



SEEA and the National accounts: a perfect combination for policy use

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Environmental Accounts

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Outline

1. SEEA and its benefits
2. Recent Dutch policy applications:
 - Circular economy
 - Footprints
 - Carbon accounts

SEEA and its benefits

SEEA (System of Economic and Environmental accounts) is a satellite account of National accounts.

SEEA modules extend the NA in different ways:

- Specific monetary environmental data
- Physical dimension to monetary data
- Physical non-monetary data

Benefits of SEEA/NA combination: Total is more than the sum of its parts. Allows for policy relevant economic-environmental analysis.

Subsidies
Taxes
Environmental
sector

Energy
Material flows (MFA)
Water

Assets
Waste
Emissions to environment
Natural Capital



Policy application 1: Circular economy



Policy questions regarding circular economy

Dutch Circular economy program:

Target: 50% reduction of abiotic resources in 2030.

EU action plan for the Circular Economy & EU Green Deal

Focuses not only on energy but also on materials

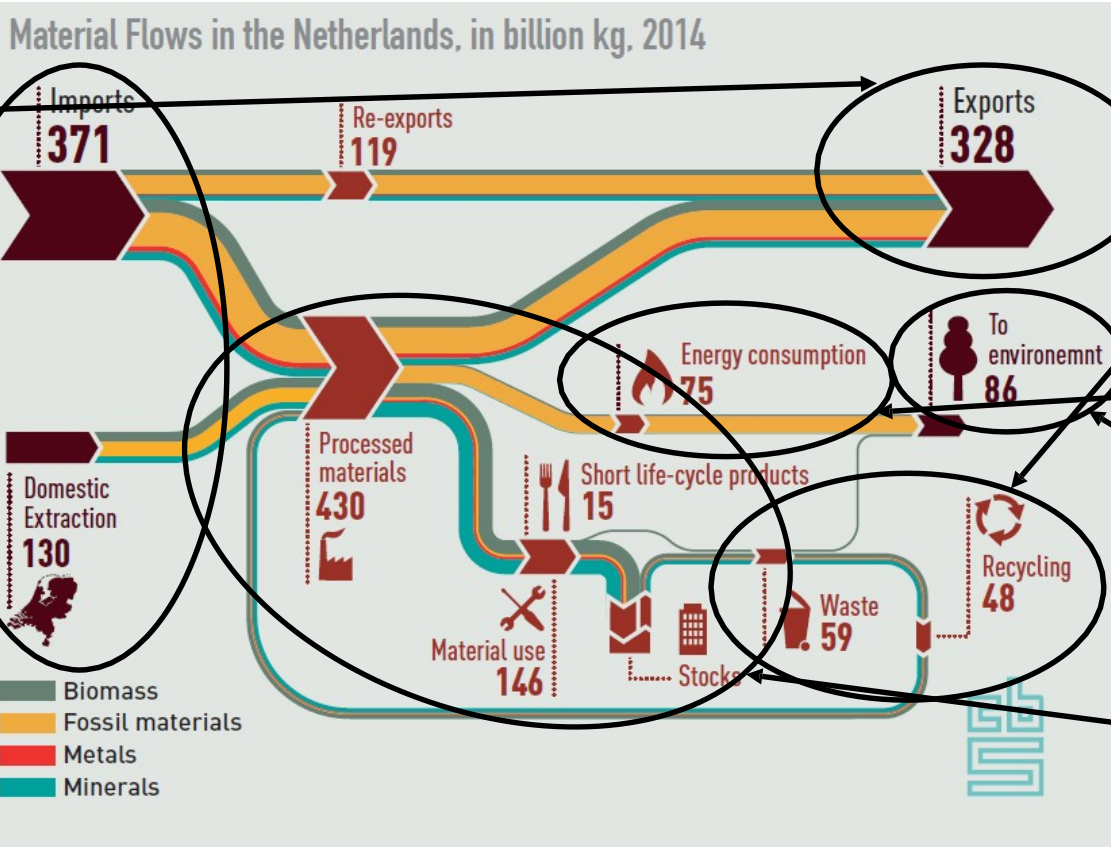
Sustainable Development Goals (SDGs):

08 Decent Work and Economic Growth
(resource efficiency; decoupling)

12 Responsible Consumption and Production
(use of resources; waste recycling)



Material flows - Sankey



Material Flow Accounts

Waste accounts

Energy accounts

Air emission accounts

National accounts



CE monitoring framework EC

Eurostat monitors CE by a list of indicators including Sankey.

Recently Commission considers a new dimension:

Global sustainability and resilience.

To address the contribution of circularity to climate neutrality and zero pollution, to increase EU green and geopolitical resilience and accountability for the spill-overs of EU consumption (i.e. production outside the EU induced by final demand in the EU).

Carbon account and footprints address this new dimension.



Policy application 2: Footprints

Dutch politicians realize importance of environmental impact in the chain:

- Circular economy program, Climate and energy outlook, Well being

Demand for footprints on: resources, GHG emissions, water, land and biodiversity

National account's Input-output table in combination with SEEA modules on MFA, GHG emissions and water.

- SNAC methodology used to integrate Dutch IO table in MRIO

Challenge:

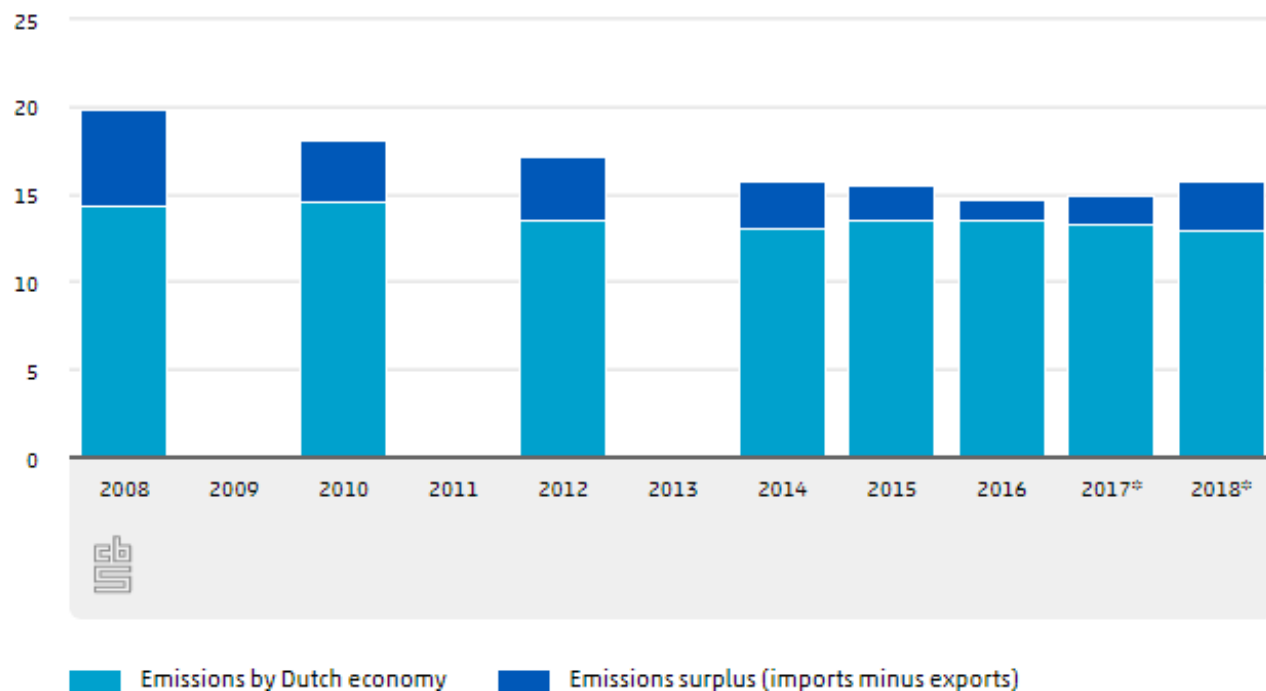
- Need for harmonized methodology and consistent, up to date and detailed MRIO database.
- To what extent does CE contribute to reduction in environmental impact?



Footprint result

Greenhouse gas footprint¹⁾

tonnes of CO₂ equivalents per capita



Policy application 3: Carbon accounts

Carbon accounts address policy for a low carbon economy.

Concept of carbon accounts are part of the eco-system accounts (SEEA EA) and combine SEEA modules:

- Carbon flows and stocks within the economy (MFA, Circular economy)
- Carbon emissions from economy (emissions)
- Carbon sequestration and emissions from nature (Natural capital)

Monetary valuation of eco-system services is direct link to National accounts

Carbon accounts results in Mtonne C

| | Geocarbon | | | | Biocarbon | | | | Carbon in the economy | | | | Carbon in the atmosphere | Total | |
|------------------------|-----------|-----------------|-------|--------------------|-----------------|---------|--------------------|------------------|-----------------------|-------------|---------------------------------|-------|--------------------------|-------|-------|
| | oil | gas and shalgas | coal | limestone and marl | total geocarbon | Forests | Cropland / meadows | Other ecosystems | Total biocarbon | Inventories | fixed assets, consumer durables | Waste | Total | Total | |
| Opening stock | 54 | 627 | 12717 | | 13398 | 48 | 206 | 123 | 377 | 24 | | | 24 | 3193 | 16993 |
| Additions to stock | 0 | 0 | 0 | 0 | 0 | 0,6 | 0,2 | 0,2 | 1,0 | 251 | 2 | 10 | 263 | 64,2 | 329 |
| Natural expansion | | | | | | 0,6 | 0,2 | 0,2 | 1,0 | | | | | 1,8 | 3 |
| Managed expansion | | | | | | | | | | 50 | | | 50 | 62,4 | 113 |
| Discoveries | 0 | 0 | 0 | | 0 | | | | | | | | | | 0 |
| Upwards reappraisals | 0 | 0 | 0 | | 0 | | | | | | | | | | 0 |
| Reclassifications | | | | | | | | | | 15 | 2 | 6 | 23 | | 23 |
| Imports | | | | | | | | | | 186 | | 4 | 190 | | 190 |
| Reductions in stock | 1 | 51 | 0 | 0 | 52 | 0,6 | 1,3 | 0,6 | 2,4 | 246 | 0 | 10 | 256 | 9,4 | 320 |
| Natural contraction | | | | | | 0,1 | 1,3 | 0,5 | 1,9 | | | | | 1,0 | 3 |
| Managed contraction | 1 | 40 | 0 | 0 | 41 | 0,5 | 0,0 | 0,0 | 0,5 | 60 | | 3 | 62 | 8,5 | 113 |
| Downwards reappraisals | 0 | 11 | 0 | | 11 | | | | | | | | | | 11 |
| Reclassifications | | | | | | | | | | 19 | 0 | 5 | 23 | | 23 |
| Exports | | | | | | | | | | 168 | | 3 | 170 | | 170 |
| Net carbon balance | -1 | -51 | 0 | 0 | -52 | 0,0 | -1,1 | -0,4 | -1,4 | 5 | 2 | 0 | 7 | 54,8 | 9 |
| Closing stock | 53 | 587 | 12717 | | 13356 | 48 | 205 | 122 | 376 | 30 | | | 32 | 3248 | 17012 |

Conclusion

- Combining information from multiple SEEA modules and the National accounts provides unique opportunities to support policymakers across different policy areas.
- Good communication between SEEA-people and NA-people is paramount for alignment and, therefore, to assure future environmental-economic policy applications.



Facts that matter