SEEA: Linking physical environmental and monetary information – The need for emission accounts

4 May 2023

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Agenda

1 SEEA – history

2 SEEA coverage

3 AEA and their use

4 Comparative view of AEA and Inventories

5 Air emissions ' perspectives

6 AEA compilation approaches

7 Inclusions/Exclusions in AEA

Source: https://seea.un.org/

System of Environmental-Economic Accounting - more than 30 years of development

1983-1987

1. Brundtland Commission

1993

2. Handbook of National Accounting **(SEEA 1993)**

2003

3. **SEEA 2003**

2012

4. **SEEA 2012**

International Statistical Standard

2013

5. **SEEA Ecosystem Accounting** (adopted by the UN Statistical Commission)

2021

6. **SEEA Ecosystem Accounting** (adopted by the UN Statistical Commission)

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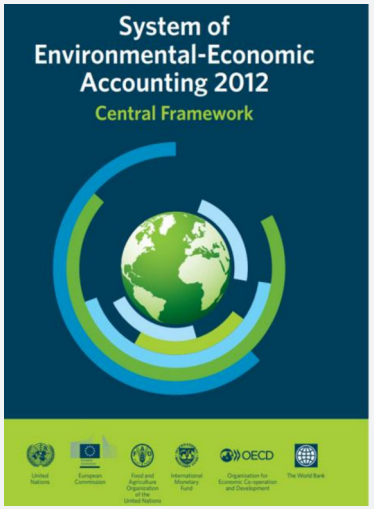
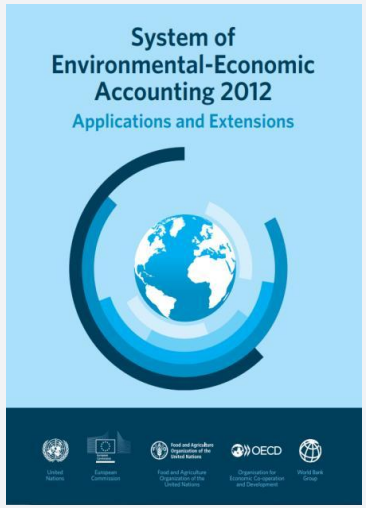
SEEA and SEEA Central Framework



International Statistical Standard

Measuring the relation environment ↔ economy

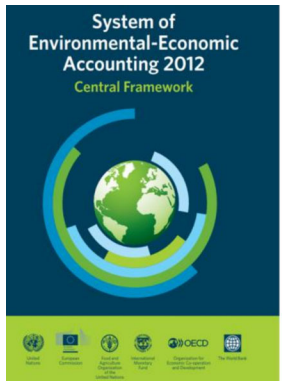
Measurement framework - changes in ecosystems & linking to economic and other human activity



How to use the SEEA CF accounts for decision making, policy formulation & research

…

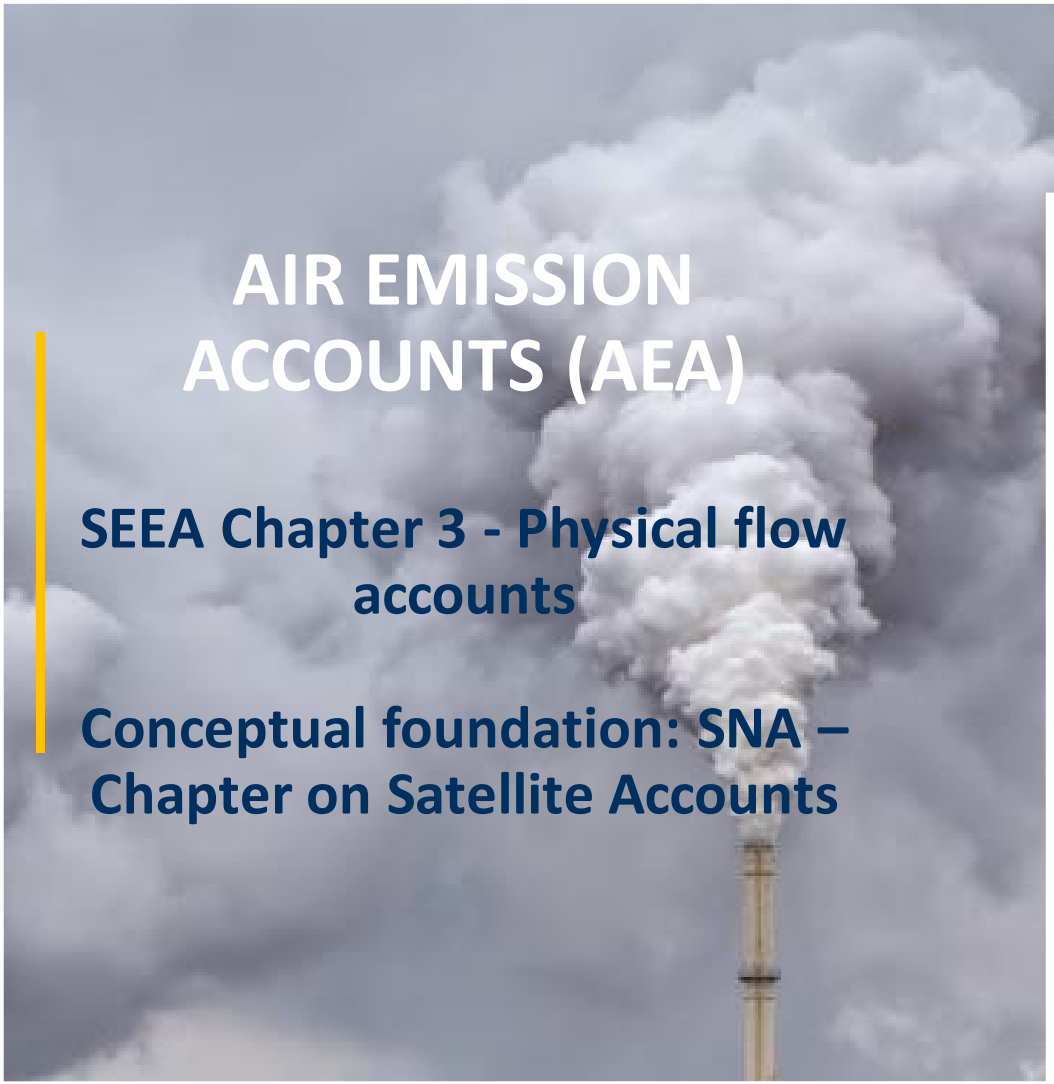
for the most common applications and extensions



4 main types of SEEA-CF Accounts

- Physical flow accounts – Chapter 3
- Monetary flow accounts
- Asset accounts
- Hybrid" / "NAMEA" / "Combined"
  - physical flows are connected to economic data

AEA



AIR EMISSION ACCOUNTS (AEA)

SEEA Chapter 3 - Physical flow accounts

Conceptual foundation: SNA – Chapter on Satellite Accounts

1. Record the flows of gaseous and particulate materials from the national economy into the atmosphere
2. Record the emissions arising from the activities of resident units of a given national economy, regardless of where these emissions actually occur geographically
3. Air emissions are presented in a breakdown by emitting economic activity
4. Refer to air emissions caused by production and consumption activities, i.e. caused by the economic system
5. Comprise emissions of greenhouse gases and emissions of air pollutants
6. Have the same accounting principles and system boundaries as the national accounts

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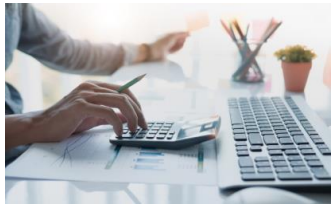
Use of AEA data



Examples of policy questions

- How much CO_2 is emitted by private households and how much by industries?
- Which activities are the most polluting within the production system?
- Are the economic activities that pollute the most the same ones that spend the most on environmental protection?
- What is the relationship between the economic performance and the environmental performance of various production activities?

Comparative view of AEA and Inventories

Air Emission Accounts	bridging items	Air Emission Inventory
Residence principle		Territorial principle
Allocation of emissions to economic activities		Process-based allocation of emissions
Breakdown by industries (NACE 2-digit level) and households		Breakdown by seven sectors (Energy, industrial processes; solvent and other product use; agriculture; land use, land-use change and forestry; waste; other)
Allocation of transport emissions to the final producer		Functional allocation of transport emissions

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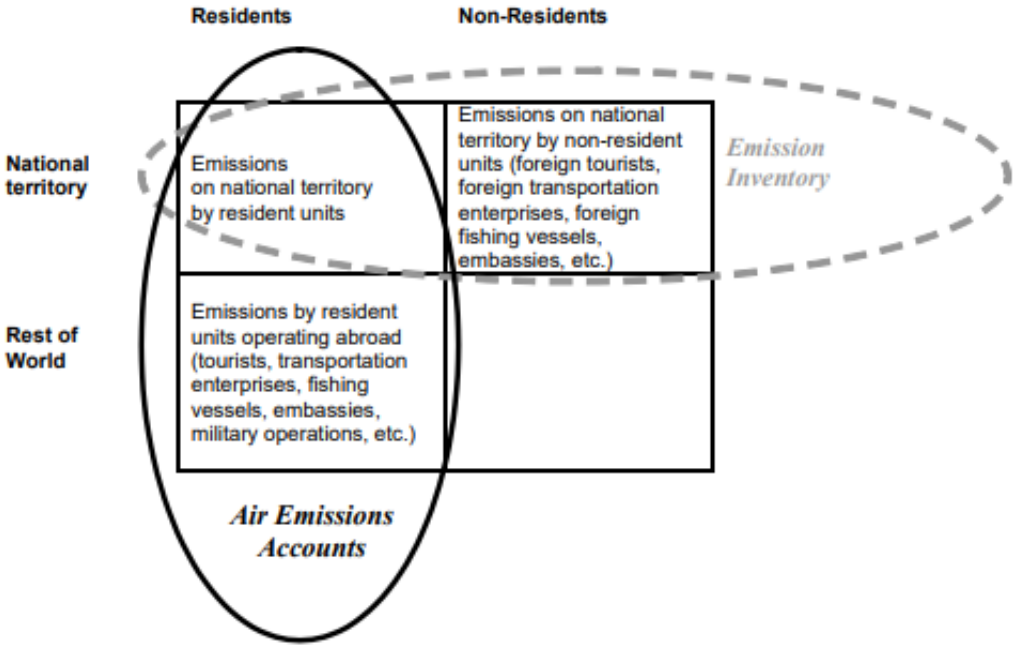
Comparative view of AEA and inventories



Source: Eurostat AEA Manual, 2015

Air emissions ' perspectives

Residence principle – AEA & footprints

- Resident Units (as defined by the SNA) ✓
- Emissions of resident units on the national territory ✓
- Emissions of resident units abroad ✓
- Emissions of non-residents on the national territory ✗

Teritorial principle – Inventories

- Resident and non-resident units (as defined by the SNA) ✓
- Emissions of resident and non-resident units on the national territory ✓
- Emissions of resident units abroad ✗
- Emissions of non- residents on the national territory ✓

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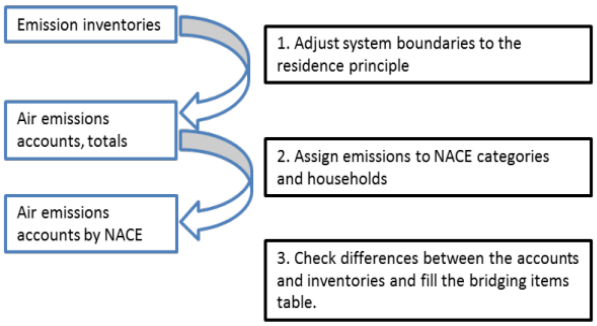
Three compilation approaches for AEA

! In practice – mixed approach

1

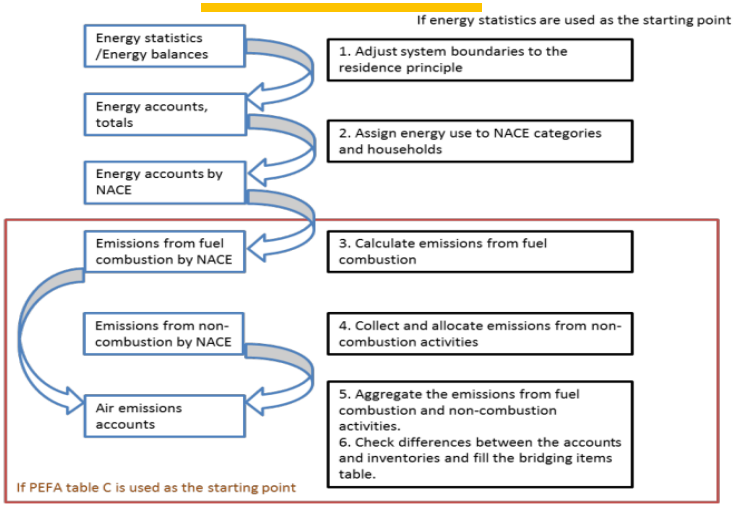
Inventory-first approach



Source: Eurostat AEA Manual, 2015

2

Energy-first approach



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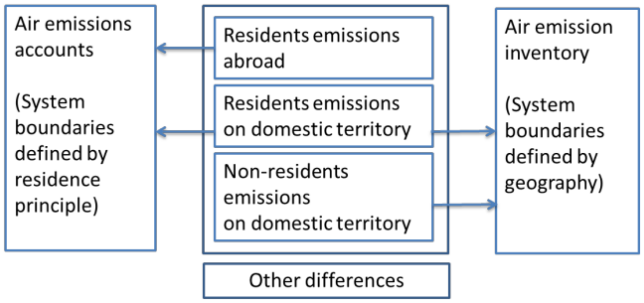
Multi-purpose data system approach



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Inclusions/Exclusions in AEA

1 Respiratory emissions from humans and domesticated animals

- Generally excluded, but emissions from enteric fermentation (ruminant animals) are taken into account

2 Not considered in AEA

- Emissions and (uptakes) from (by) cultivated plants, as latter belong to the national economy
- Emissions of gaseous substances from soils
- Carbon storage or methane capured at landfill

3 Emissions from waste landfills that goes to atmosphere

- Emissions of methane to the atmosphere
- CO_2 emissions from combustion of biogas
- Excluded! Emissions captured, e.g. for the production of biogas

4 Considered in AEA

- Emissions of gaseous substances from soil cultivation emissions, e.g. from fertiliser and manure application
- Flaring and venting

?

Any Questions?

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Thank you! / Merci !

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