

The System of Environmental-Economic Accounting (SEEA)

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Wealth Accounting and Valuation of Ecosystem Services (WAVES) Partnership
Meeting

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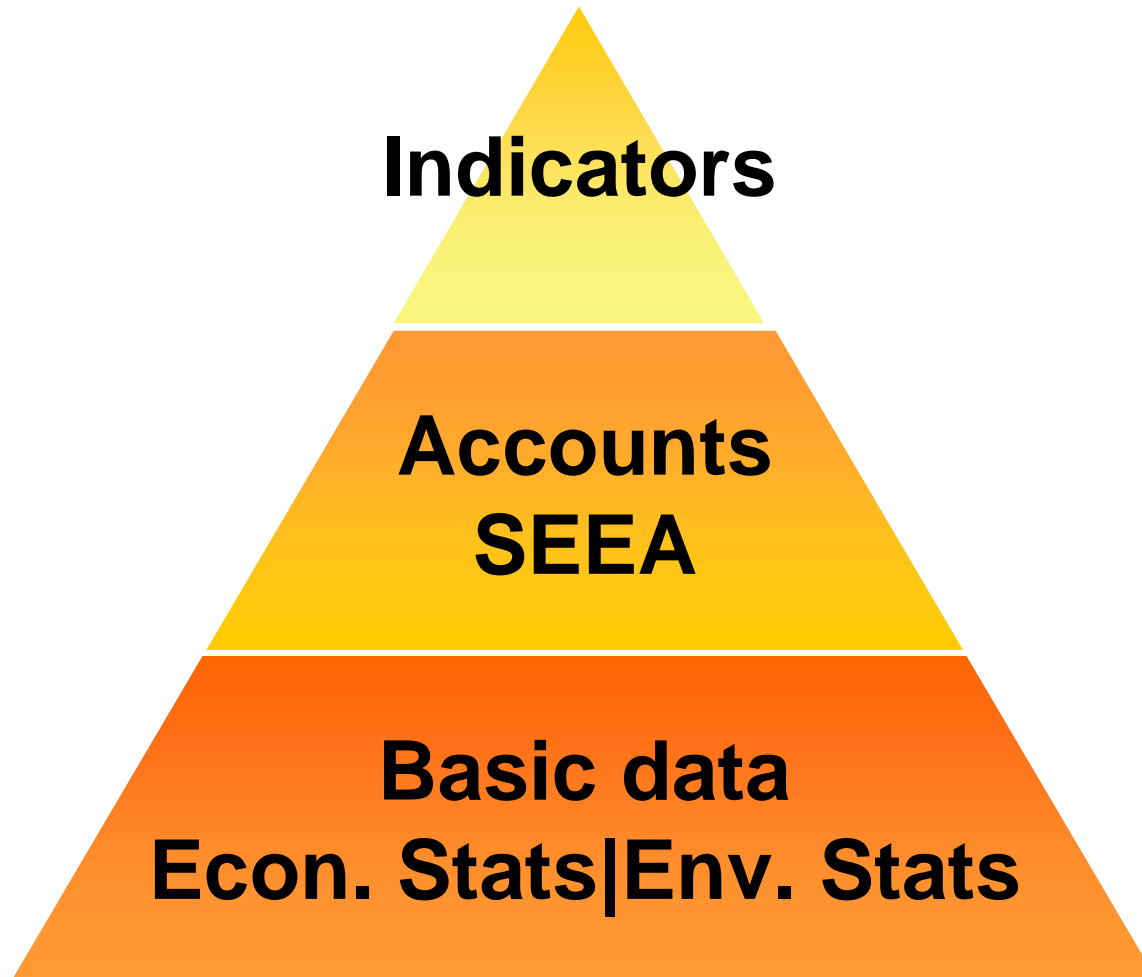
Outline

1. The SEEA
2. The SEEA framework
3. Some examples of applications of SEEA
4. The SEEA and Ecosystem accounts
5. The development of SEEA and way forward

The SEEA

- The impacts of the economy on the environment and the contribution of the environment to the economy
- Integrates environmental and economic information to understand linkages
- Accounting framework brings discipline to the organisation of environmental and related data
- An international standard involves acceptance of the framework, wide application and ultimately improved quality and international comparability of statistics

The information pyramid



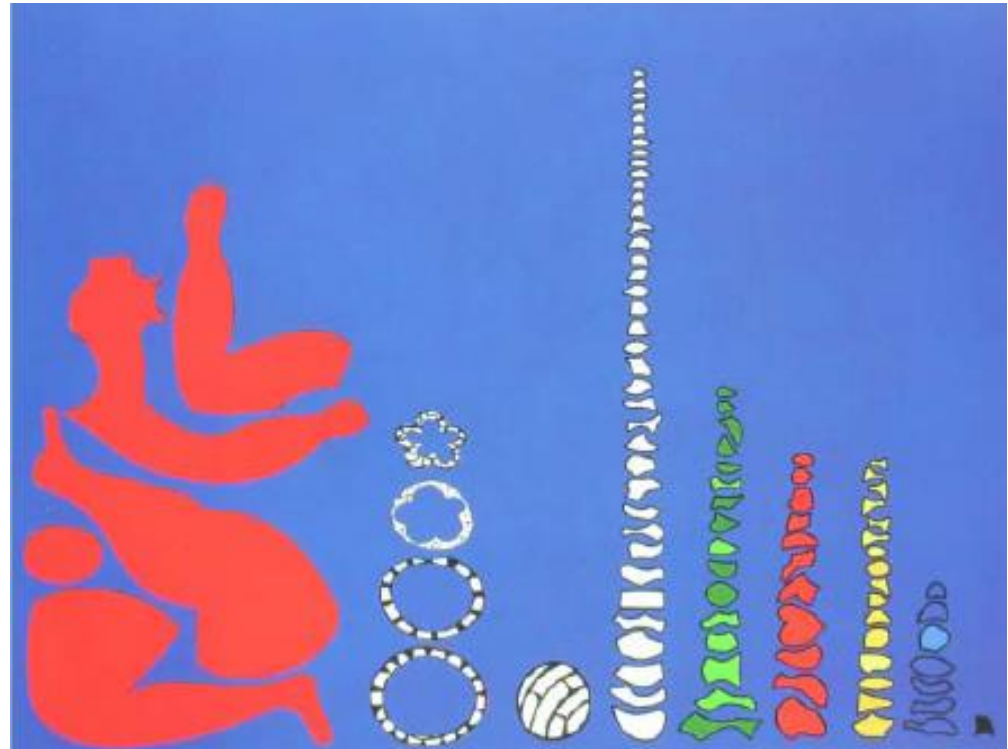
Environmental-Economic Accounting and Environment Statistics

Environment statistics:

Often developed to answer one particular question or problem

Difficult to figure out if all information is included

Not always easy to see the whole picture, or how it relates to other things



Environmental-Economic Accounting and Environment Statistics

Environmental accounts:

Help to make sense of the larger picture

Help to identify pieces that are missing

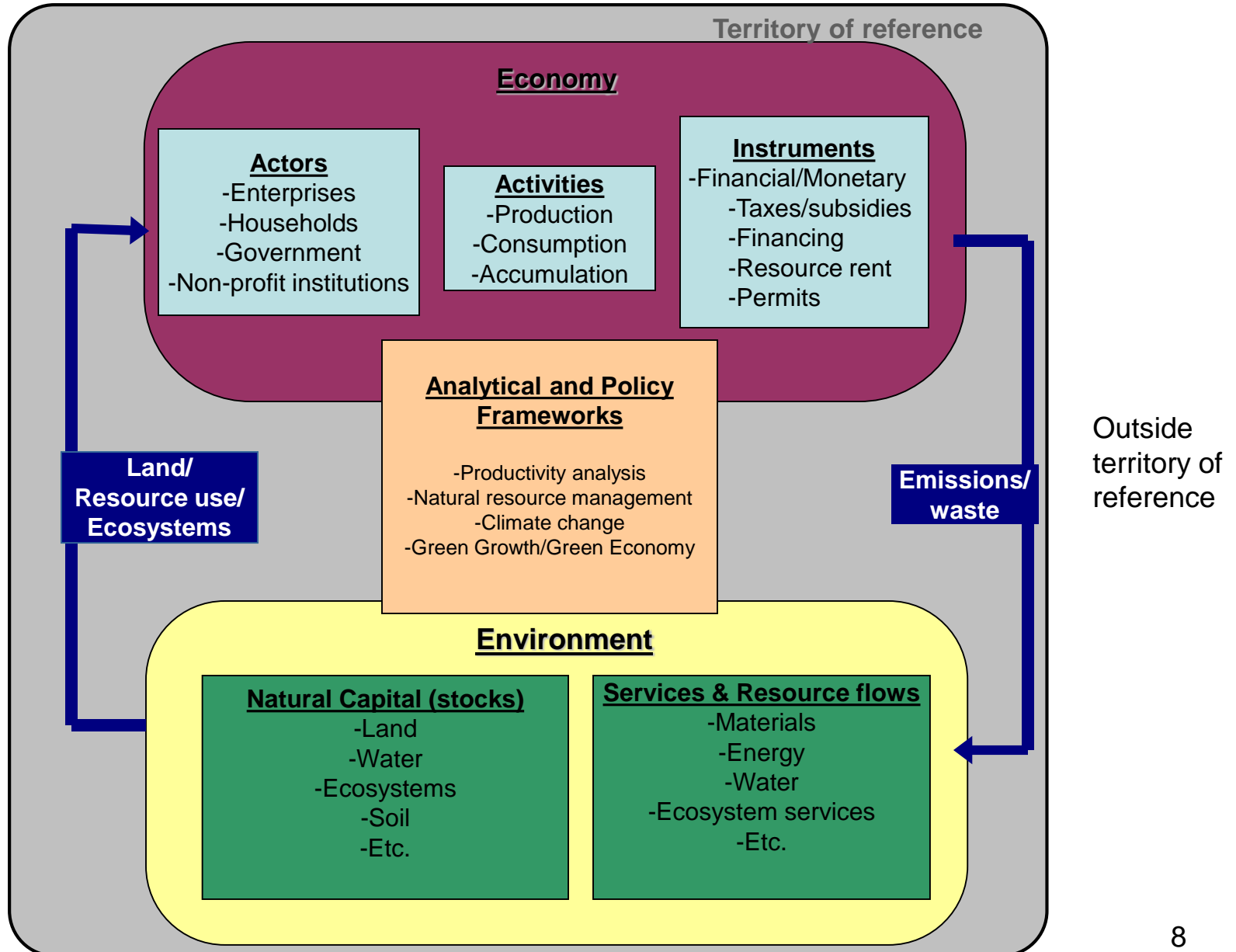
Can make connections to other statistics - especially economic statistics



SEEA and the national accounts

- SEEA is being elevated to a standard in its own right at the par with the system of national accounts
- Where relevant, uses national accounting concepts and classifications
- Extends national accounts asset boundary
- Includes non-market valuations of environmental assets and flows
- Links monetary and physical information
- Enables national accounts to be adjusted for environmental depletion degradation

The SEEA Framework

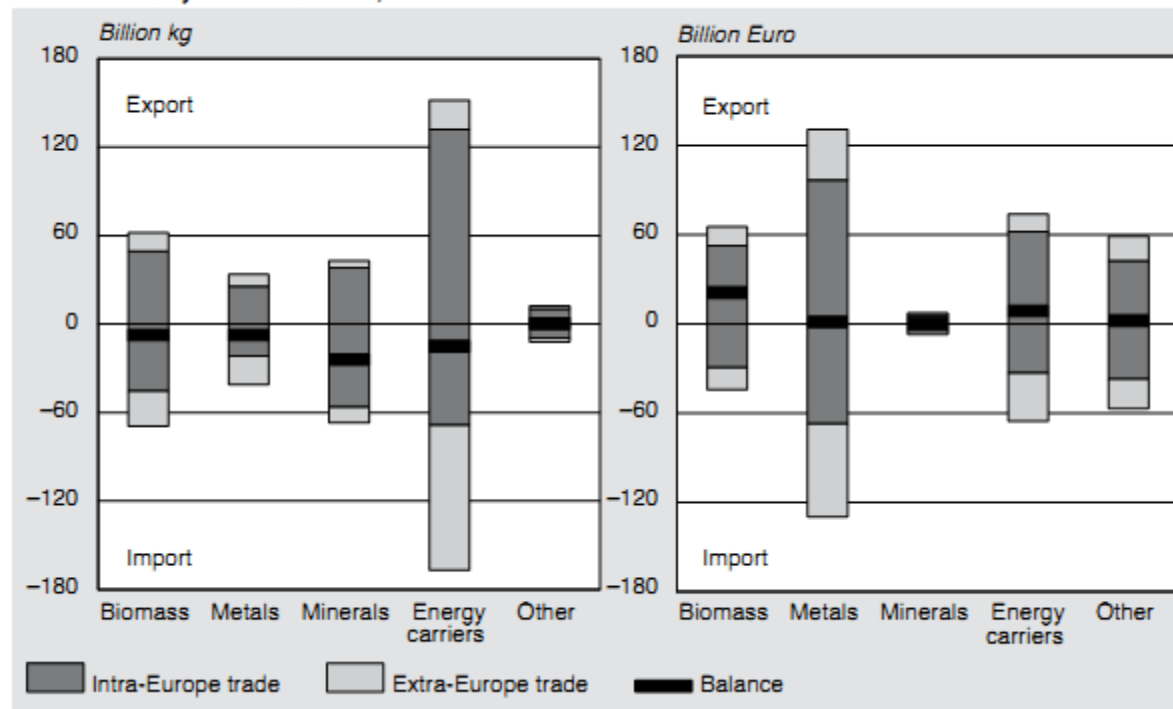


SEEA accounts and aggregates

- **Asset accounts**: record stocks and changes in stocks (flows) of natural resources such as land, forest, water and minerals
- **Physical and hybrid flow accounts**: provide a systematic physical description of production and consumption processes, including their natural resource inputs, product throughputs and outputs i.e. wastes. Link the physical information to the economic accounts
- **Monetary accounts**: separately identify environmentally-related transactions presented in the existing SNA flow accounts in order to make them more explicit for analysis
- **Environmentally-adjusted aggregates**: combine modules of SEEA to form a full-sequence of accounts from which aggregates such as Green GDP, or Net Saving can be derived.

Material flows and international trade

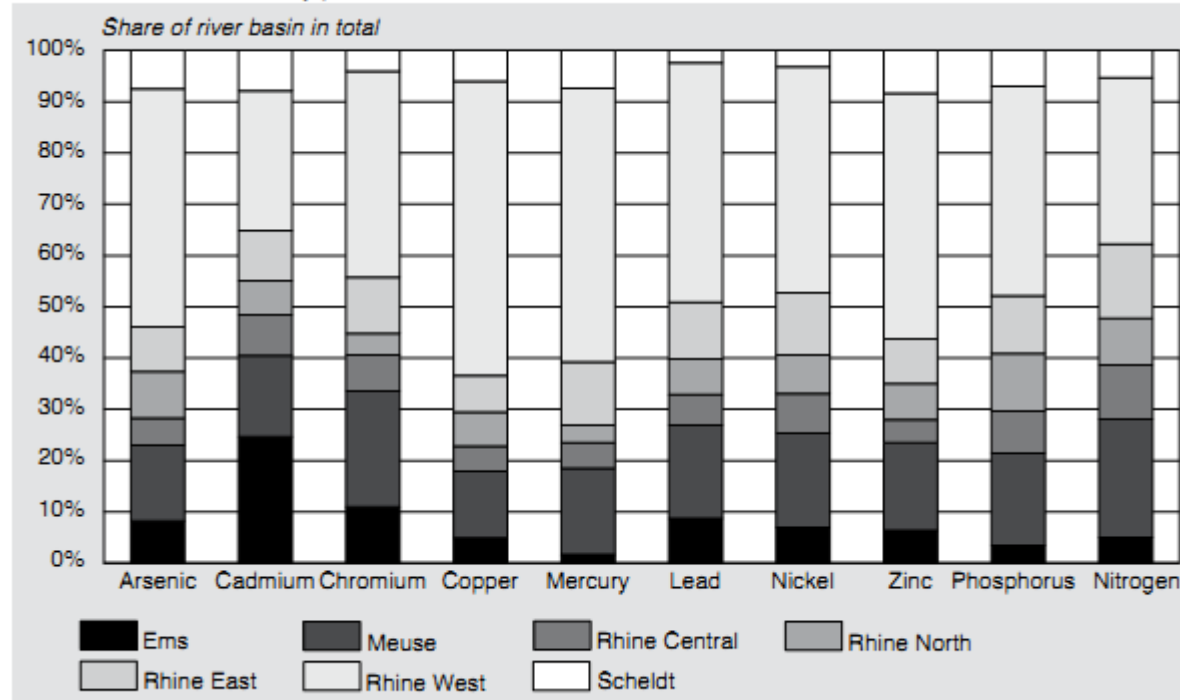
4.2 Physical (left-hand side) and monetary (right-hand side) imports (-) and exports (+) for groups of materials by the Netherlands, 2007



Taken from: "Environmental accounts of the Netherlands 2009", Statistics Netherlands

Sub-national accounts

11.2 Emissions to water by producers for the various river basins, 2006¹

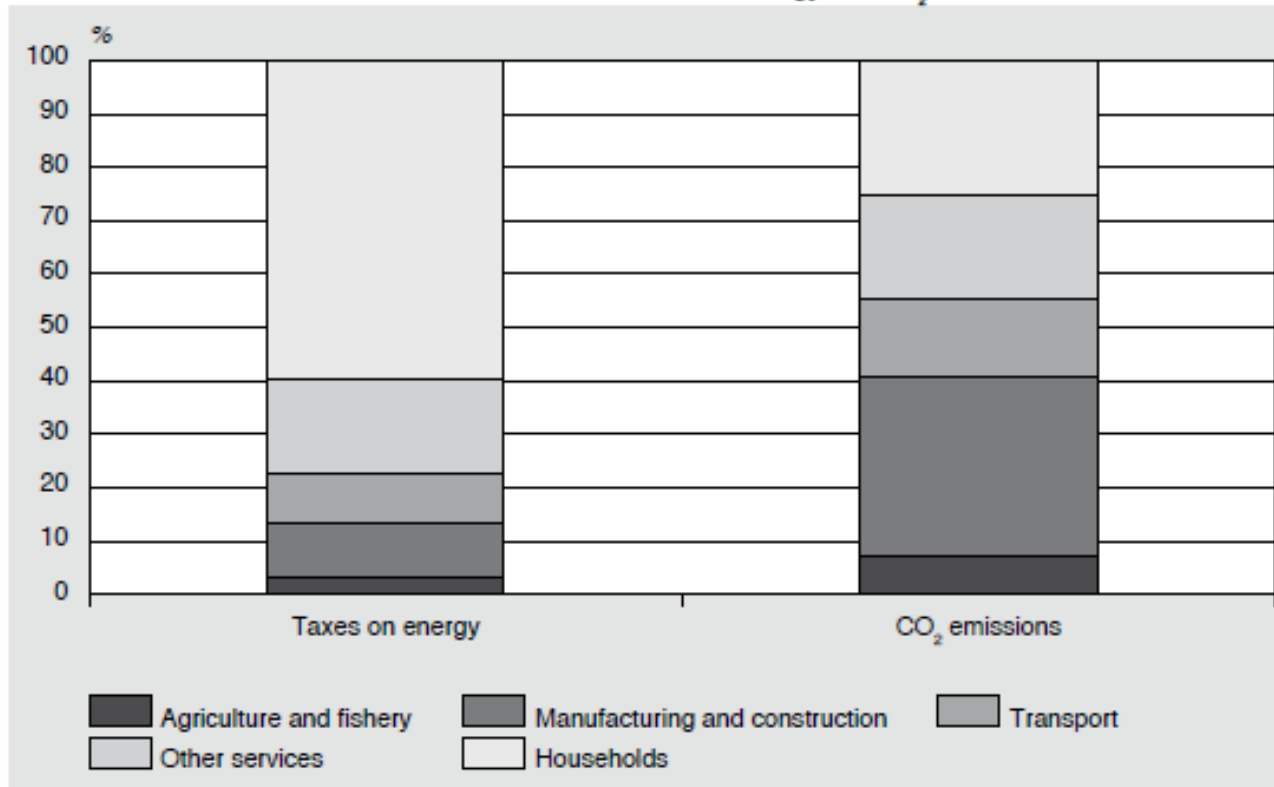


¹ Run-off and seepage are included in this analysis. Effluents by sewage and refuse disposal services are excluded.

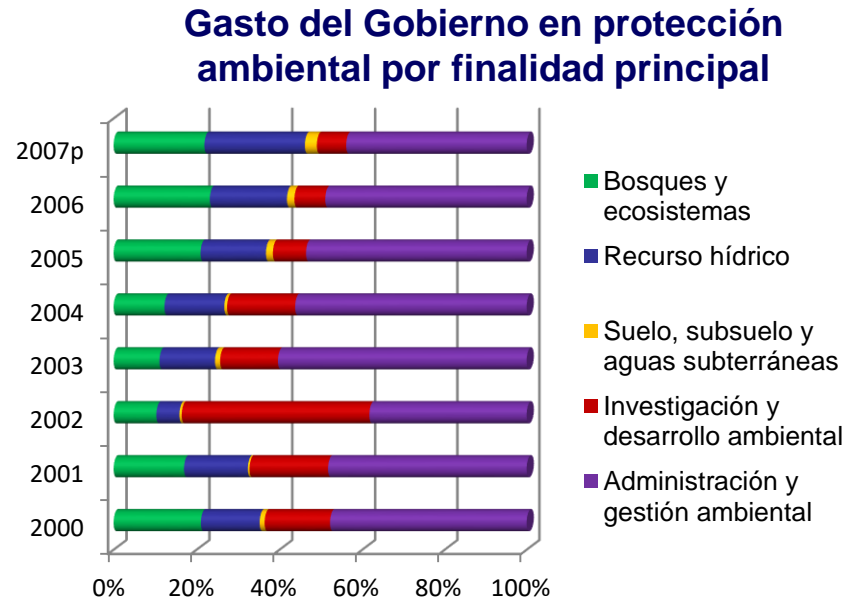
Taken from: “Environmental accounts of the Netherlands 2009”,
Statistics Netherlands

Environmental taxes

13.2 Share of industries and households in tax revenues on energy and CO₂ emissions in 2009



Environmental expenditures - Colombia

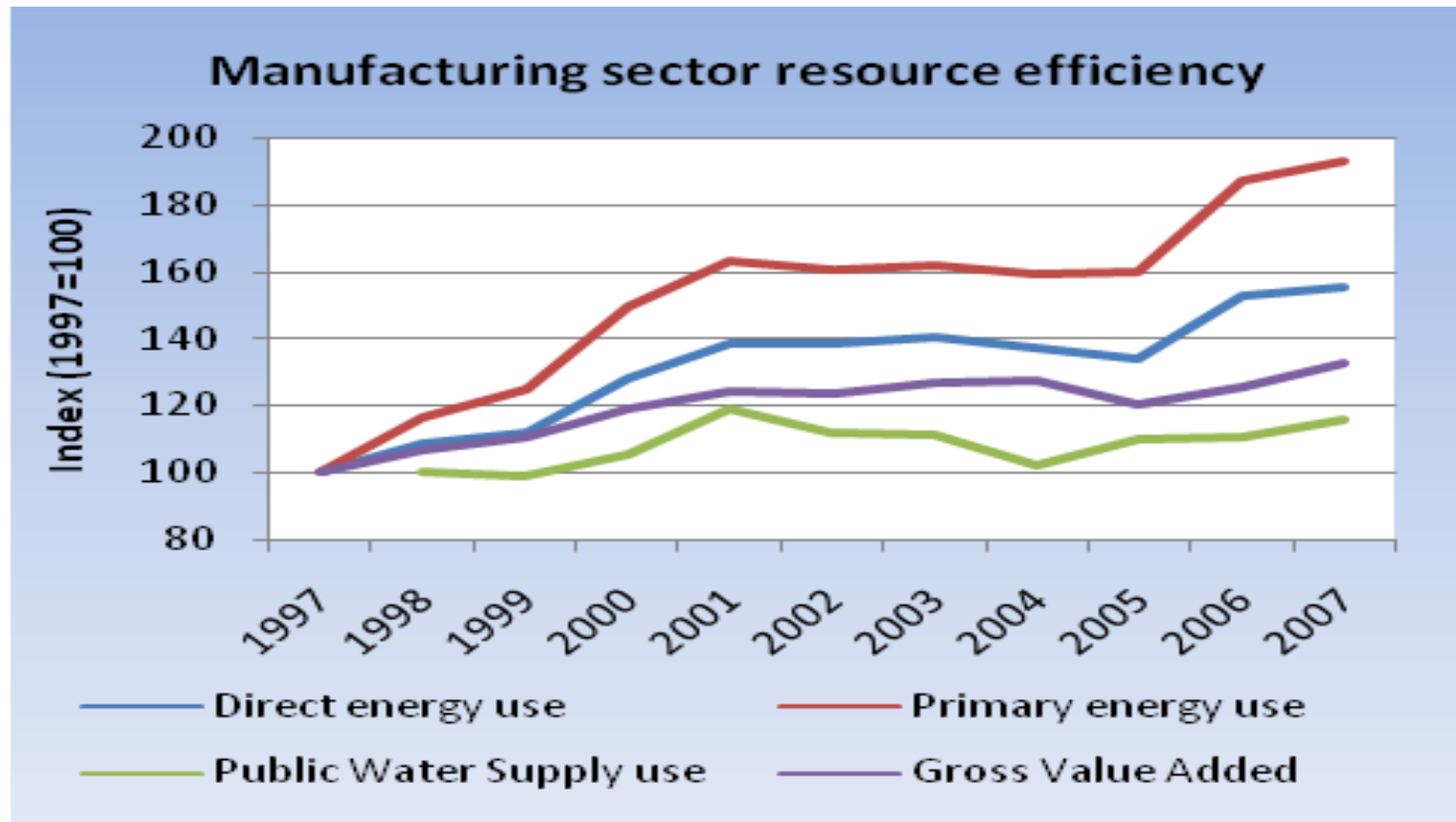


Fuente: Entidades SINA y Contaduría General de la Nación

Cálculos: DANE Dirección de Síntesis y Cuentas Nacionales - Grupo Cuenta Satélite de Medio Ambiente

Taken from presentation by Óscar Orrego to IAOS Conference, 2010

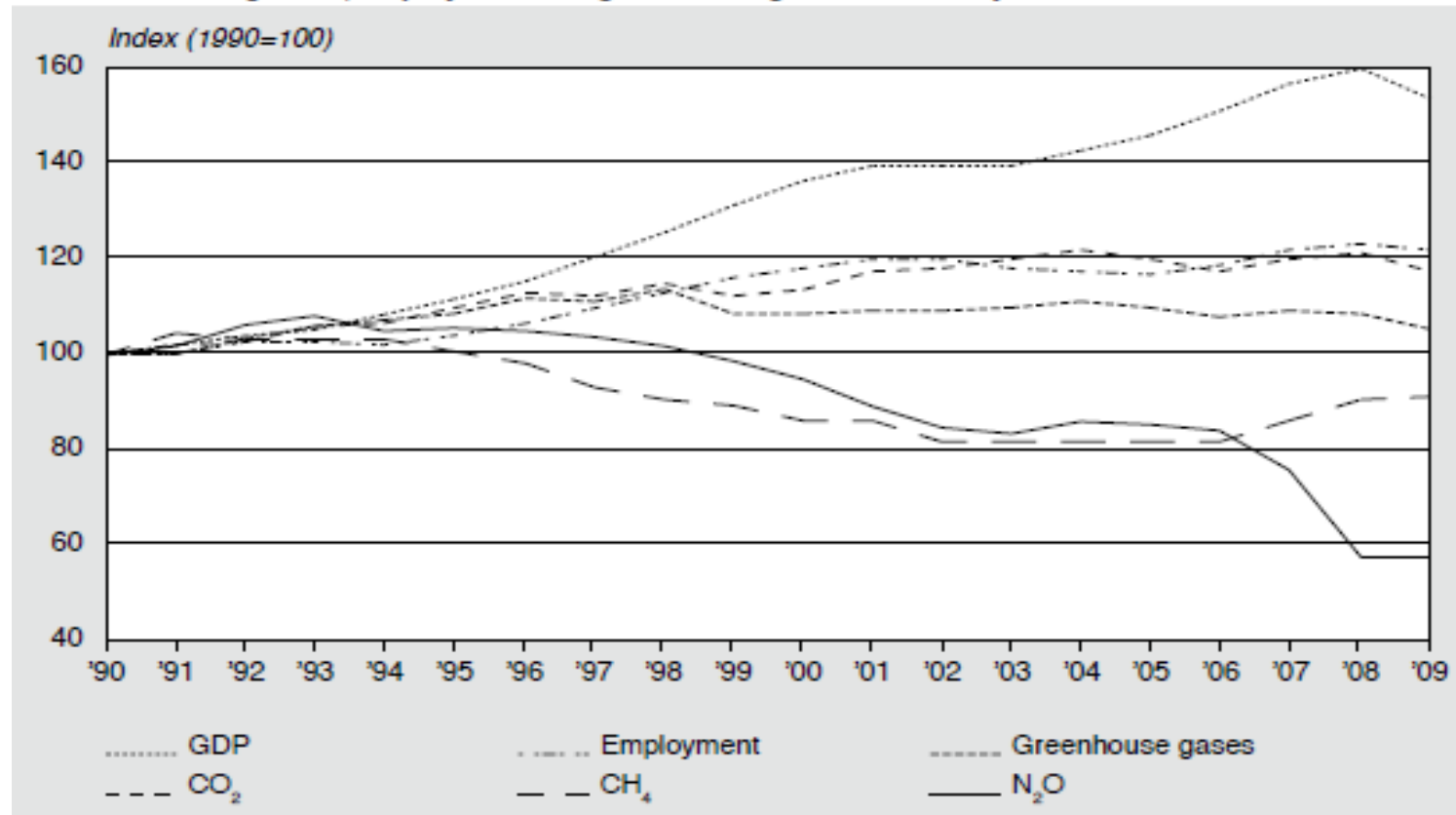
Resource efficiency - Mauritius



Source: UNCEEA Environmental Accounting Brochure, prepared by Rocky Harris

Netherlands – Decoupling indicator

7.2 Volume change GDP, employment and greenhouse gas emissions by industries



Water use accounts - Panama

Figura 1. Pay de distribución de usos consuntivos

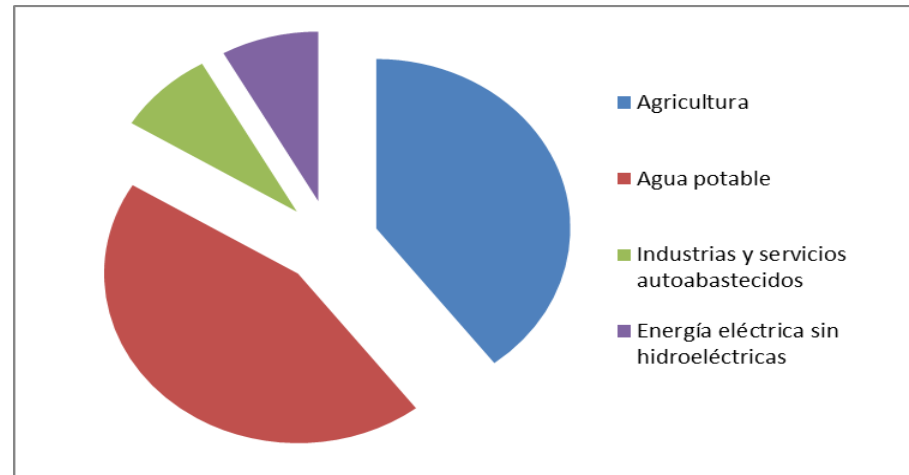
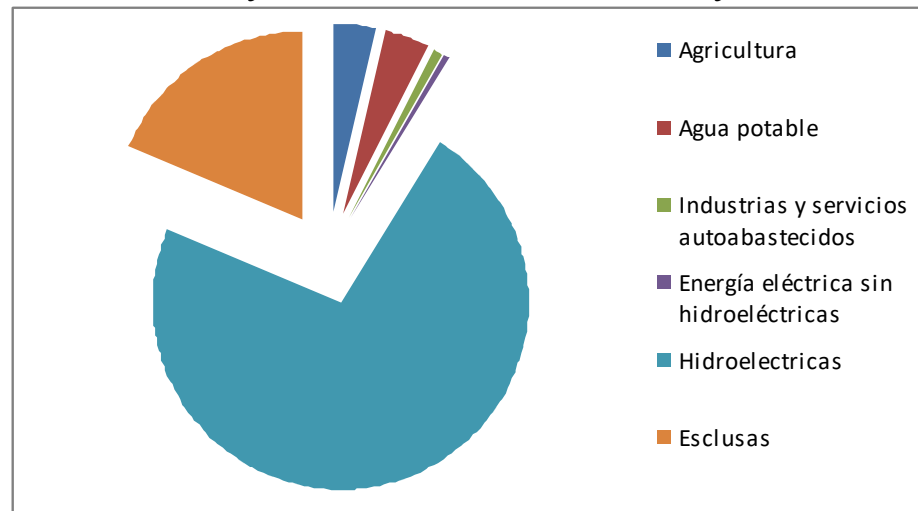
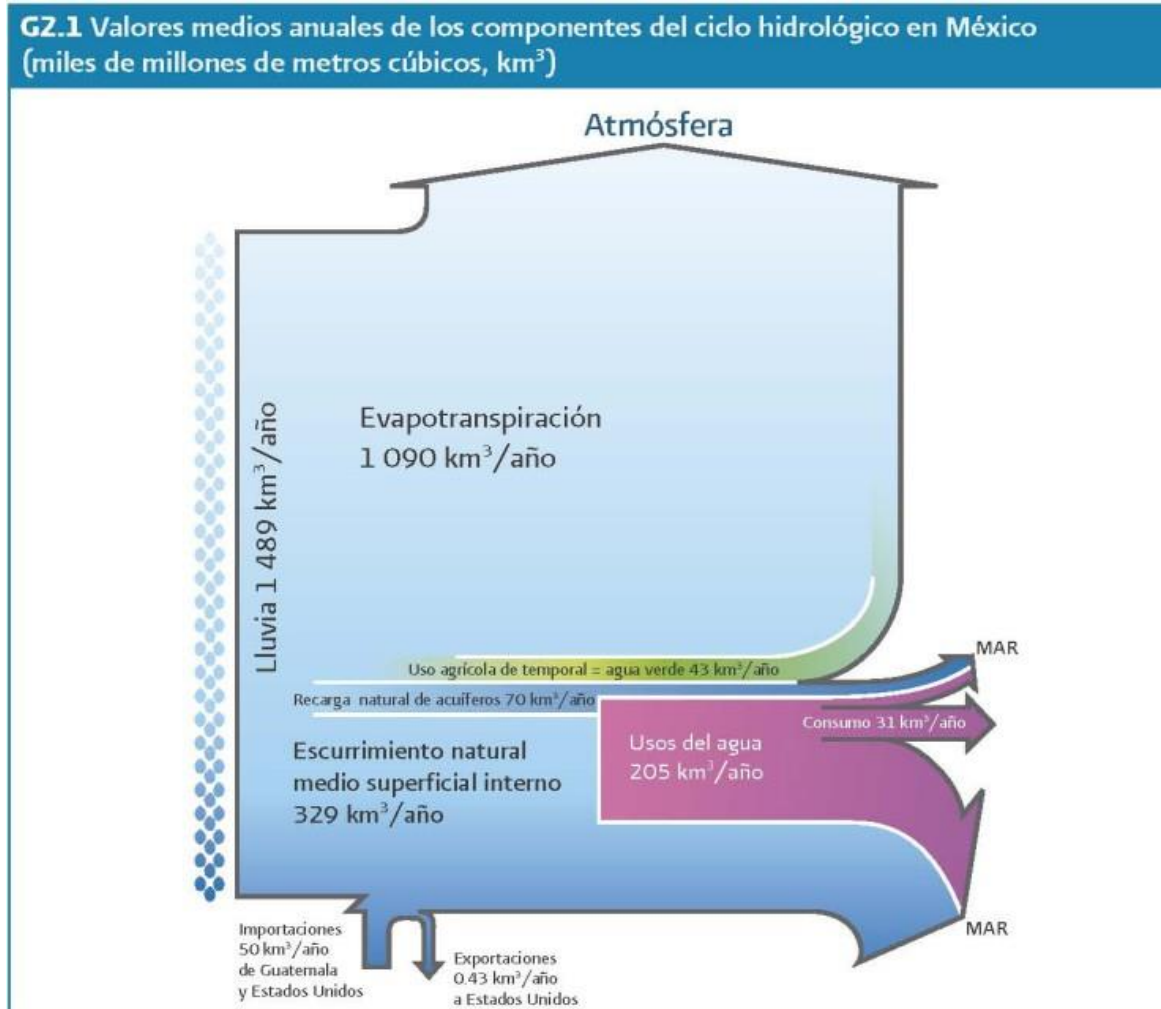


Figura 2. Pay de distribución de usos, incluyendo hidroeléctricas y esclusas



Water balance in Mexico



Source: CONAGUA Mexico

Central framework – Issues solved

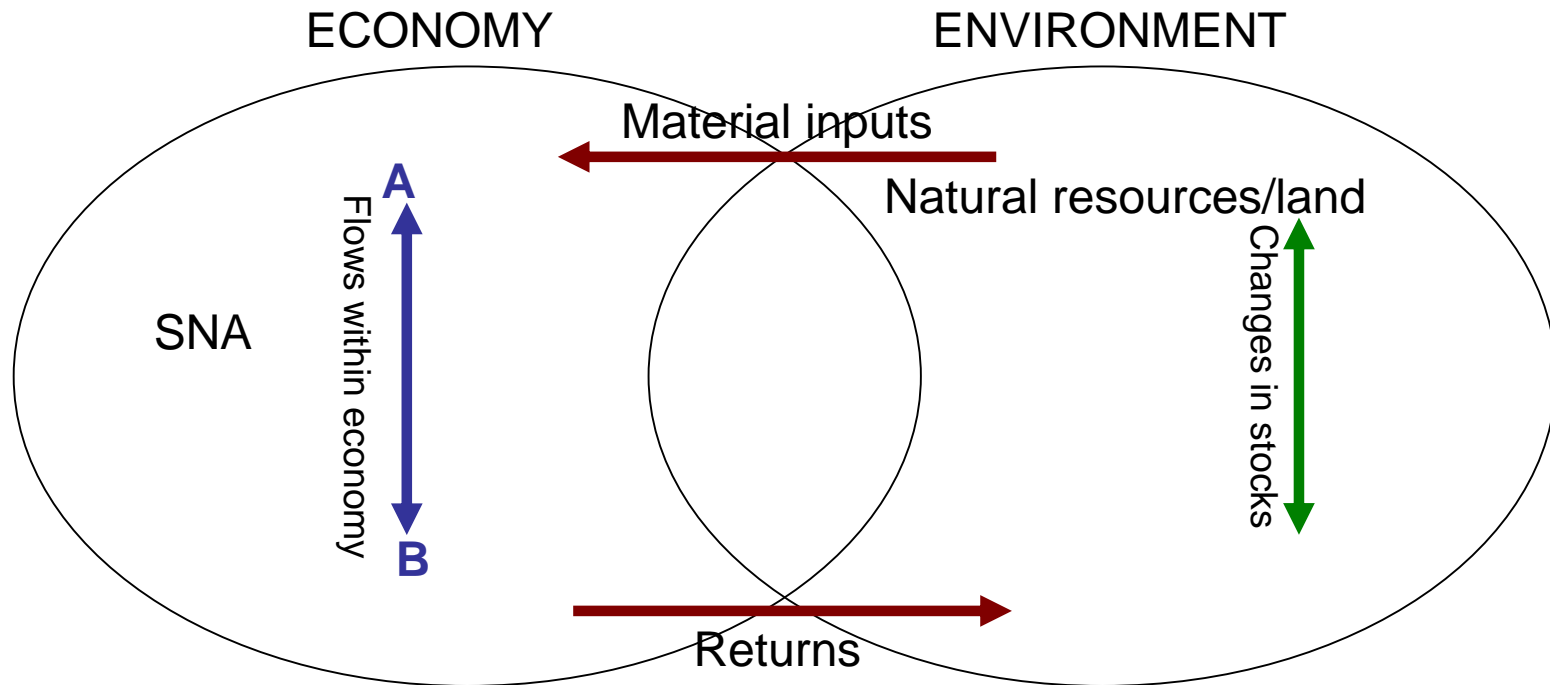
- Depletion of natural resources
- Valuation of assets (within SNA asset boundary)
 - Natural resources
 - Land
- Environmental taxes, subsidies, emission permits resource use permits
- Environmental goods and services sector
- Classification of environmental activities
- Links between UNFCCC emission inventories and emission accounts and energy balances and emission accounts

SEEA Ecosystem Accounts

- Complements SEEA Central framework
- Still experimental
- Covers ecosystem assets and services provided by ecosystems that benefit humanity
- Covers changes in ecosystem assets (degradation) and ecosystems health

The scope of SEEA: Central framework and experimental accounts

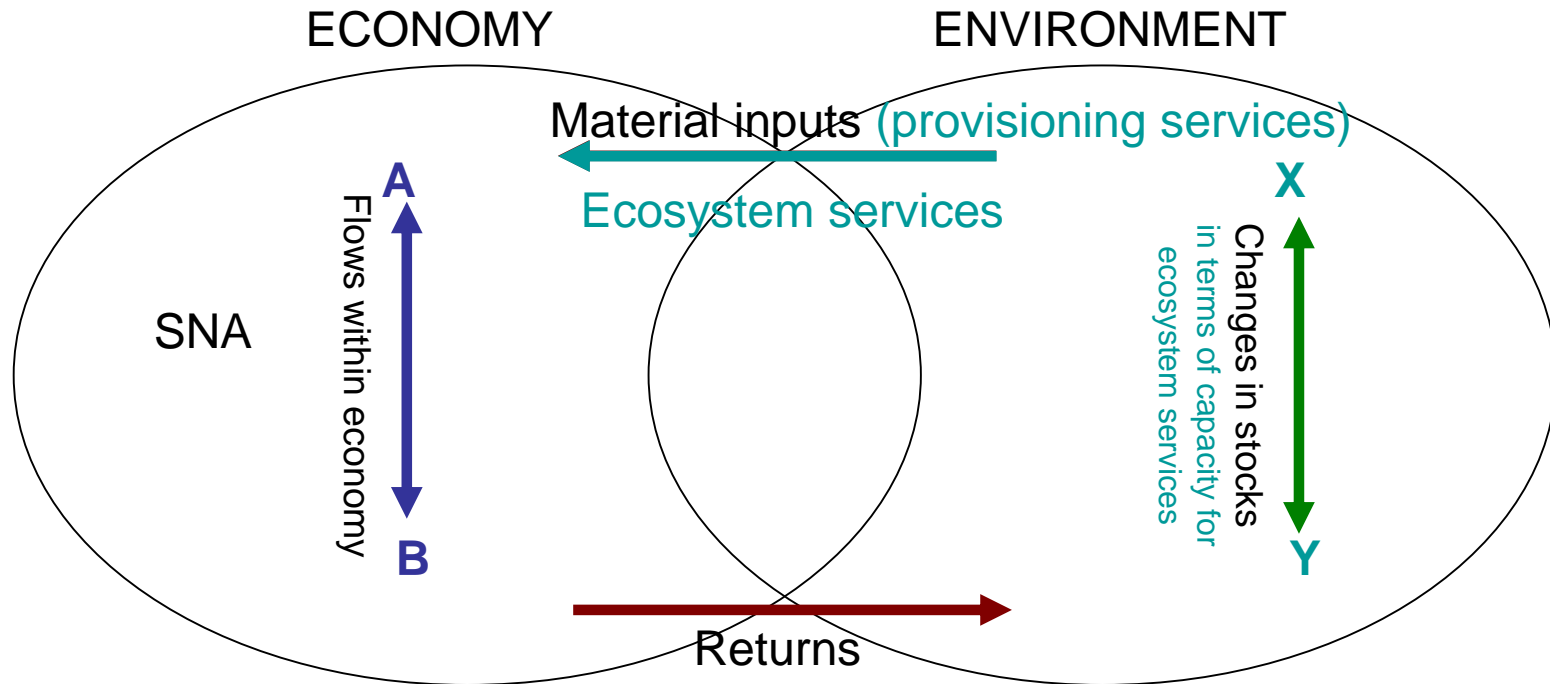
SEEA – Central framework:



A & B are establishments/enterprises & households

Two approaches in SEEA

SEEA Experimental accounts – Ecosystem accounts:



A & B are establishments/enterprises & households

X & Y are functional units representing ecosystems

Some principles for ecosystems accounts

The physical accounts provide information on

- Ecosystem assets (e.g. land cover, carbon, soil, biodiversity)
- Indices or composite indicators of overall ecosystem health
- Ecosystem services
- Methods for monetary valuation of degradation and of ecosystem services based on information in physical accounts

Ecosystem accounting units – which units?

- Units of observation are ecosystems determined in terms of a spatial area integrating information from satellite observations and statistical data.
- The biophysical characteristic and the relief are used to define the units (“ecosystems” or land “functional units”) homogeneous with regard to the services they provide
- These units can be overlaid with administrative units

The development of SEEA

- Three related parts:
 - Central framework – Statistical standard covering the “satellite” of the System of National Accounts
 - 2012
 - Experimental accounts – Ecosystem accounting
 - 2013
 - Part 3 – Applications
 - 2013

The development of SEEA

- Editor and editorial board
- Work overseen by UN Committee of Experts on Environmental-Economic Accounting
- London Group on Environmental Accounting considering technical issues
- World Bank and EEA to play key role in ecosystem accounts
- Bureau of UNCEEA has agreed to general approach and concept for ecosystem accounts – will be discussed in further detail at next UNCEEA meeting in June, 2011
- Extensive consultation with national statistical offices and other key stakeholders

Way forward

- Developing SEEA as an international standard will be a critical milestone in mainstreaming environmental-economic accounting
- Reaffirming the SEEA as the measurement and monitoring framework for sustainable development/green economy
 - Integration of policy/analytical and measurement frameworks – Rio +20, etc.
- Development of an implementation plan, including assistance to countries to begin developing accounts
- Completion of the experimental accounts and applications of the framework by the end of 2012
- Development of the implementation plan

Thank You !