SEEA
Concepts and policy relevance Recommended by Agenda 21

International Seminar on Environment Statistics and Environmental Accounting

Rio de Janeiro, 21-22 September 2009

Outline

- The need for the SEEA
- What is the SEEA?
- Applications
- Towards SEEA international statistical standard

Need for the SEEA

- Climate change
- Green new deal/ Green economy initiative
- Commission on Economic Performance and Social Progress
- Beyond GDP initiative
- Sustainable development indicators
- MDG indicators

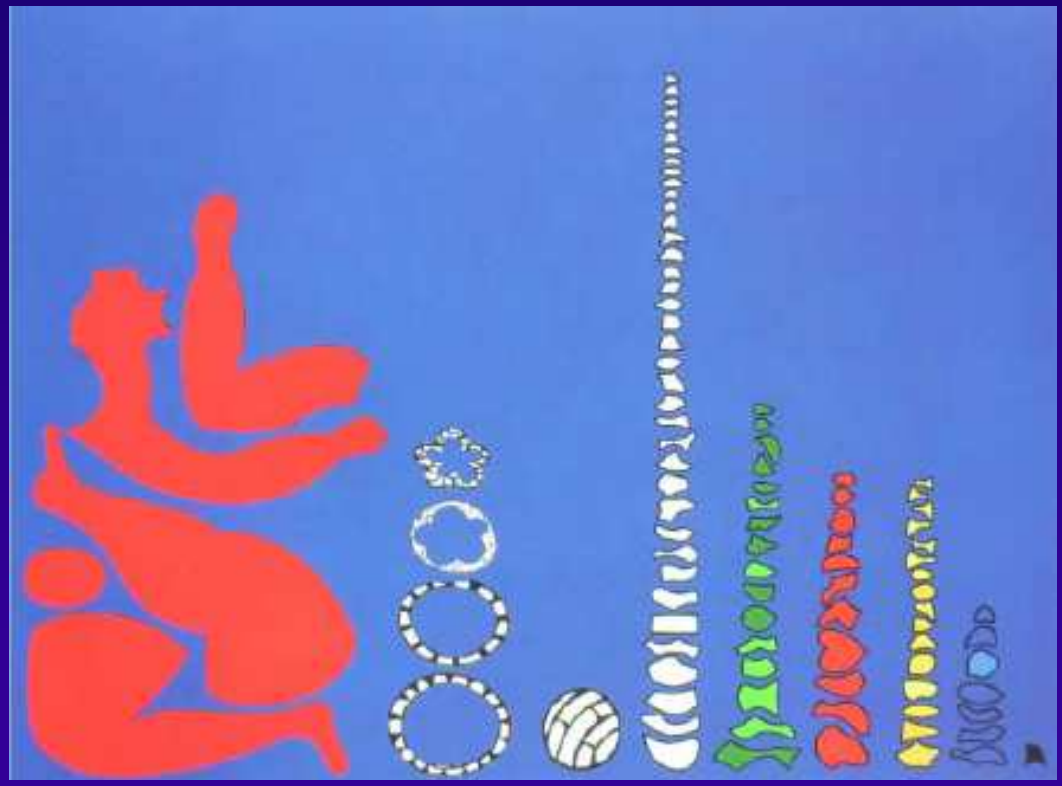
What is SEEA?

- Integration framework that measures interaction between economy and environment
- Multipurpose framework bringing together information from different sources for deriving indicators and analysis
- Consistent with System of National Accounts (SNA)
  - Common classifications (ISIC, CPC)
  - Common concepts (e.g. residence)
- Expands the analytical capacity of national accounts
  - Enlarged asset boundary (e.g. ecosystems)
  - Includes complementary elements (e.g. physical information)
  - Elaborates aspects that are not explicitly identified in the accounts (e.g. ETS)
- Used to identify more sustainable paths of development (indicators and modeling)

Environmental-Economic Accounting vs 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



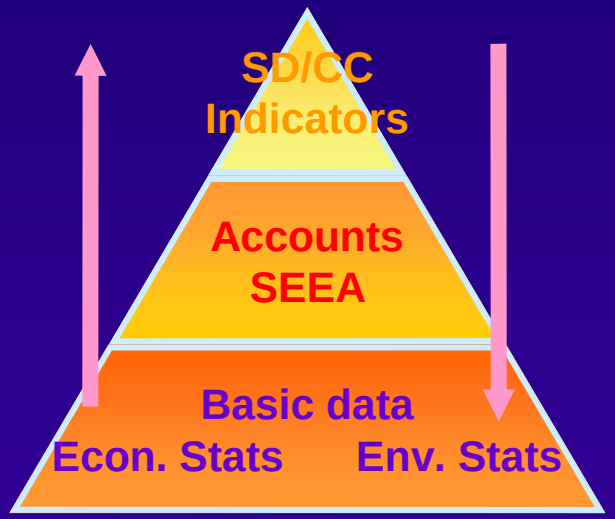
Environmental-Economic Accounting vs Environment Statistics

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

Why an accounting approach?

policy relevance



Inter-linkages - underlying causes

Provides **added value**:

- Integrates basic statistics from different sources and links it with other types of statistics
- Improves statistical quality by guaranteeing consistency (checks and balances)
- Provides policy makers with coherent time series of data, indicators and descriptive statistics for scenario modeling
- Implicitly defines ownership and hence responsibility for environmental impacts

SEEA modules

- **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.

3 main features of the SEEA

- Links flows and stocks

  ⇒ Impacts of human activities on the state of the environment

- Links physical information on the environment with economic information

  ⇒ Resource productivity, evaluation of trade-offs and impacts of economic instruments

- Presents all resources in a common framework

  ⇒ Impacts of deforestation on water resources

Examples of applications of the SEEA

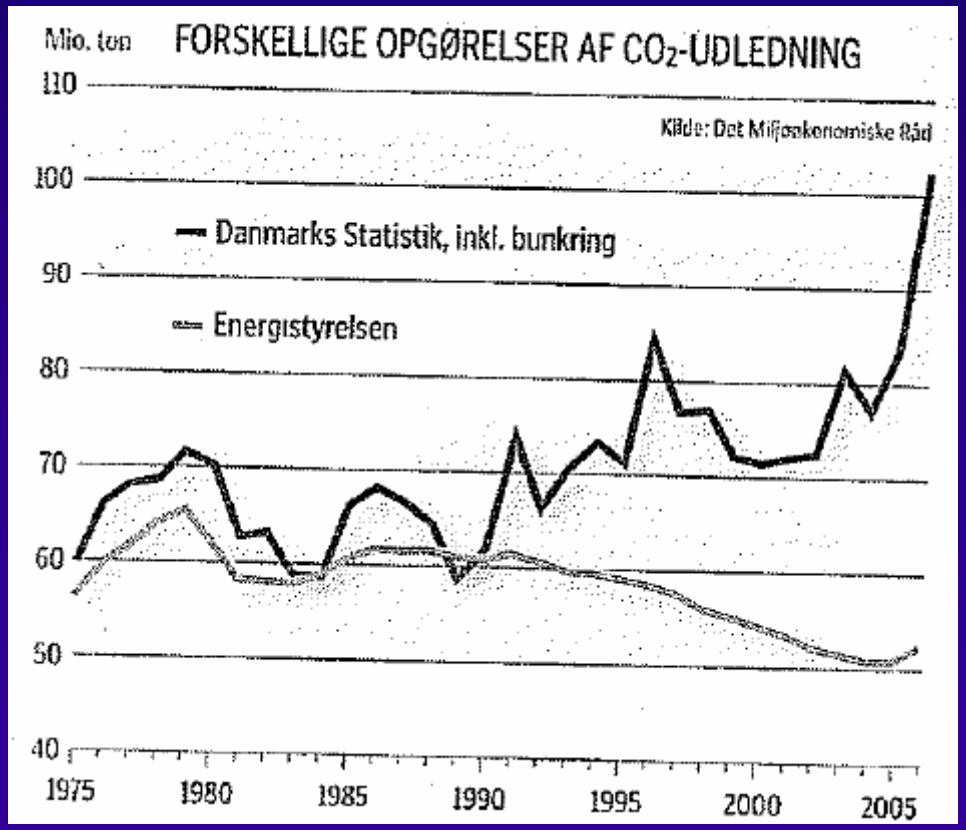
- Climate change
- Resource productivity

Example: Climate change

- GHG/aerosol emissions by industry
- Energy/emission intensity by industry (consistently)
- Asses the effectiveness of carbon taxes on energy intensity of industries
- Analyze the effectiveness of emission trading permits
- Assess expenditures on technology and their financing
- Assess the effects of ‘carbon leakage’ through decomposition analysis of driving forces of emissions
- Calculation of indirect emissions
- Changes in land use
- Carbon sequestration by forest

Example: Danish newspaper

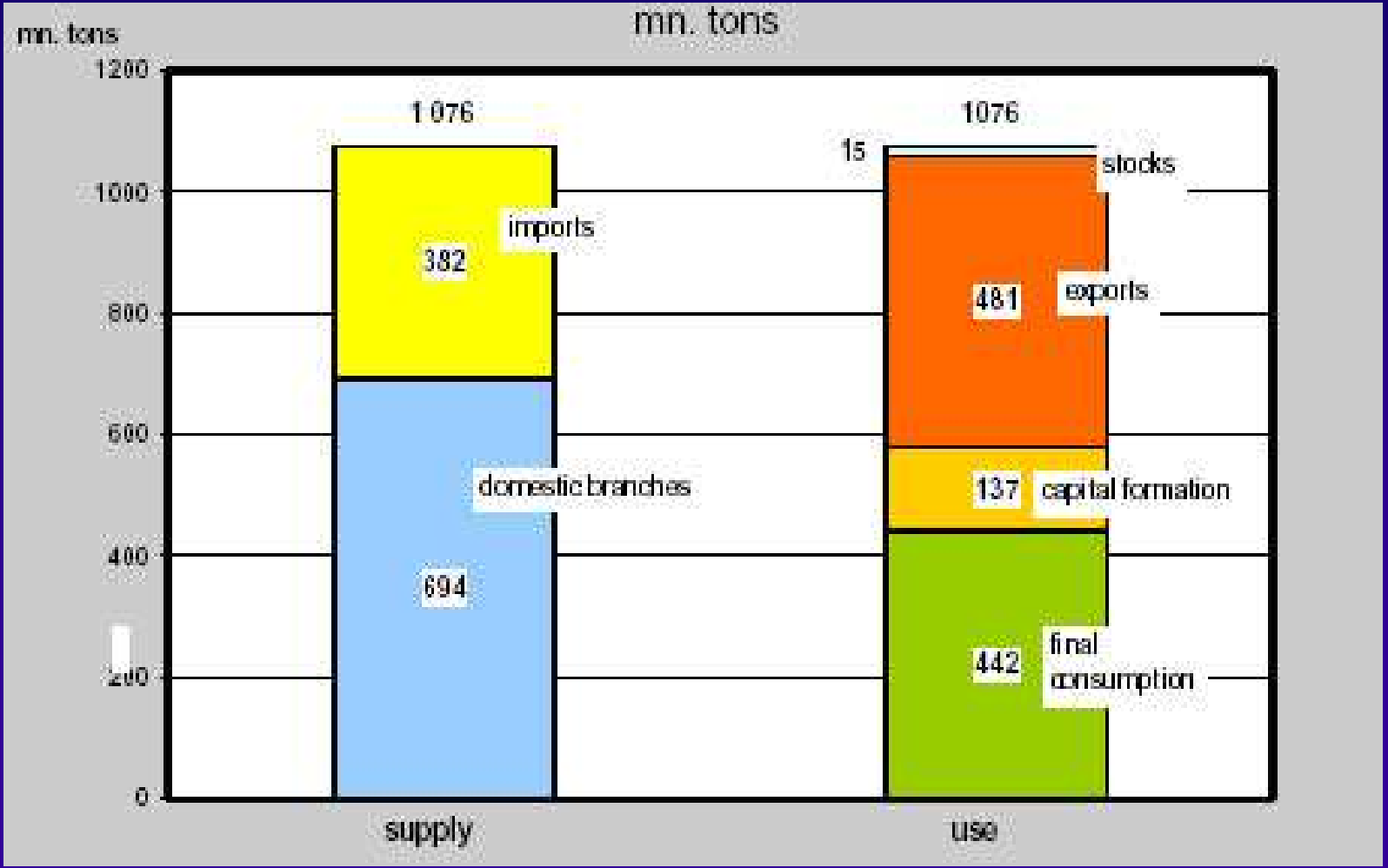
"Is decoupling a myth?"



Source: Dagbladet Information

Conceptual differences matter and are highly policy relevant for Denmark

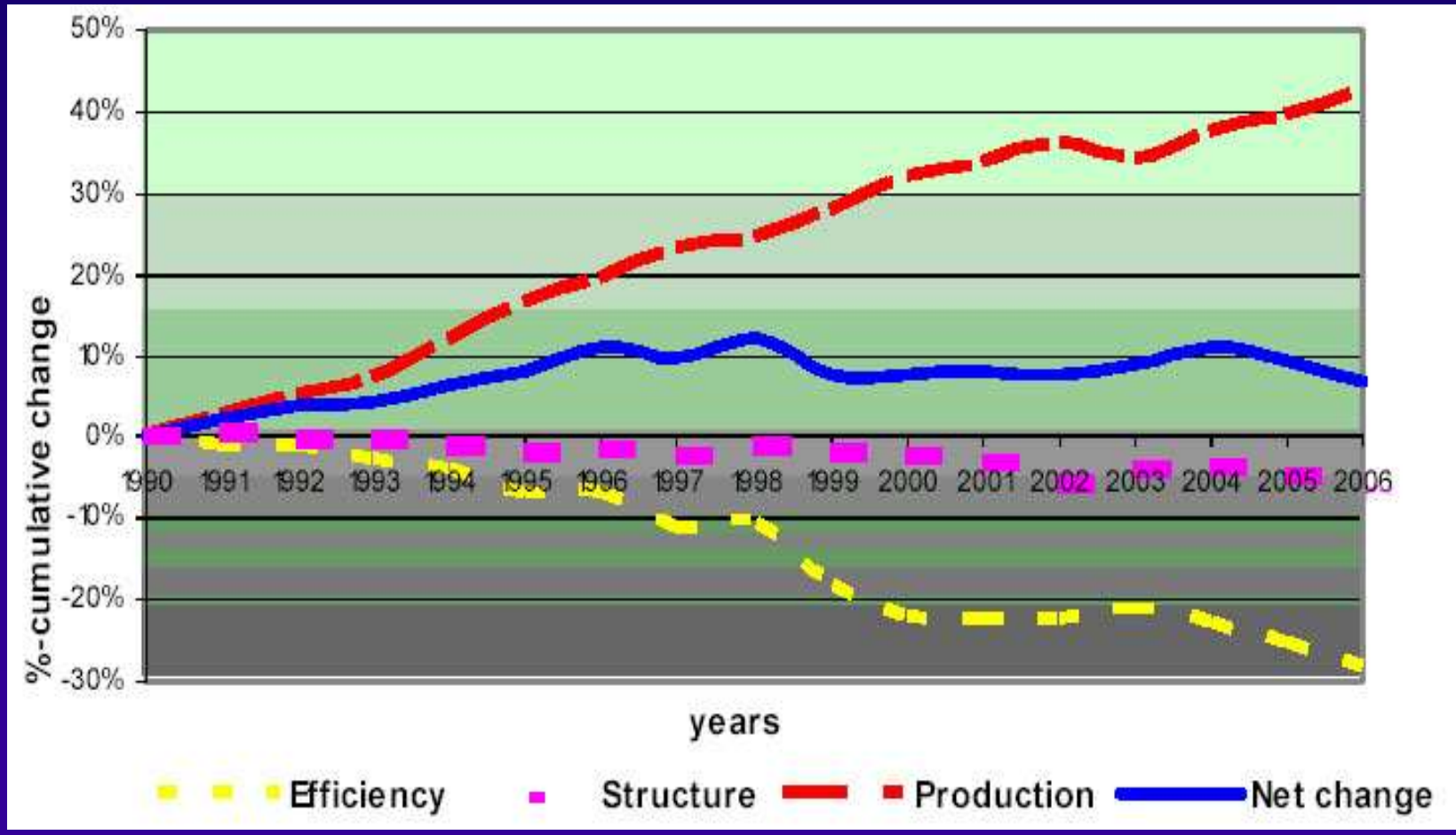
Embodied CO2 emissions in Germany



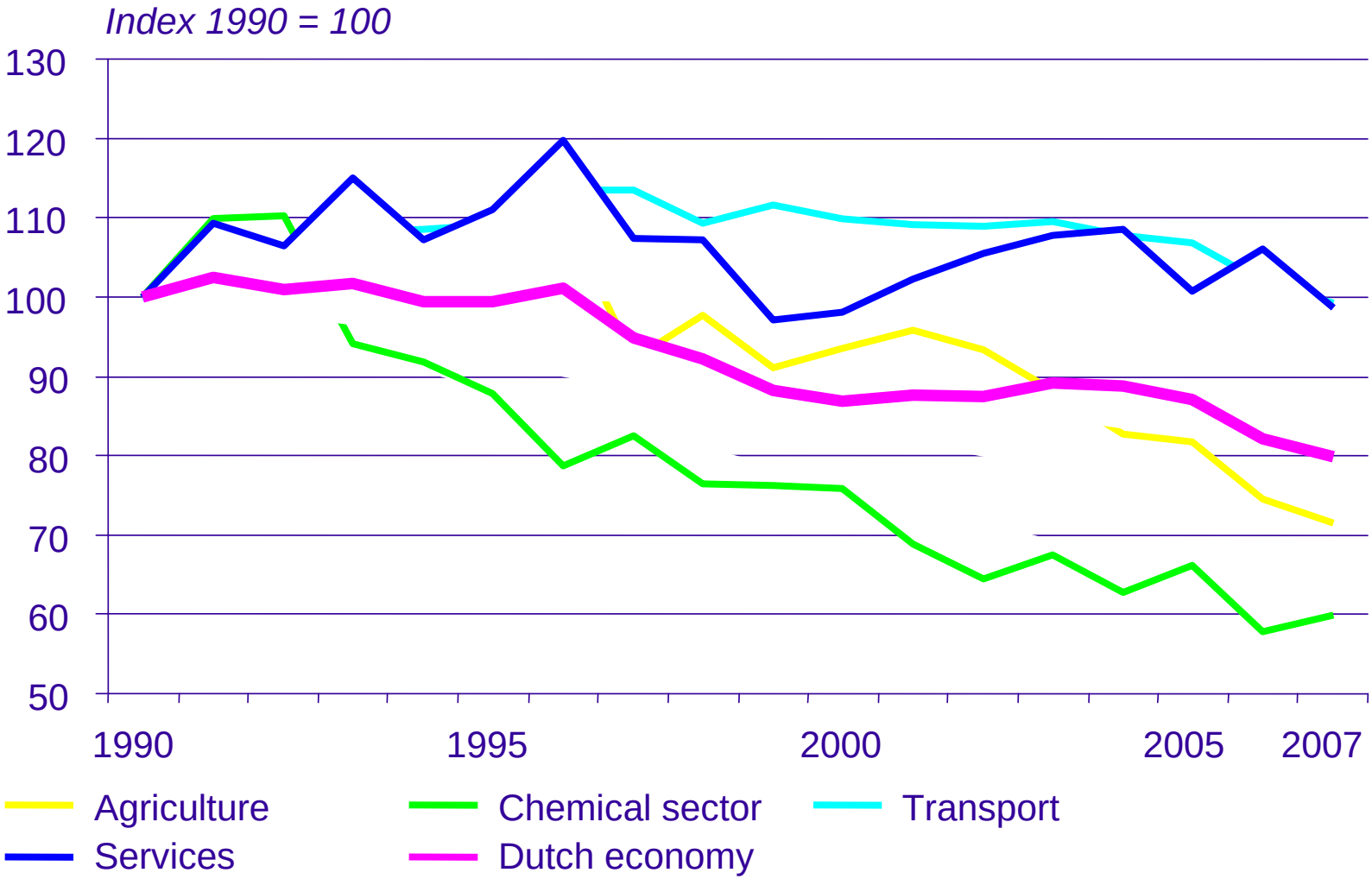
Sustainable production: applications

- Undertaking decoupling analysis
- Monitoring and setting targets for the environmental performance of individual industries
- Providing briefing on the environmental performance of other industries re sustainability strategies
- Comparing the improvements in resource efficiency claimed by Government support agencies with actual changes in efficiency in different sectors

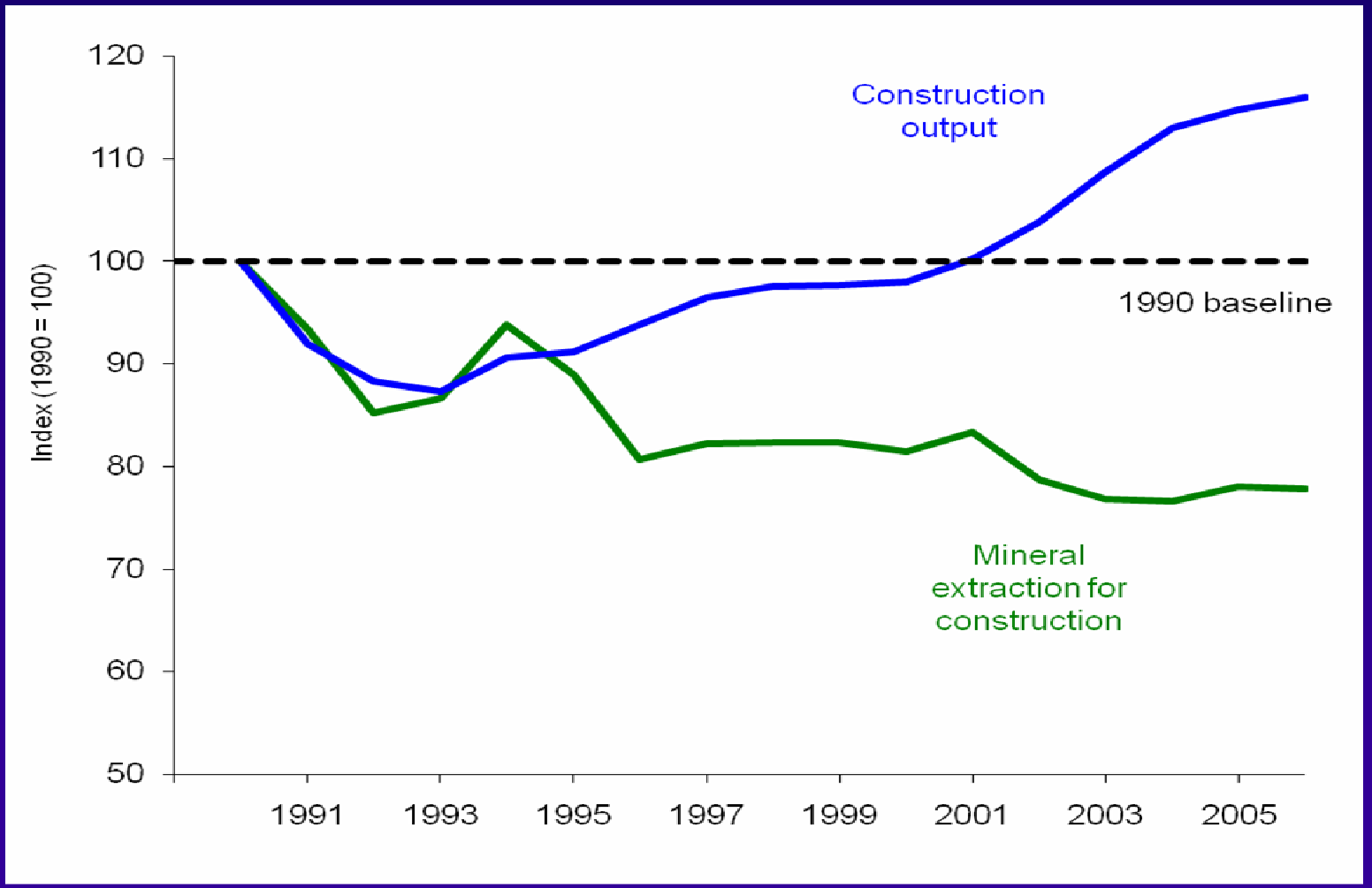
Decomposition CO2 emissions - Netherlands



Energy intensity of industries - Netherlands



Decoupling of resource extraction from UK construction output



Towards the SEEA standard

UNSC considered environmental economic accounting "mature" enough to be elevated to the level of an international statistical standard at the par with the SNA

SEEAW already adopted by UNSC as an interim international statistical standard

What is a standard?

- Agreed concepts, definitions, classifications, tables and accounts
- Result of broad consultation and general applicability of the concepts
- Will be followed by :
  - Implementation strategy (compilation guidelines, technical assistance, knowledge base, best practices, etc.)
  - Data collection

Revision process

- UNCEEA was established by the UNSC
- SEEA revision process is on-going
  - UNCEEA
  - City Groups (London Group and Oslo Group)
  - Technical groups (OECD WG on MFA, TF on emission permits, etc.)
  - SEEA-Energy (UNSD), SEEA-MFA (UNSD), SEEA-Land (EEA)
  - SEEA editor to be recruited

Main issues – towards SEEA standard

- Depletion and depletion-adjusted aggregates
- Valuation of renewable and non-renewable resources
- Agreed classifications
  - Physical flows (i.e. waste, natural resources, etc.)
  - Environmental assets
  - Resource management expenditures
  - Environment industry
- Linking the SEEA framework with existing systems
  - Linking IPCC emission inventories with emission accounts
  - Linking energy balances (by technology) with energy accounts (by economic activity)
  - Linking economy-wide material flow accounts with the economic accounts
- Recording emission permits and permits to access resources
- Carbon sequestration and carbon account

Main issue – SEEA Vol.2

- Ecosystem accounts
  - Classification of ecosystem services
- Valuation of degradation
- Valuation of ecosystems
- Environmentally-adjusted aggregates

EEA programmes – A growing area