DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS

System of Environmental Economic Accounting

SEEA Central Framework update

Scoping note for issue B4: "Quarterly SEEA-CF Accounts"

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Note: This Scoping Note has been prepared in the context of the SEEA Central Framework update, mandated by the United Nations Statistical Commission in 2024. A set of 29 issues was identified for the update process and endorsed by the United Nations Statistical Commission in 2025. As an initial step, Scoping Notes were developed for each issue to elaborate on its description and provide a common understanding of the work required to fully investigate and formulate recommendations for the updated SEEA Central Framework. Each Scoping Note was prepared by a lead author and discussed in the relevant Task Team. They were subsequently reviewed by the SEEA CF Technical Committee and the UNCEEA, and approved by the SEEA CF Technical Committee.

1 Background to the issue

Over the years, high-frequency granular statistical data have gathered increasing attention for their utility across a wide range of users, including policymakers, analysts, as well as the general public. SEEA is no exception, as infra-annual accounts hold significant potential for providing timely insights into emerging trends and to capture local dynamics, thereby serving as valuable tools for the implementation and evaluation of policies.

Currently the SEEA-CF taches only marginally on the time frame of the accounts with paragraph 6.72 stating "Generally, the time frames considered in the Central Framework are annual but, in certain cases, the compilation of sub-annual time series may be appropriate, particularly cases where the physical flows or economic activity are seasonal in nature, for example, patterns of rainfall and electricity use. An understanding of required capacity in water and energy supply, or in the thresholds for various environmental pressures, will usually require knowledge of seasonal peaks and troughs rather than annual averages. " or paragraph 5.485 referring to "countries where there is a consistent and regular hydrological year with a distinct dry period" ..

Recognising the importance of infra-annual and timely information on emissions, a pool of international organisations—comprising the IMF, OECD, Eurostat, UNSD, and IEA—has collaborated since 2021 to develop a harmonised methodology for the estimation of quarterly air emission accounts. Additionally, over the last few years, the OECD has implemented monthly estimates for CO_2 emissions from air and maritime transport, further enhancing the availability of SEEA high-frequency data on emissions.

The interest sparked by such developments may suggest that the compilation of infra-annual SEEA accounts could potentially be expanded beyond air emission. This consideration underpins the proposal to include quarterly estimates within the issue list for the update of SEEA-CF handbook.

Finally, the dissemination of quarterly SEEA accounts could prove advantageous for analysts, as direct links could be established to other infra-annual data such as quarterly national accounts, some short-term statistics and indexes of energy prices.

2 Motivation for considering a change to the SEEA Central Framework

Exploring the various options and challenges surrounding the time frame for SEEA accounts could help statistical authorities determine the optimal frequency for flow or asset accounts. While annual data remains the standard reference, certain phenomena—such as, for example, changes in land use—may develop at such a gradual pace that timeframe longer than a year would seem to be more suitable. Conversely, the compilation of sub-annual data may prove both pertinent and highly informative for other phenomena particularly when in need to be compared against specific economic statistics such as quarterly GDP or value added. It will be essential to emphasize that, while compiling sub-annual data can offer valuable insights, its feasibility may be significantly constrained by the availability of source data.

Furthermore, some natural phenomena might manifest at time intervals that diverge from the conventional periodicities used for economic statistics (such as monthly, quarterly). The GN could examine the feasibility of compiling certain accounts for atypical periodicities such as wet and dry seasons.

While the 2012 edition addressed the time frame issue only for certain specific accounts, the 2028 edition could take a more comprehensive approach—assessing the merits and drawbacks of various options from a broader perspective and distinguishing between aspects common to all accounts and those that are account-specific.

3 Nature of the proposed change and research questions

The treatment of multi- or infra-annual estimates should remain relatively narrow in scope, focusing on essential insights into available options and challenges to enable statistical authorities to select the most appropriate timeframe.

Similar to the 2008 SNA, a section addressing general considerations for selecting the most suitable timeframe could be included in the chapter on the structure of the accounts, while more specific aspects related to individual flow or asset accounts could be covered within their respective sections.

While a detailed discussion on benchmarking and temporal disaggregation techniques lies beyond the scope of the SEEA-CF handbook—given the availability of specialized guides and rapidly evolving scientific literature on the subject—the updated SEEA-CF could still provide a summary outlining the relative advantages of various methods for estimating infra-annual accounts. This summary should cover approaches that rely on methods and data similar to those used for annual accounts (the direct method), as well as mathematical and statistical techniques (the indirect approach), which utilise models to interpolate and extrapolate existing annual data. The language should remain accessible to SEEA specialists, avoiding technical discussions on statistical and mathematical methodologies.

The text may highlight the benefits of enriching datasets by incorporating additional dimensions. For example, offering both seasonally adjusted and non-seasonally adjusted data could help address the varying requirements of diverse users. Furthermore, distinguishing between adjustments for regular seasonal variations and those for irregular or extreme weather events may prove particularly useful.

Additionally, it may be beneficial to incorporate insights on the interpretation and practical applications of sub-annual data. For instance, the text could offer a brief commentary on the use of year-on-year (YoY) growth rates compared to quarter-on-quarter (QoQ) or annualized rates.

Although this aspect is not addressed in this SN, the GN and, eventually, the text in the 2028 SEEA-CF could liaise with sub-national data.

4 Links to other SEEA CF update issues

Any section that has the potential to modify either the boundaries of SEEA (e.g. Inclusion of LULUCF) or the development of indicators

5 Existing materials

ECB (2005) Handbook on Quarterly Financial Accounts for the Euro Area European Central Bank. Handbook on Quarterly Financial Accounts for the Euro Area: Sources and Methods. Frankfurt: ECB, 2005. https://www.ecb.europa.eu/stats/pdf/eaa/Handbook_on_quarterly_financial_accounts.pdf

Eurostat. (1999). Handbook on Quarterly National Accounts. Luxembourg: Office for Official Publications of the European Communities. Retrieved from https://ec.europa.eu/eurostat/documents/3859598/5854053/CA-22-99-781-EN.PDF

Eurostat (2013) Handbook on Quarterly National Accounts European Commission. Luxembourg: Publications Office of the European Union, 2013. ISBN: 978-92-79-33081-0. https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-gq-13-004

Eurostat (2016) Handbook on Prices and Volume Measures in National Accounts (2016 Edition) European Commission. Handbook on Prices and Volume Measures in National Accounts. Luxembourg: Publications Office of the European Union, 2016. ISBN: 978-92-79-37859-1. https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-gq-14-005

Eurostat (2018) ESS Guidelines on Temporal Disaggregation, Benchmarking, and Reconciliation: 2018 Edition. Luxembourg: Publications Office of the European Union, 2018. ISBN: 978-92-79-98007-7. https://ec.europa.eu/eurostat/documents/3859598/9441376/KS-06-18-355-EN.pdf

IMF (2001) Quarterly National Accounts Manual: Concepts, Data Sources, and Compilation Washington, DC: International Monetary Fund. Retrieved from https://www.elibrary.imf.org/downloadpdf/display/book/9781589060319/9781589060319.pdf

IMF. (2017) Quarterly National Accounts Manual. Washington, DC: International Monetary Fund. Retrieved from https://www.imf.org/external/pubs/ft/qna/pdf/2017/QNAManual2017.pdf

IMF (2017) Quarterly National Accounts Manual – 2017 Edition (IMF) International Monetary Fund. Quarterly National Accounts Manual: Concepts, Data Sources, and Compilation. Washington, D.C.: IMF, 2017. ISBN: 978-1-4843-7784-0. https://www.imf.org/external/pubs/ft/qna/?form=MG0AV3

United Nations Statistics Division (2019) Manuals and Handbooks: 13th Meeting of the Advisory Expert Group on National Accounts. October 1–3, 2019, Washington, D.C., USA. https://unstats.un.org/unsd/nationalaccount/aeg/2019/M13_5_5_Manuals_Handbooks.pdf