System of Environmental Accounting
Environmental activity accounts

Environmental taxes

10\textsuperscript{th} July 2015

Santiago, Chile
Content

• What are environmental activity accounts?
• What are environmental taxes?
• Some thoughts on EGSS
• Exercise
Environmental activity accounts

- Sectors:
  - Industries
  - Final demand
  - Assets

- Commodities:
  - Industrial output of goods and services
  - Industrial intermediate demand
  - Environmental protection expenditures
  - Resource production by industries
  - Resource use by industries
  - Waste consumption by industries
  - Waste output by industries
  - Financial and produced assets, opening balance
  - Natural resource assets, opening balance
  - Capital expenditures for environmental protection
  - Changes in and holding gains/losses on natural resource assets
  - Financial and produced assets, closing balance
  - Natural resource assets, closing balance
  - Changes in natural resource assets

- Wastes:
  - Waste consumption by households/gov't
  - Waste output by households/gov't

- SEEA
Scope of environmental activities

• The scope of environmental activities include those economic activities whose primary purpose is to reduce or eliminate pressures on the environment or to make more efficient use of natural resources.
  → Environmental protection
  → Resource management

• Primary purpose criterion
## Classification of environmental activities

<table>
<thead>
<tr>
<th>Group</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I: Environmental protection (EP)</td>
<td>1 Protection of ambient air and climate</td>
</tr>
<tr>
<td></td>
<td>2 Wastewater management</td>
</tr>
<tr>
<td></td>
<td>3 Waste management</td>
</tr>
<tr>
<td></td>
<td>4 Protection and remediation of soil, groundwater and surface water</td>
</tr>
<tr>
<td></td>
<td>5 Noise and vibration abatement (excluding workplace protection)</td>
</tr>
<tr>
<td></td>
<td>6 Protection of biodiversity and landscapes</td>
</tr>
<tr>
<td></td>
<td>7 Protection against radiation (excluding external safety)</td>
</tr>
<tr>
<td></td>
<td>8 Research and development for environmental protection</td>
</tr>
<tr>
<td></td>
<td>9 Other environmental protection activities</td>
</tr>
<tr>
<td>II: Resource management (RM)</td>
<td>10 Management of mineral and energy resources</td>
</tr>
<tr>
<td></td>
<td>11 Management of timber resources</td>
</tr>
<tr>
<td></td>
<td>12 Management of aquatic resources</td>
</tr>
<tr>
<td></td>
<td>13 Management of other biological resources (excluding timber and aquatic resources)</td>
</tr>
<tr>
<td></td>
<td>14 Management of water resources</td>
</tr>
<tr>
<td></td>
<td>15 Research and development activities for resource management</td>
</tr>
<tr>
<td></td>
<td>16 Other resource management activities</td>
</tr>
</tbody>
</table>
Which of the following activities are environmental?

- Installation of solar panels to generate electricity
- Buying equipment to measure pollution
- Buying an apartment in an area with less pollution
- Buying mercury-free batteries
Environmental activity accounts in SEEA-CF

- Environmental protection expenditure accounts (EPEA)
- Environmental goods and service sector (EGSS)
- Environmental taxes
- Environmental subsidies and similar transfers
- Environmental permits
Environmental Goods and Services Sector
**EGSS**

- **Supply side** of environmental activities → production of environmental goods and services

- **Aim:** assessing the contribution of EGSS to the total economy and its employment potential

- **Key indicators:**

  Total production, total employment, total value added, total exports, total gross fixed capital
Scope

The EGSS consists of producers of all environmental goods and services. Thus, all products that are produced, designed and manufactured for purposes of environmental protection and resource management are within scope of the EGSS.

→ Environmental specific services, connected products, adapted goods and environmental technologies

→ ‘Main purpose’ criterion (technical nature of product or activity / intention of the producer)
Methodology: activity approach versus product approach

- **Product approach**: Identify environmental goods and services in source data
- **Activity approach**: Identify environmental activities in source data

**Data sources**: surveys (new or already existing), statistics, SNA, external reports

**Netherlands**:
- Many different environmental activities have been identified by Statistics Netherlands as EGSS activities
- For every activity a specific methodology has been developed in order to compile the data
Overview: activities in EGSS

1) Sewage and refuse disposal services (ISIC 37-39)

2) Recycling (ISIC 38.3)

3) Wholesale in waste and scrap
Overview: activities in EGSS

4) Renewable energy production

5) Production of energy saving and sustainable energy systems

6) Insulation activities
Overview: activities in EGSS

7) Production of environmental equipment
8) Environmental advise, environmental engineering
9) Environmental technical Construction
10) Environmental related inspection
11) Second hand shop
12) Organic agriculture
13) Own account activities
14) Government governance related to the environment
15) Environmental non profit organisations
16) Environmental education
Many different data sources

<table>
<thead>
<tr>
<th>Activity</th>
<th>Main source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewage and refuse disposal services</td>
<td>National accounts, supply and use tables</td>
</tr>
<tr>
<td>Wholesale in waste and scrap</td>
<td>National accounts, supply and use tables</td>
</tr>
<tr>
<td>Environmental related inspection and control</td>
<td>Employment registers</td>
</tr>
<tr>
<td>Government governance related to the environment</td>
<td>Environmental Statistics, EPE statistics</td>
</tr>
<tr>
<td>Organisations and associations on the environment</td>
<td>Employment registers and business register</td>
</tr>
<tr>
<td>Internal environmental activities at companies</td>
<td>Environmental Statistics, EPE statistics</td>
</tr>
<tr>
<td>Renewable energy production</td>
<td>Energy Statistics, Renewable energy statistics</td>
</tr>
<tr>
<td>Energy saving and sustainable energy systems</td>
<td>Own constructed database and Production Statistics</td>
</tr>
<tr>
<td>Insulation activities</td>
<td>National accounts</td>
</tr>
<tr>
<td>Organic agriculture</td>
<td>Agriculture statistics, area of organic agriculture</td>
</tr>
<tr>
<td>Recycling</td>
<td>National accounts, supply and use tables</td>
</tr>
<tr>
<td>Second hand shops</td>
<td>Production Statistics</td>
</tr>
<tr>
<td>Water quantity control by waterboards</td>
<td>National accounts, Government accounts</td>
</tr>
<tr>
<td>Environmental advice, engineering and other services</td>
<td>Own constructed database and Production Statistics</td>
</tr>
<tr>
<td>Industrial environmental equipment</td>
<td>Own constructed database and Production Statistics</td>
</tr>
<tr>
<td>Environmental technical construction</td>
<td>Own constructed database and Production Statistics</td>
</tr>
<tr>
<td>Environmental related education</td>
<td>Education statistics</td>
</tr>
</tbody>
</table>
Most important data sources

- **SNA** data $\rightarrow$ environmental services
- Own constructed data base of environmental companies plus production statistics (PRODCOM), international trade statistics etc.
- Government statistics
- Agricultural statistics
- Labour registers
- EPEA
Some key issues.....

- International comparison data
  - Scope
  - Methodology
  - Data sources
  - The more effort, the larger the EGSS?
- Cleaner goods / resource efficient goods
- Integration in EPEA / ReMEA
- Dissemination of the results
What are environmental taxes?
Definitions

- Taxes are compulsory, unrequited payments, in cash or in kind, made by institutional units to government units.
  - Taxes on products
  - Other taxes on production
  - Taxes on income
  - Other current taxes
  - Capital taxes
Definitions

• An *environmental tax* is a tax whose tax base is a physical unit (or a proxy of it) of something that has a proven, specific, negative impact on the environment
  › Energy taxes
  › Transport taxes
  › Pollution taxes
  › Resource taxes
# Environmental taxes by type of tax

<table>
<thead>
<tr>
<th>Type of environmental tax</th>
<th>Taxes on products</th>
<th>Other taxes on production</th>
<th>Taxes on income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Corporations</td>
<td>Households</td>
</tr>
<tr>
<td>Energy taxes</td>
<td>10 800</td>
<td>1 500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon taxes</td>
<td>4 600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes on fuel used for transport</td>
<td>4 700</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other energy taxes</td>
<td>1 500</td>
<td>1 500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport taxes</td>
<td>2 600</td>
<td>800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollution taxes</td>
<td>400</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource taxes</td>
<td>200</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total environmental taxes</strong></td>
<td><strong>14 000</strong></td>
<td><strong>3 200</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-environmental taxes</td>
<td>79 000</td>
<td>15 400</td>
<td>23 000</td>
<td>74 000</td>
</tr>
<tr>
<td><strong>Total taxes</strong></td>
<td><strong>93 000</strong></td>
<td><strong>18 600</strong></td>
<td><strong>23 000</strong></td>
<td><strong>74 000</strong></td>
</tr>
<tr>
<td>Share of environmental taxes (percentage)</td>
<td>17.7</td>
<td>20.8</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**SEEA**
Approach

• Starting point: All government levies (national, subnational)
• I. Identification of tax base(s); environmentally-related levies
• II. Distinction between environmental taxes and environmentally related payments
• III. Allocation to environmental tax groups
• IV. Allocation to the final tax payer

• Data Sources: Tax statistics, government finance statistics, national accounts
Exercise

• Compile the environmental taxes account for the 2 years for which data is provided
• What conclusions can be drawn from the accounts
• Discuss any indicators that can be derived from the information in the accounts
• What additional data source could be integrated with the tax data to provide additional insights
THANK YOU
seea@un.org
Acknowledgments

Based on a presentation by Sjoerd Schenau, Statistics Netherlands and Eurostat course on Environmental Taxes