

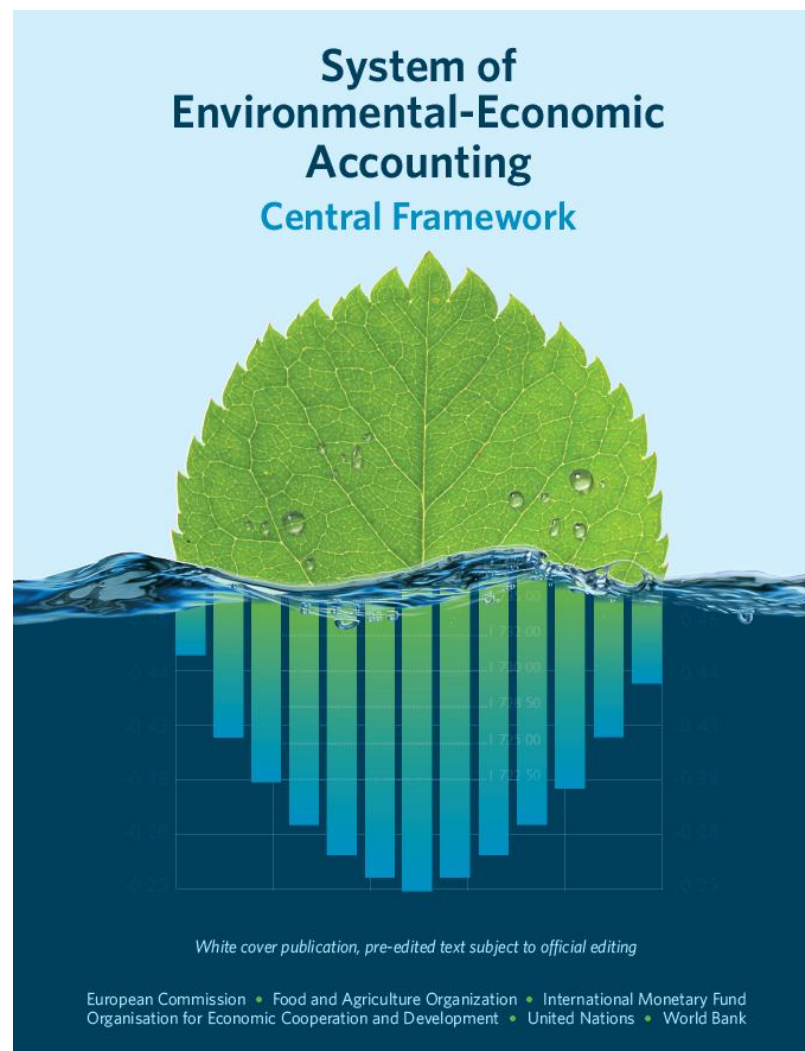
# SEEA and Measuring Sustainability

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# Content

- SEEA Revision
- SEEA Central Framework
  - Main building blocks
  - Linkages to sustainability indicators
- Implementation of SEEA



## A short history of the SEEA

- **SEEA 1993** → sequence of NA extensions: split up of transactions, adding physical flows, imputations unpaid effects etc.
- **SEEA 2003** → modular multipurpose approach
- **SEEA 2012** → strengthened accounting structure, will consist of 3 parts  
SEEA Central Framework (part 1) was adopted by the UNSC this year

# Achievements of the latest 2012 SEEA Central Framework revision

elevating (most parts of) the 2003 SEEA to  
international statistical standard (like SNA)

- clear cut recommendations
- no multiple options
- streamlining text
- no country examples

## SEEA CF versus SNA 2008

The SEEA Central Framework applies the accounting concepts, structures, rules and principles of the SNA to environmental information.

Notable differences between both systems are:

- Physical flows and stocks  
(e.g recording of industrial processing, extended asset boundary in physical terms)
- Depletion as cost of production
- Supplementary functional classifications

# 2012 SEEA – Main building blocks

## ***Part 1 Central Framework*** → Finalised (2012)

- physical flow accounts
- environmental activity accounts (environmental protection, resource management)
- asset accounts for natural resources

## ***Part 2 Ecosystem accounts*** → (2013)

- ecosystems as assets
- ecosystem services and their valuation
- accounting for environmental degradation

## ***Part 3 Applications and extensions*** → (2013)

# Building block 1 – Physical flow accounts

## *Accounting structure*

- Supply-Use tables of materials (kg), energy (j) and water (m<sup>3</sup>)
- Air emissions, water emissions, solid waste
- Natural resource inputs and net natural resource use

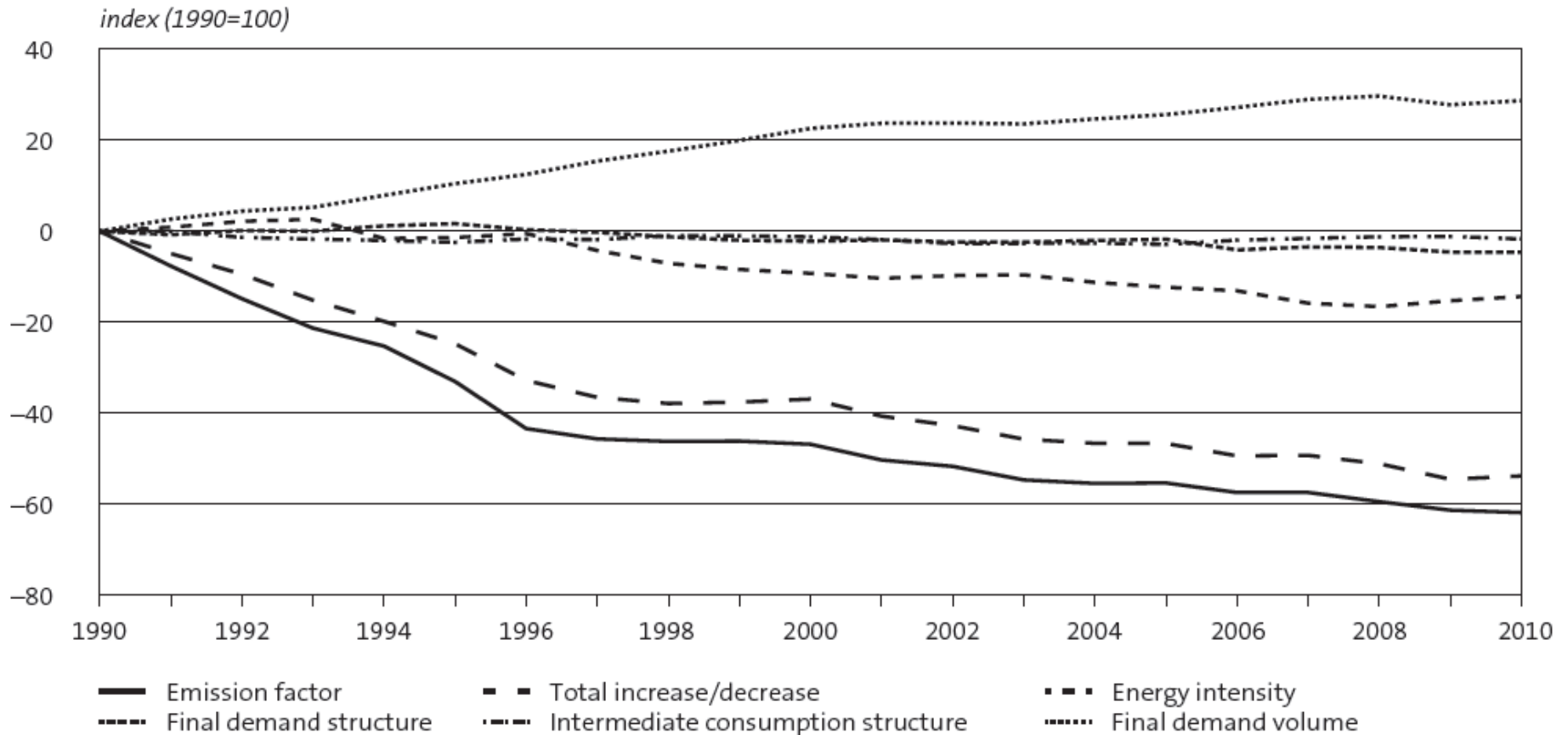
# Building block 1 – Physical flow accounts

## *Indicators and policy links*

- Resource productivity (and efficiency)
  - Decoupling
  - Footprint calculations (consumption perspective)
  - Environmental balance of trade
- *Green growth and Green economy policies*



# Decomposition of particulate matter emissions in the Netherlands



# Footprint calculations with the help of environmental accounts (environmentally extended IO tables)

## Personal carbon footprint



**Housing**

Persons in household

Thermostat temperature  19 °C

Type of dwelling

Natural gas use  1349 m<sup>3</sup> ⓘ

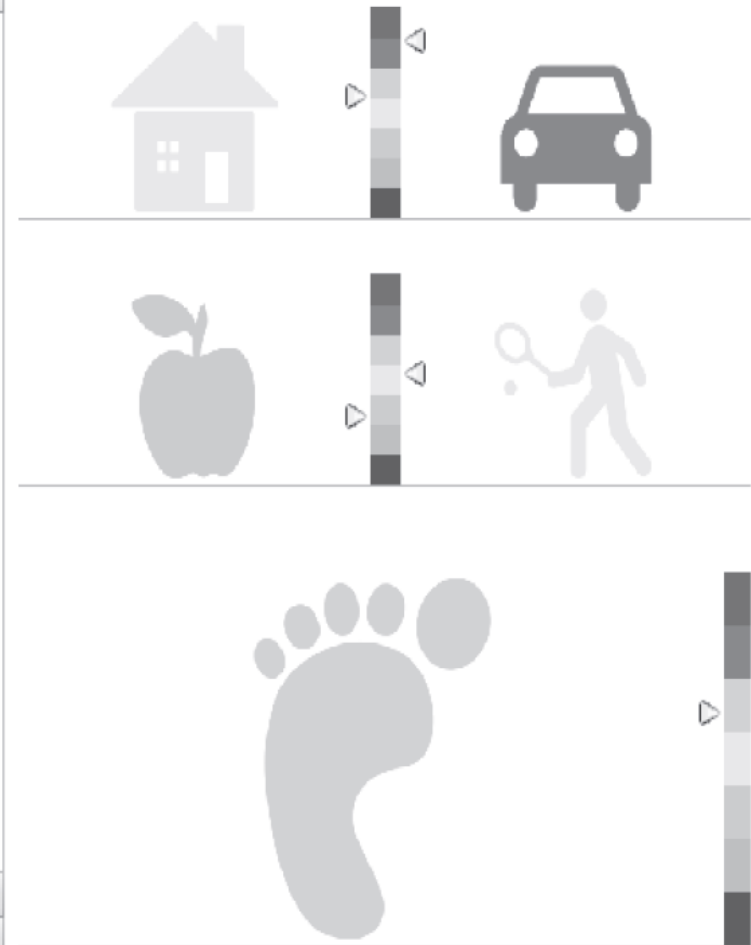
Electricity use  2858 Kwh ⓘ

Green electricity ⓘ

**Transport**

**Food**

**Recreation**



Reset

Source: Statistics Netherlands

## Building block 2 – Asset accounts

### *Accounting structure*

- Asset accounts (quantifying the changes between opening and closing balancing sheets in physical and monetary terms)
- ..

**Table 2.3.3 Basic form of an asset account**

**Opening stock of environmental assets**

**Additions to stock**

Growth in stock

Discoveries of new stock

Upward reappraisals

Reclassifications

*Total additions of stock*

**Reductions of stock**

Extractions

Normal loss of stock

Catastrophic losses

Downward reappraisals

Reclassifications

*Total reductions in stock*

**Revaluation of the stock\***

**Closing stock of environmental assets**

\* Only applicable for asset accounts in monetary terms

## Building block 2 – Asset accounts

### *Accounting structure*

- Asset accounts (quantifying the changes between opening and closing balancing sheets)
- Depletion adjusted national accounts aggregates, *value added*, *national income* and *saving*

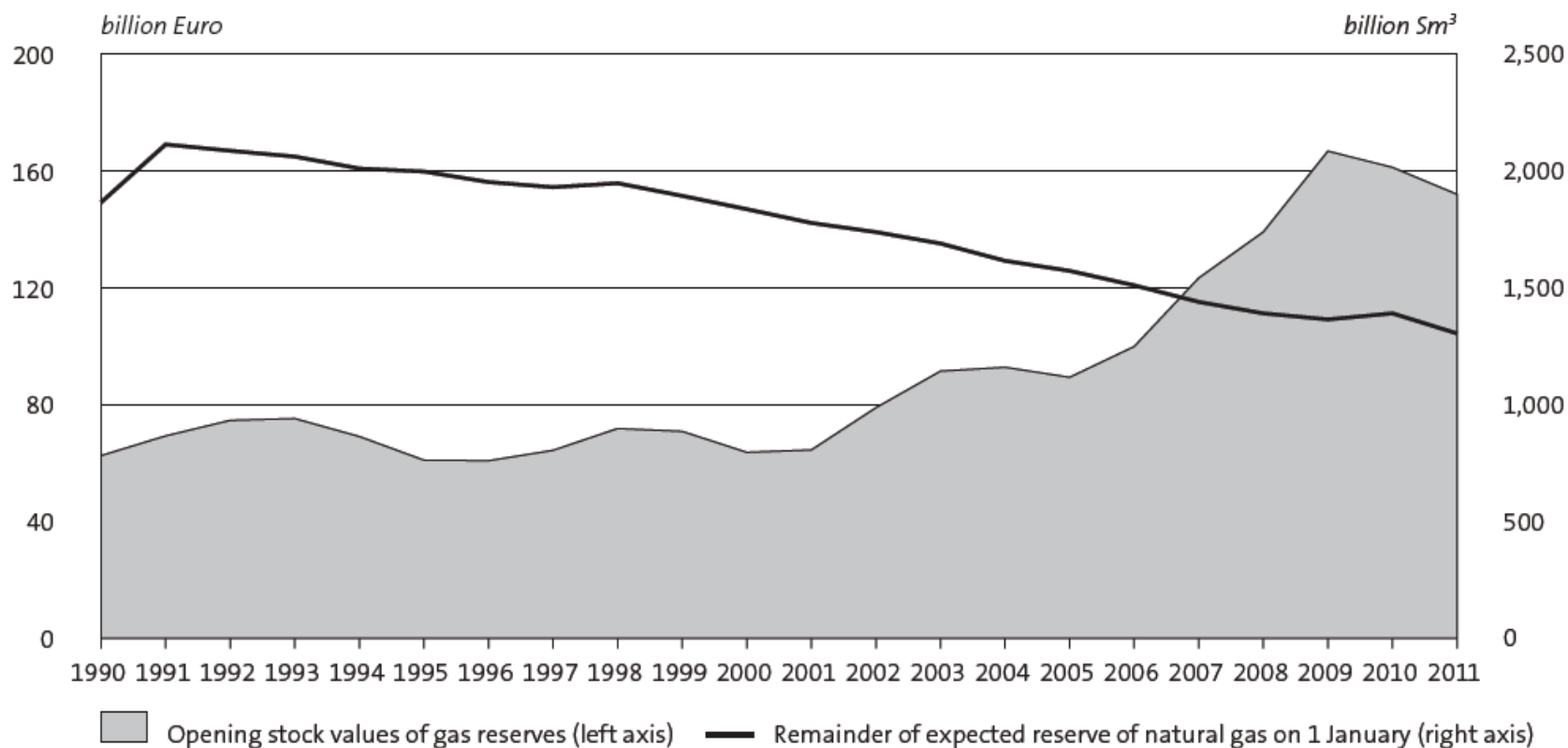
## Building block 2 – Asset accounts

### *Indicators and policy links*

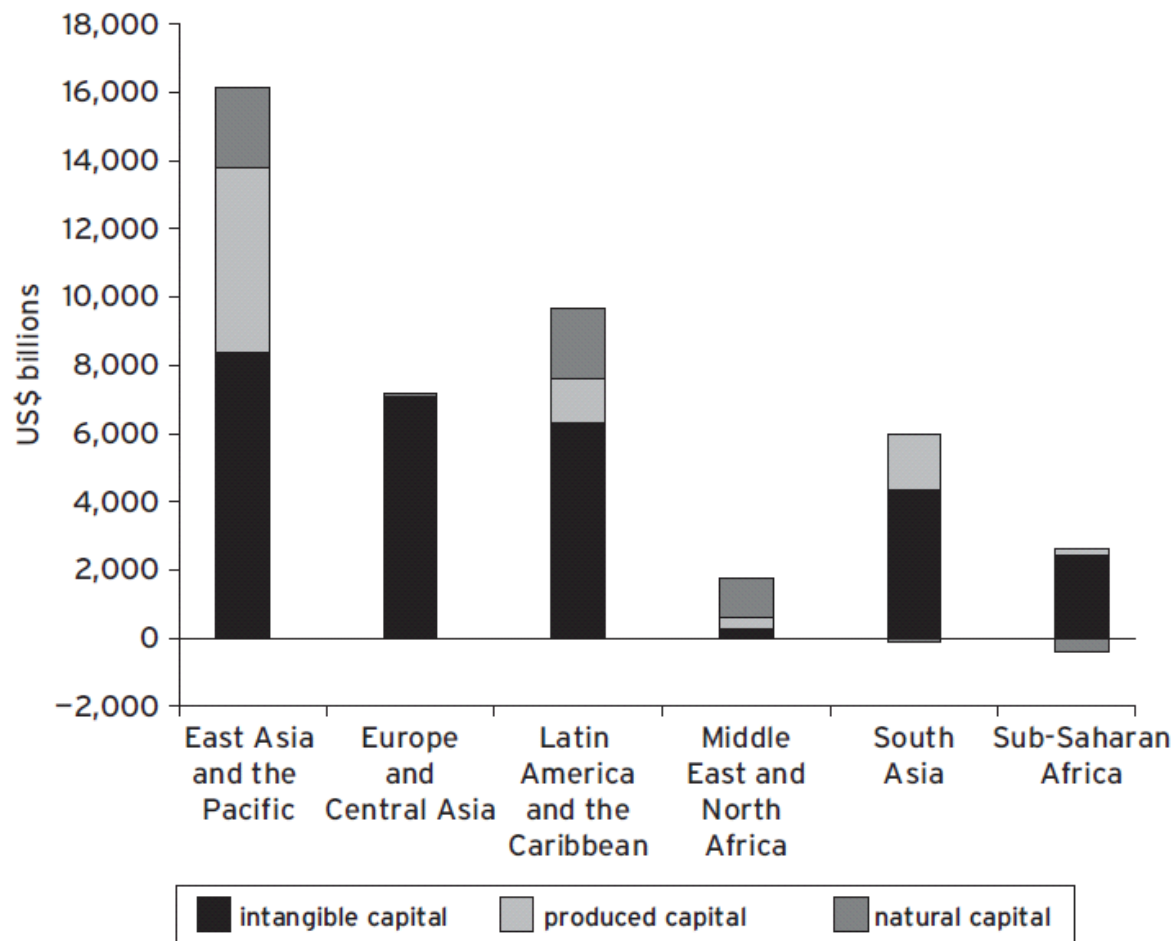
- Wealth of natural resources
  - In physical terms
  - In monetary terms
- Depletion adjusted income and (genuine) saving

→ *Wealth of Nations, (weak) Sustainability monitoring more broadly (Hartwick Rule), Millennium Development Goals*

# Asset accounts in physical and monetary units, natural gas resource in the Netherlands



**FIGURE 2.5**  
**Changes in Wealth in Developing Countries by Type of Asset, 1995-2005**



Source: Authors' calculations based on World Bank data.

Note: Changes for Europe and Central Asia are for 2000 to 2005 due to lack of data for 1995.

Source: World Bank (2011)



## Building block 3 – Environmental activity accounts

### *Accounting structure*

- Environmental protection expenditure accounts
- Environmental taxes and subsidies
- Environmental Goods and Services Sector (EGSS)

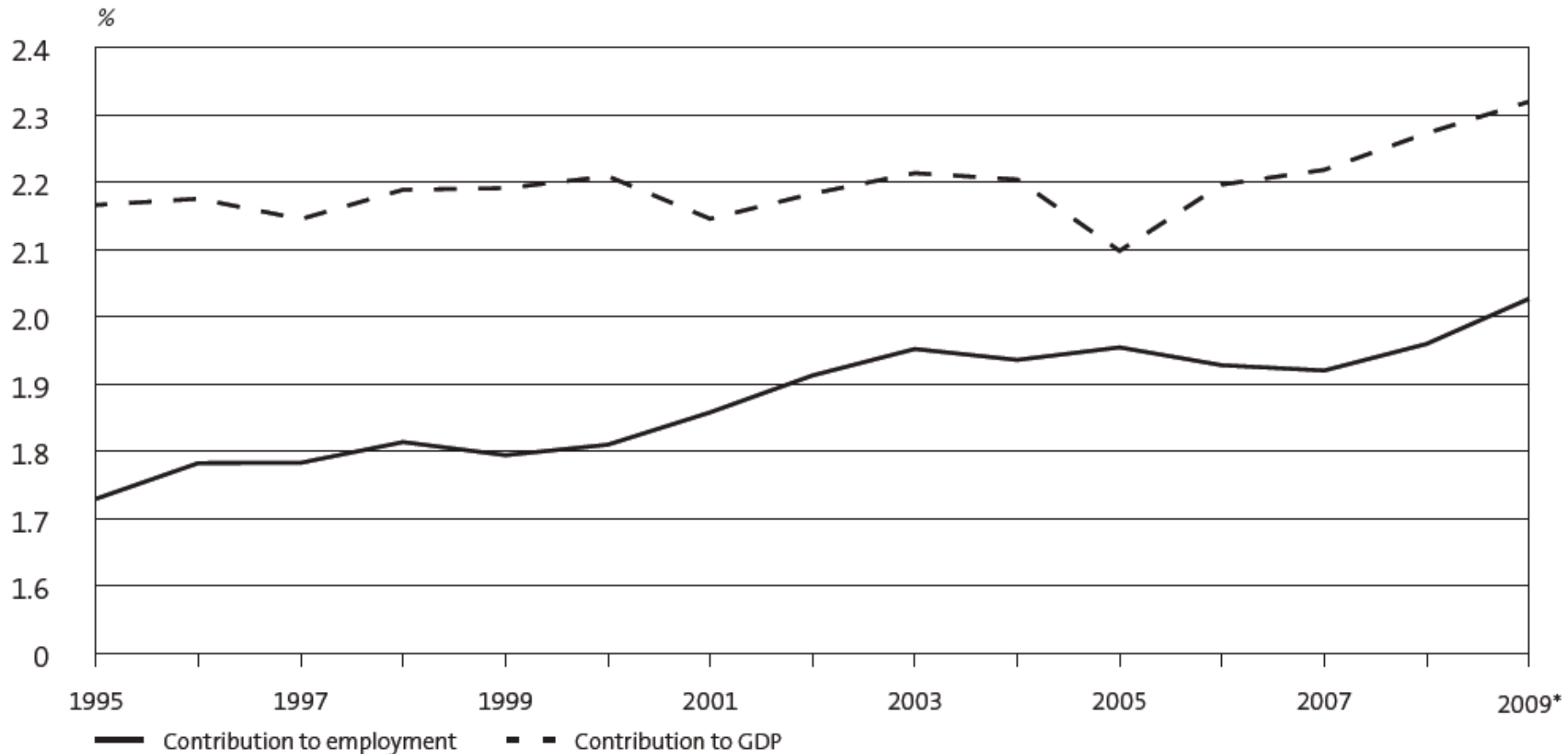
These are largely cross-sections of the NA Supply-Use tables

## Building block 3 – Environmental activity accounts

### *Indicators and policy links*

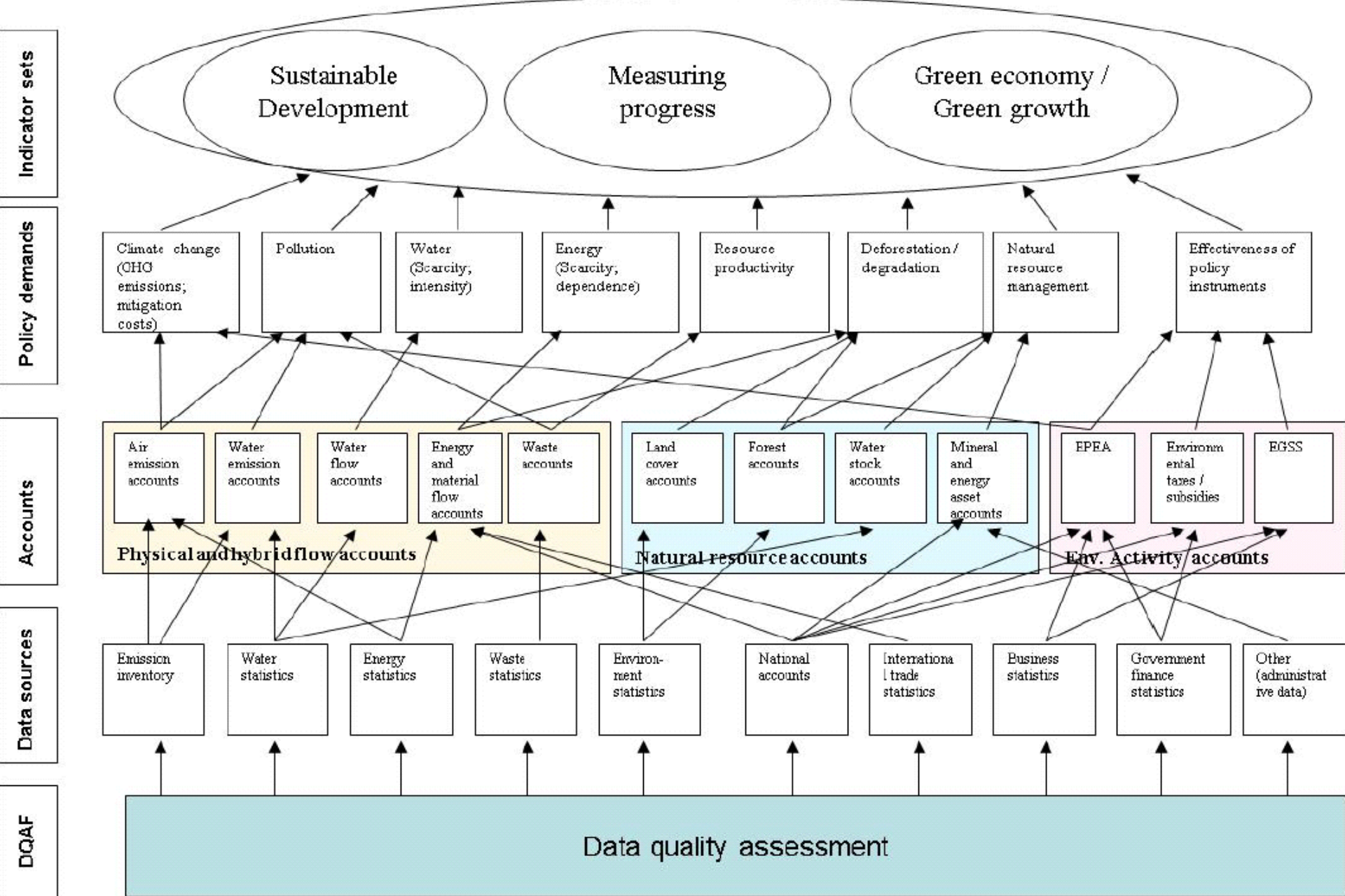
- National expenditure on environmental protection
  - Green value added (as share of GDP) en  
Green jobs (as share of total employment)
- *Green economy, Green Growth*

# Contribution of the *Environmental Goods and Services Sector (EGSS)* to GDP and employment in the Netherlands



## SEEA Implementation

- UNCEEA Taskforce SEEA Implementation Strategy
  - regular reporting on a minimum set of environmental-economic accounts
  - Prioritization based on the most pressing policy demands
  - Country assistance and technical capacity building



# Activities of an implementation strategy as foreseen by the Task Force

- Training and technical cooperation
- Manuals and training material
- Cooperation with the universities and research community
- Advocacy

Thank you!

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