeting and highlighted the rich discussions experts had over the four days of the meeting. He outlined the plans for the LG to work more actively and closely with the other UNCEEA groups, in particular the two Technical Committees on SEEA CF and SEEA EA. The LG and the two TCs will aim to jointly work on advancing the methodology and emerging issues related to the SEEA.
27. The Chair also pointed out that the aim is to distribute the call for papers for the 30<sup>th</sup> meeting of the LG in 2024 as soon as possible. The call for papers will, this time, be more specific and propose thematic areas with coordinators to jointly work on particular substantive topics of interest for the wider group. It was noted that next LG meeting will take place in Washington, D.C., U.S.A. and will be hosted by the U.S. Bureau of Economic Analysis.
28. At the end, the Chair thanked all participants, moderators and authors for their contribution and his colleagues and Statistics South Africa for their hosting of the meeting.