



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS

**Twentieth Meeting of the United Nations Committee of
Experts on Environmental-Economic Accounting
New York, 25-26 June 2025**

**Working Group on the Development of Global Databases (Area C):
Summary of activities**

*Paper prepared by the Working Group on the Development of Global Databases
(for discussion)*

WORKING GROUP ON THE DEVELOPMENT OF GLOBAL DATABASES (AREA C): SUMMARY OF ACTIVITIES

1 Introduction

1. This note reports on the activities of the Area C group over the last year. The objective of Area C is to establish a set of global SEEA databases to provide users with SEEA-compliant data sets for integrated policy development and analysis, including the Sustainable Development Goals (SDGs). This is done by coordinating and harmonizing the development of such databases at the international level, by facilitating the exchange of related data among international organisations (IOs), and by providing direct access to existing SEEA databases through the websites of IOs. The databases development work under Area C focuses on five priority accounts (air emissions, energy, material flows, land and water), identified at the Eleventh Meeting of UNCEEA in 2016. They build as much as possible on national data, complemented with estimates when national data are not (yet) available, to achieve global coverage.

2. The note summarizes the main progress made towards global databases for each priority account over the past year, with more details provided in the Annex to this report. The final section covers priority-setting during the coming years and questions to the UNCEEA.

2 Coordination, working methods, and governance

3. The Area C group meets every two months to discuss the advancements towards the implementation of global databases and data quality enhancement for the five priority accounts (i.e., the current priority accounts are air emissions, physical energy flow, material flow, land and water accounts). International organisations including Eurostat, Food and Agriculture Organization of the United Nations (FAO), the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD), the United Nations Economic Commission for Europe (UNECE), the United Nations Environment Programme (UNEP), United Nations Statistics Division (UNSD) and the World Bank regularly attend the meetings. In addition to the bi-monthly meeting, workshops and thematic meetings are held to focus on specific accounts or aspects thereof. Over the last year, particular attention has been devoted to the advancements of water and land cover accounts. In the context of the cooperation with the third phase of the G20 Data Gaps Initiative (DGI-3), several meetings have been organised between relevant organisations and the IMF to support different activities under the DGI, including the development of the AEA and PEFA tools that support the estimation of accounts from air emission inventories and energy statistics and balances. Finally, regular contacts are also maintained with the International Energy Agency (IEA). The Terms of Reference of the Area C have been drafted in early 2025.

4. Additional exchanges among experts happen at annual events such as the London Group meetings, the OECD/UNECE Joint Seminar on SEEA Implementation, and the OECD Working Party on Environmental Information (WPEI) meetings.

3 Progress on the five priority accounts

5. Over the last twelve months, the implementation of the global databases for the five SEEA priority accounts has seen important advancements. Eurostat, the OECD and the UNSD worked together to coordinate the SEEA global data collection for AEA and PEFA.

6. Significant work has also been made this year for Land Cover and Water Accounts. For the former, a questionnaire template has been tested from Q4 2024 to Q1 2025. As for water, the OECD has conducted a feasibility study to assess the extent to which existing data would allow the compilation of the physical water flow and physical water asset accounts.

7. Area C has also contributed significantly to the DGI-3 by promoting implementation of additional SEEA accounts (notably AEA and PEFA). The DGI-3 has also included the methodological development and future compilation of environmental and climate related subsidies account, with special focus on the environmentally harmful subsidies as well as climate change mitigation and climate change adaptation (expenditure) accounts.

8. In addition, UNEP updated the Global Material Flows Database¹ and soft-launched the Global Footprint Tool², while continuing to enhance it (the official launch will take place at the 7th UN Environment Assembly (UNEA-7) in December 2025).

3.1 Air Emissions Accounts (AEA) and Physical Energy Flow Accounts (PEFA)

9. The second round of global data collection of AEA and PEFA took place in 2024, with Eurostat, OECD, and UNSD coordinating activities for the implementation of consistent questionnaires, validation rules, and dissemination processes of the data.

10. In the European Union, where reporting standard tables for AEA and PEFA is mandatory, the number of countries which reported air emissions related to road transport by economic activity voluntarily increased from 21 to 26 in 2024.

11. For the rest of the globe, the OECD and UNSD have used a joint questionnaire with three templates “Detailed”, “Medium”, and “Aggregate” representing the disaggregation of industries. This was done to better meet countries’ data availability (with the “Detailed” template being equivalent to the Eurostat breakdown). Results are available on the data portals³ of the three organisations. In 2024, 33 countries submitted AEA to Eurostat, 7 countries to OECD and 2 countries to UNSD, and 34 countries submitted the PEFA to Eurostat, 4 countries to OECD, 8 countries to UNSD. A few countries have improved their AEA reporting in terms of timeliness, timeseries, granularity (industrial disaggregation) and gas coverage in AEA in 2024.

12. For the 2025 global data collection, OECD and UNSD have introduced a few small amendments to the AEA questionnaire to improve the flexibility for countries by including the worksheets for each gas/pollutant in the Medium and Aggregate templates and better align the industrial breakdown across different greenhouse gases.

¹ <https://www.resourcepanel.org/global-material-flows-database>

² <https://footprint.unep.org/>

³ <https://data.un.org/SdmxBrowser/start>, <https://data-explorer.oecd.org/> and <https://ec.europa.eu/eurostat/data/database>

13. For PEFA, alignment on the SDMX Data Structure Definitions related to Total Energy Supply and Gross Inland Consumption is ongoing to reflect the difference in bridge tables in the Eurostat and global PEFA questionnaires. Eurostat, OECD and UNSD will launch the 2025 PEFA and AEA questionnaires to countries in the first half of the year with deadline by the end of September. This data submission deadline is aligned across the three organisations from 2025. The validation process will take place during Q4 2025 with a release aimed at the end of 2025/early 2026.

14. The global AEA and PEFA questionnaires are used for the DGI-3. Area C has contributed to the DGI-3 by providing feedback on the AEA and PEFA estimation tools in Recommendations 1 (greenhouse gas emission accounts and national carbon footprints) and 2 (energy accounts). Area C shared a detailed status of data collection of AEA and PEFA for G20 and DGI-participating economies with the IMF. Information has been exchanged between capacity-building activities of the DGI and the AEA/PEFA data validation by OECD/UNSD to enhance synergies and provide consistent guidance to countries.

3.2 Economy-Wide Material Flow Accounts (EW-MFA)

15. UNEP started the data collection of EW-MFA of countries not reporting to Eurostat in 2022 and conducted the second data collection in 2024. UNEP updated the countries' focal points and collected data in Q4 2024. As of 1 March, seven countries outside the Eurostat reporting system have reported data via the UNEP Indicator Reporting Information System (IRIS) portal. A total of 42 countries have been reported to the Global SDG Database in Q1 2025.

16. In March 2023, UNEP, in cooperation with the Commonwealth Scientific and Industrial Research Organisation (CSIRO), launched the development of the Global Footprint Tool aiming to determine the environmental and social pressures and impacts of a country's final demand on global natural resources and ecosystems. In 2025, UNEP soft-launched the Global Footprint Tool based on the GLORIA Multi-Regional Input-Output (MRIO) Assessment initially developed for the UNEP International Resource Panel (IRP) Global Material Flows Database and the Sustainable Consumption and Production Hotspots Analysis Tool (SCP-HAT). The released Global Footprint Tool allows countries to calculate their environmental footprints, such as material, energy, carbon, water and land. UNEP continues to refine it, while conducting pilot testing. The official launch will take place at the 7th UN Environment Assembly (UNEA-7) in December 2025.

3.3 Land Cover Accounts

17. OECD and FAO conducted a pilot test of the land cover questionnaire with volunteer countries from Q4 2024 to Q1 2025. OECD tested it with two European countries and four non-European countries. There were issues with mapping national classes to SEEA classes, and limited data has been provided for the sub-classes on tree cover and grasslands as proposed by the OECD. Out of 17 countries to which FAO sent the pilot questionnaire, only four countries responded, out of which only one country submitted some data.

18. Based on these results of the pilot test, Area C discussed different options for future work (see Section 4 "Towards a work plan for the period 2026-2030").

3.4 Water Accounts

19. OECD conducted a feasibility study on water accounts to take stock of the status of compilation of water accounts in countries, identify data that may support compiling accounts globally and assess differences in scope, availability, and results. OECD-Eurostat/UNSD-UNEP, FAO AQUASTAT, and WaterGAP are identified as possible datasets which could feed the compilation of physical water flow and asset accounts, as these datasets include some industry breakdown. The study suggested a tiered questionnaire for possible future data collection. According to the study, available statistics greatly satisfy the basic structure with broad aggregates that could be used in the physical water flow accounts (PWFA). Collaboration with WaterGAP can be considered to improve coherence with official data and improve economic modelling. On the other hand, available statistics are not well-suited to support the aggregated level of physical water asset accounts (PWAA).

20. Eurostat and UNSD are planning to undertake similar studies in 2026 to assess the quality and completeness of available data and their fitness to develop water accounts on the quantity of water resources for human use (households, industry, agriculture) (see Section 4 “Towards a work plan for the period 2026-2030”).

4 Towards a work plan for the period 2026-2030

21. The experience gained during the period 2021-2025 has prompted a reassessment of the current list of priority accounts for the implementation of SEEA global databases. As part of the preparatory process for the roadmap covering the period 2026–2030, Area C wishes to draw the Committee’s attention to the following considerations:

4.1 Air Emission Accounts (AEA), Physical Energy Flow Accounts (PEFA), and Economy-Wide Material Flow Accounts (EW-MFA)

22. Air Emission Accounts (AEA), Physical Energy Flow Accounts (PEFA), and Economy-Wide Material Flow Accounts (EW-MFA) have undergone a considerable degree of development over the last five years, and important progress has been achieved thus far, thereby warranting continued efforts and their retention on the future list of priority accounts.

23. Three organizations (Eurostat, OECD and UNSD) have increasingly coordinated their efforts in the collection AEA and PEFA, as compiled by member countries, employing questionnaires, validation rules, and reporting schedules that are now entirely aligned.

24. Similar progress has been achieved for EW-MFA, where UNEP has applied a different strategy consisting of producing initial estimates at international level and having the data then validated or replaced by national statistical authorities.

25. There remains scope for further improvement, driven by the need to address persisting gaps in terms of granularity, geographical scope, and temporal coverage. Such improvements may be pursued at either a national or international level: coordination between Area C and Area D seems a viable means of enhancing the SEEA production capacity of member countries, while the established collaboration with the DGI could serve to bridge existing gaps at international level.

4.2 Water accounts

26. The 2024 Global Assessment indicates that, at global level, 37 countries have compiled at least once in the last 5 years the water accounts, including either physical or monetary flow accounts, physical asset accounts or water emission accounts. The OECD feasibility study, conducted in 2025 on its member states plus accession and key partners countries, reported that only ten countries regularly compile water accounts (either physical flow or asset) with additional twelve countries having either discontinued their regular publication of flow or asset water accounts or conducted as one-off studies, or as pilot projects for specific regions or years.

27. Considering the limited number of countries currently able to regularly compile the water accounts, the OECD feasibility study assessed the possible use of existing water statistics, complemented with model-based estimates, as inputs for the estimation of global physical flow accounts by international organisations. This approach could potentially facilitate the task of member countries ultimately leading to a phased implementation of the global database with official national data replacing those estimated at international level as they become available. The OECD feasibility study will be complemented by a feasibility study by Eurostat and UNSD. The two studies are planned to be completed by the end of 2026 (subject to resource availability of UNSD).

28. While the use of existing global databases on water statistics seems quite a viable option for a centralised compilation of water flow accounts by international organisations, it proves to be more challenging to use them for pre-compiling water asset accounts. In the latter case, Earth observations appear as a slightly more promising option.

29. All in all, the retention of the physical water flow and asset, albeit to a lesser extent, accounts in the priority list seems a possible option although the implementation of detailed global databases for these accounts may be challenging, and the associated risks can only be evaluated at a later stage.

4.3 Land accounts

30. Persevering towards the implementation of a global database on **land accounts** seems at present rather unpromising. Not only was the development of a shared questionnaire for Land Cover Accounts a long and demanding process, but the pilot undertaken simultaneously by the OECD and FAO to test the questionnaire gave no clear indication neither on data availability nor its granularity across countries participating to the pilot project (6 OECD and 17 FAO countries consulted).

31. Based on the pilot exercise on the land cover account questionnaire, Area C recommended not to further consider land cover accounts as a priority. Various alternatives were discussed, including: ecosystem extent accounts (due to the high priority rank expressed in the UNSD 2024 Global Assessment, the EU regulation and possible uses of Earth observation data); land use accounts; or the development of a hybrid questionnaire with a set of classes encompassing both land cover and uses classification.

5 Conclusions and way forward

32. Area C analysed options concerning the work plan for the period 2026-2030 and the re-assessment of the five priority areas identified by the UNCEEA in 2016. Several important considerations were brought up by Area C on the number and the type of priority accounts. Going

forward the number of priority accounts, which was set to five in 2016, could be modified. As a result, Area C recommends continuing the further development of PEFA, AEA and EW-MFA databases. For the remaining accounts the following options are proposed for consideration by the Committee:

Option 1:

- Deprioritize the development of a global questionnaire on land cover accounts
- Postpone
 - the decision on the implementation of a global database on water accounts until UNSD and Eurostat complete their feasibility studies (by the end of 2026),
 - any decision on additional priority accounts until the update of the SEEA Central Framework is completed in 2028.

Option 2:

- Identify new priority accounts from the SEEA Central Framework or Ecosystems Accounts and carry out a feasibility study in view of the future implementation of global databases. The studies would include an assessment of the need for the development of methodological guidelines, compilation and reporting feasibility, reporting/disseminating templates, development of reporting/disseminating templates, validation rules, SDMX compliance. Depending on the account and the data availability, the use of either national or international estimates could be considered.

It should be noted that based on the feedback from the 2024 Global assessment and various consultation (including the consultation of the participants to various editions of the Joint OECD-UNECE Annual Seminar on the implementation of SEEA), the following accounts have been indicated as possible candidates:

- Physical water flow or asset
- Waste
- Environmental Protection Expenditure Accounts (EPEA)
- Environmentally Related Tax Revenue Accounts (ERTR)
- Harmful subsidies on climate change mitigation and adaptation
- Investments on climate change mitigation and adaptation
- Climate-related expenditures and subsidies
- Ecosystem extent (in coordination with Area B)
- Ecosystem condition (in coordination with Area B)
- Forest (after the SEEA CF update)

6 Questions for the Committee

33. The Committee is invited to:

- 1) express its views on the work of Area C; and
- 2) advice on the proposed options for the identification of priority accounts for the next period.