

System of
Environmental
Economic
Accounting

SEEA CF Update

Issue B6 – Accounting for residual flows by ecosystem type “Pressure account”

Presentation to the London Group, Tallinn

22 September 2025



United Nations

Issue B6:Residual flows to ecosystem type - Pressure account

- **Issue description October 2024:**
 - > “PSUTs in the SEEA CF include a column for the environment. It would be policy relevant to record where (i.e., in which ecosystems) these residuals end up in. This could entail creating a pressure flow account (which is not included in the SEEA EA).”
- **Statistical context:**
 - > The SEEA CF allows for recording residual flows to the environment of different substances and the SEEA EA allows for recording changes in the condition of ecosystem assets. However, there is no specific articulation of the connection between these stocks and flows.
 - > In the context of the Dutch ocean ecosystem accounts environmental pressure accounts were designed to record data about this connection.

Motivation

- Statistical completeness in creating the link between environmental flows and changes in ecosystems in specific locations.
- A completeness emerges as well in terms of the link between the data covered by the SEEA system and the DAPSIR policy model (Driving forces, Activities, Pressures, State, Impact, Response)
- High-levels of interest in pressures and the effects on ecosystems in specific locations
- The work of Statistics Netherlands has generated substantial interest from policy makers.

Proposal and research questions

- General proposal: Incorporate in the updated SEEA CF content describing pressure accounts, potentially as an extension (additional columns) to the standard PSUT, building from the SEEA EA definition of environmental pressures “a human induced process that alters the condition of ecosystems” (SEEA EA 5.105).
- Initially proposed topics for investigation include:
 - a. What different types of pressures should be considered?
 - Should a pressure account consider the effects arising from residual flows (e.g. air pollution, water pollutants, wastewater, etc)
 - Should a pressure account consider activities related to the harvesting of natural resources, e.g. timber and fish?
 - Should a pressure account consider changes in land use (e.g. urbanisation) as types of pressure?
 - Should a pressure account consider passive environmental uses (e.g. marine transport, noise and light pollution, tourism) as types of pressure?
 - Should a pressure account consider environmentally sourced pressures (e.g. invasive species, natural events, climate change) as types of pressure?

Proposal and research questions (cont.)

- b. Are there specific residual flows, activities or other sources of pressure that are of higher importance that should be the focus of additional descriptions?
- c. Should the effects of pressures be recorded only in terms of the ecosystem types that are affected (e.g. rivers, wetlands, seagrass beds), or should they also be recorded in terms of changes in other environmental components (e.g. species)?
- d. How should the link to the measurement of ecosystem condition be described, considering both intrinsic and instrumental perspectives on ecosystem condition?
- e. What links should be made between pressures and economic activities? For example, how should non-point source pollution be considered?

Proposal and research questions (cont.)

- f. How should connections between ecosystems be considered – e.g. where there is an additional effect on ecosystems beyond of the location where changes in ecosystem condition as a result of the residual flow are most apparent; or where the source of the pressure is outside of the reference country?
- g. Are there links to the recording of environmental activities (e.g. environmental protection activities, climate mitigation activities) that should be considered, i.e. link pressures to responses?
- h. What measurement units and calculations are appropriate for the presentation of pressures in pressure accounts?
- i. What statistical issues (particularly concerning confidentiality) may arise in presenting statistics on pressures where the link between the source of the pressure and the effects on the environment may be limited to a small number of economic units (e.g. recording the effects of off-shore wind farms on marine ecosystems)?

Challenges and intended focus for the Guidance Note

1. Recognise the difficulty of setting the measurement boundary since, at the limit, all human activity can place pressure on the environment
2. Therefore, propose to limit the set of pressures to residual flows recorded in physical flow accounts that are considered likely to have negative impacts on the condition of the environment.
3. Therefore propose to exclude development of accounts for
 - > activities related to the harvesting of natural resources, e.g. timber and fish
 - > changes in land use (e.g. urbanisation)
 - > passive environmental uses (e.g. marine transport, noise and light pollution, tourism)
 - > environmentally “sourced” pressures (e.g. invasive species, natural events, climate change).
4. Note that, in some cases, information about these pressures may be present in existing SEEA CF - e.g. timber resource asset accounts and land use accounts.

Challenges and intended focus for the Guidance Note

5. Which residual flows to include:

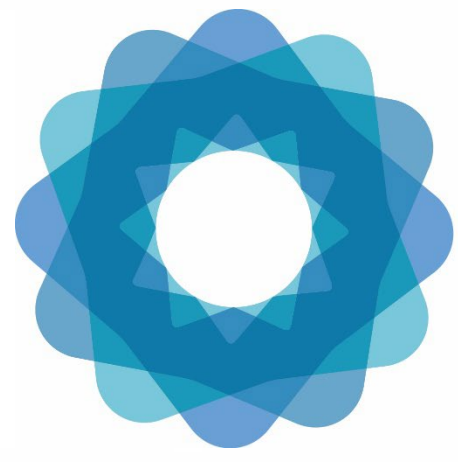
- > Air pollutants, water pollutants, wastewater, others?
- > Are there specific residual flows of higher importance – e.g. in terms of expected environmental impact, vulnerability assessments, associated policies and regulation, current reporting requirements, etc.?

6. Accounting and measurement issues to be examined:

- > How should the measurement and accounting approach balance between economy-wide measurement of residual flows and the likely localised impact of these flows (e.g. in terms of specific locations within a country)?
- > Generally in PSUT the supply of residual flows is attributed to economic units however, to what extent will it be possible to link the impact of a residual flow in a particular location to economic units?
- > Should the effects of residual flows be recorded only in terms of the ecosystem types that are affected (e.g. rivers, wetlands, seagrass beds), or should they also be recorded in terms of changes in other locations (i.e. connected ecosystems) or other environmental components (e.g. species)?

Challenges and intended focus for the Guidance Note

6. Accounting and measurement issues to be examined (cont):
 - > Are there specific considerations to account for (i) air pollutants including, for example, LULUCF GHG emissions; and (ii) mobile sources of emissions (e.g. transportation activities)?
 - > How should the link to the measurement of ecosystem condition be described, considering both intrinsic and instrumental perspectives on ecosystem condition?
 - > What statistical issues (particularly concerning confidentiality) may arise in presenting statistics on pressures where the link between the source of the pressure and the effects on the environment may be limited to a small number of economic units (e.g. recording the effects of off-shore wind farms on marine ecosystems)?
7. Given this is a new area of accounting, some investigation of potential data sources and methods will need to be undertaken.



System of
Environmental
Economic
Accounting

DISCUSSION



United Nations