

NAMEA – SEEA

**Activity A.13: Methodology on environmental accounting
with emphasis on air and waste accounts
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Jukka Muukkonen

NAMEA – National Accounting Matrix including Environmental Accounts

- A framework in which different types of statistical data are consistently organised bringing together economic and environmental information that come from different parts of the statistical system.
- The core of the framework is a set of tables containing economic data and forming a national accounting matrix (NAM) as compiled in national accounts.
- The environmental accounts (EA) consist of tables containing data that are frequently physical units (mass, volume or energy units)

(Source: Eurostat 2003: NAMEA for air emissions)

NAMEA cont.

- In NAMEA, environmental accounts therefore are mostly in physical units.
- It is nonetheless worthwhile taking monetary data, such as environmental expenditure or environmental taxes and subsidies into account
- NAMEA is a framework enabling to bring together of economic data and the corresponding environmental data industry by industry, as well as by household consumption category.

Schematic description of a simplified NAMEA

Source: adapted from Eurostat, 1999 NAMEA-air compilation guide

National accounts			Environmental accounts			
Use	Intermediate consumption	Final use				
Supply						
Trade margins						
Output						
	Value added		Air emissions of industries	Energy /water consumption of industries	Waste generation of industries	Environmental expenditure/taxes of industries
Imports						
		Household consumption	Household air emissions	Household energy /water consumption	Household waste generation	Household environmental expenditure/taxes

SEEA

- SEEA points out that it is legitimate to include only a limited set of environmental data
- It is unnecessary and even useless to try to complete an exhaustive set of accounts on natural resources use and residuals poured into the environment.

UN mission on environmental accounting

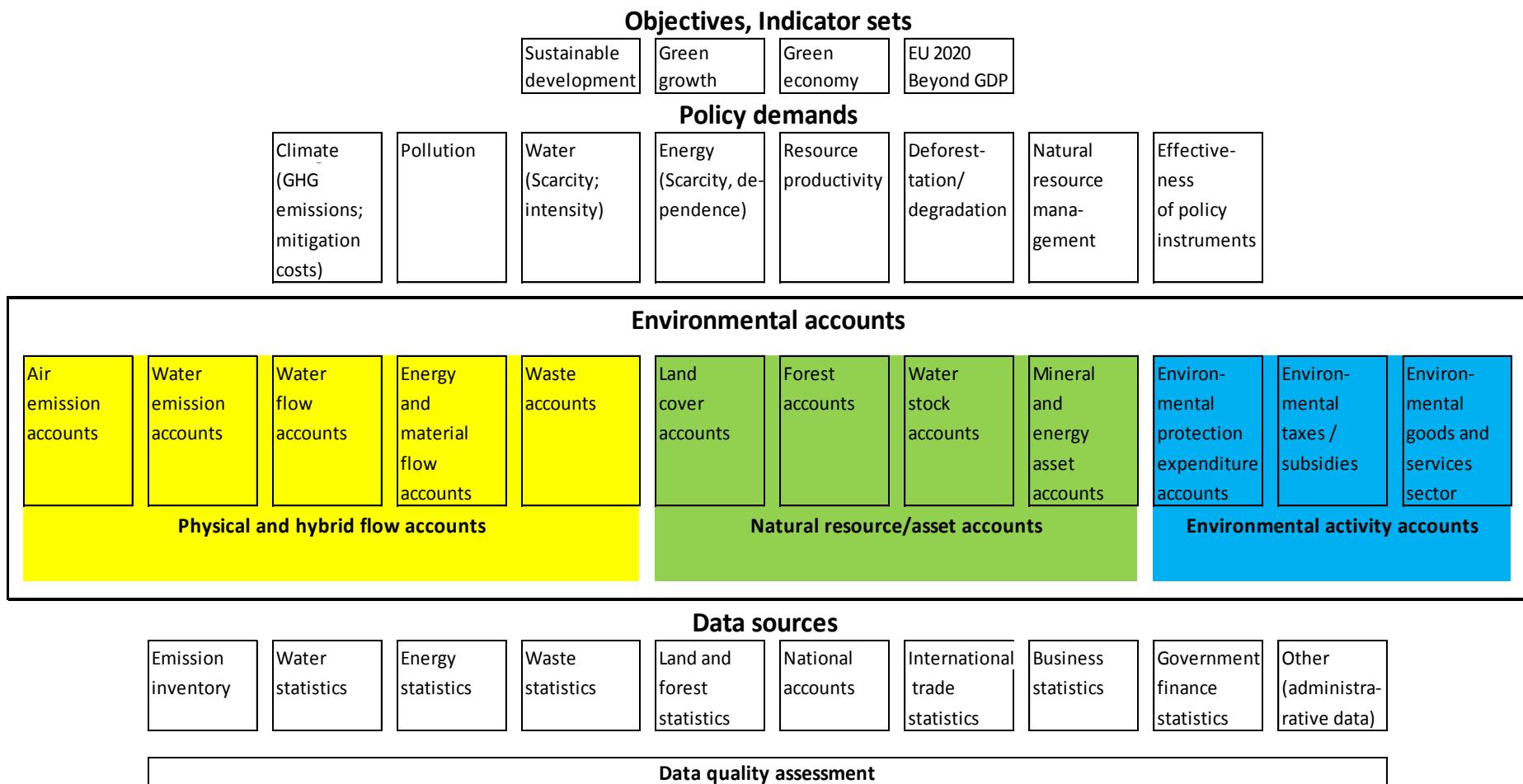


Figure A.1, Flow chart

Implementation Strategy for the System of Environmental-Economic Accounting SEEA

Prepared by the Committee of Experts on Environmental-Economic Accounting

System of Environmental-Economic Accounting (SEEA)

- A satellite system of the System of National Accounts
- Brings together economic and environmental information in a common framework to measure the contribution of the environment to the economy and the impact of the economy on the environment
- It provides policy-makers with indicators and descriptive statistics to monitor these interactions as well as a database for strategic planning and policy analysis to identify more sustainable paths of development
- Developed under the joint responsibility of the United Nations, Eurostat, IMF, OECD and the World Bank

Some characteristics of SEEA

- Full – coherent system – consistent with the System of National Accounts, SNA (satellite system, i.e. same definitions/classifications)
- Combines environmental and economic data
- Macro-level accounts (e.g. industry level)
- Multipurpose system (several uses and users)
- Statistical system with interconnected accounts and tables – accounting rules
- Flexibility in implementation
(Start with the most important and/or easy to get)
- UN programme to encourage and support countries to implement SEEA at applicable level

Flows between the economy and the environment

- **Natural inputs:**
material, air, water, space, light, heat, wind, other flows
- **Products in the economy:**
raw materials, intermediate products, final products (e.g. by CPC)
- **Residuals:**
waste, emissions into air, emissions into water,
residuals from dissipative use of products, dissipative losses,
natural resource residuals

Stocks and flows in environmental accounting

Stocks 1.1. and 31.12.

Changes in stocks

- Mineral and energy resources:
metals, other minerals, oil, gas,
coal, peat
- Land (space)
- Soil
- Timber: cultivated, natural
- Aquatic resources: cultivated, natural
- Other biological resources
- Water: surface, ground, soil water

- Growth, discoveries
- Extraction, natural losses, catastrophes
- Reappraisals, revaluations

Flows, supply and use 1.1.– 31.12.

By industry and by material

- Natural inputs: material, air, water,
space, light, heat, wind, other flows
- Products in the economy:
raw materials, intermediate products, final
products
- Residuals: waste, emissions into air,
emissions into water, dissipative residuals
and losses, natural resource residuals

- Environmental expenditures,
- Environmental goods and services
- Environmental taxes and transfers
- Env. licences, emission trade

SEEA CF: Supply and Use Table

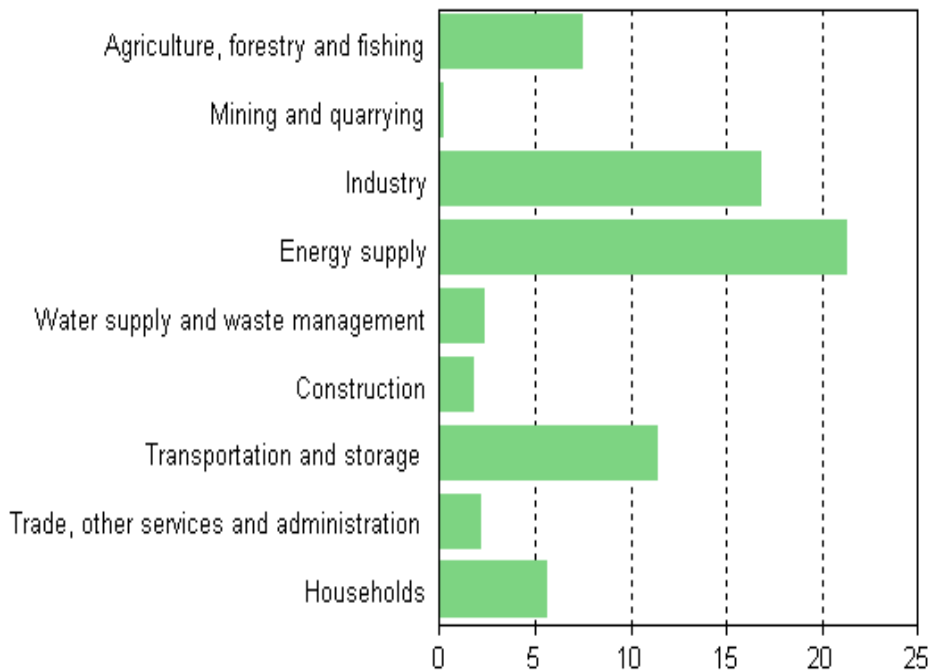
Table 2.3.2 Basic form of a Physical Supply and Use Table*

SUPPLY TABLE						
	Industries	Households	Accumulation	Rest of the World	Environment	Totals
Natural inputs					Flows from the environment	Total supply of natural inputs
Products	Output			Imports		Total supply of products
Residuals	Residuals generated by industry	Residuals generated by household final consumption	Residuals from scrapping and demolition of produced assets			Total supply of residuals
USE TABLE						
	Industries	Households	Accumulation	Rest of the World	Environment	Totals
Natural inputs	Extraction of natural inputs					Total use of natural inputs
Products	Intermediate consumption	Household final consumption	Gross Capital Formation	Exports		Total use of products
Residuals	Collection & treatment of waste and other residuals		Accumulation of waste in controlled landfill sites		Residual flows direct to environment	Total use of residuals

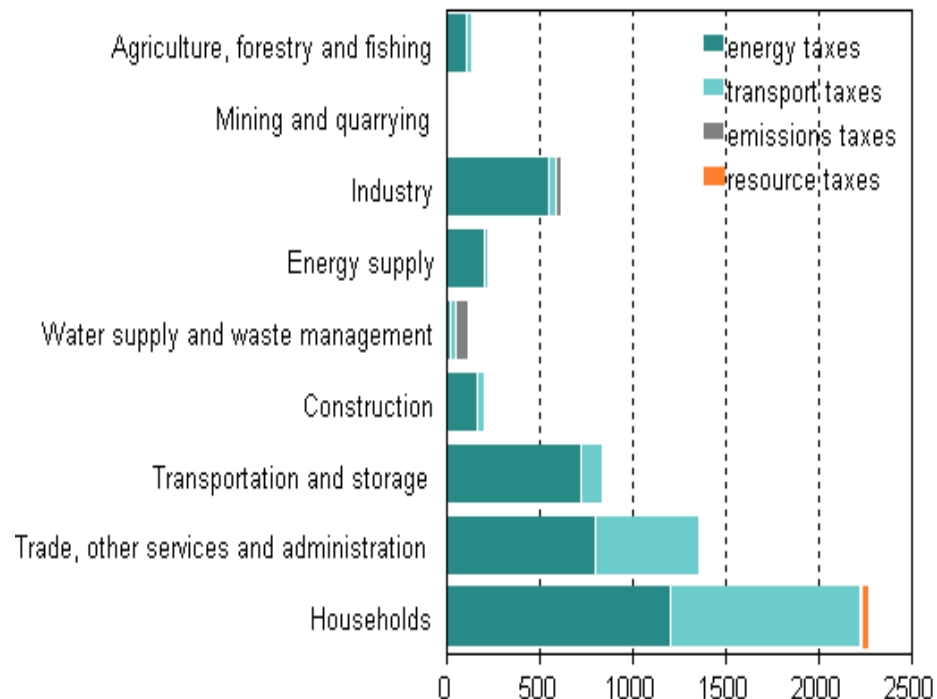
* Note: Grey cells are null by definition. Blank cells may contain relevant flows. These flows are explained in detail in Chapter 3.

Emission into air and environmental taxes by industry

Greenhouse gas emissions by industry in 2011, Million tons CO₂ equivalent



Environmental taxes by industry and tax type in 2011, EUR million



From waste statistics to waste accounts

Waste statistics

- Generation of waste by waste type and by economic activity
- Treatment of waste by waste type
- Territory principle

Waste accounts (PSUT)

- Generation of waste by waste type and by economic activity
- Treatment of waste by waste type and by economic activity
- Import and export of waste by waste type
- Balance between generation and treatment, including import and export
- Residence principle