SUSTAINABLE DEVELOPMENT INDICATORS

Eurostat E5

ISED Workshop, New York
13-16 Sept 2004
THE POLITICAL BASIS FOR SDI

- EU Treaty: “The Union shall achieve balanced and sustainable development”

  - adoption of the SD strategy (COM(2001)264)
  - the strategy should be reviewed at end term of each Commission
  - an external dimension of SD is added (COM(2002) 82)

- Johannesburg World Summit (2002)
  - EU and Member States commitment to the Plan of Implementation

- EU Constitution (2004-?)
  - Article 3 stipulates that ‘The Union shall work for the sustainable development of Europe based on ….’
THE EU STRATEGY FOR SD

- P1: Limit Climate Change and increase the use of Clean Energy
- P2: Address threats to Public Health
- P3: Manage Natural Resources more responsibly
- P4: Improve the Transport system and Land-Use management
- P5: Combat Poverty and Social Exclusion
- P6: Deal with the economic and social implications of an Ageing Society
- P7: External dimension
THE JOHANNESBURG Pol

- Poverty eradication, incl. Water and sanitation
- Changing unsustainable patterns of production and consumption (Energy, Transport, Waste, Chemicals, Corporate responsibility)
- Protecting natural resources
- Health and SD
- SD of Small Island Developing States (SIDS) and Africa
- Means of implementation (ODA, participation)
THE SDI TASK FORCE

- 2001: the SPC decides on the creation of a Task Force on SDI with 3 main objectives:
  - developing a suitable framework for SDI
  - identifying SDI
  - facilitating SDI-related activities

- Life span: 2001-2005

- An open group (up to 16 countries, up to 11 DGs, international organisations)
THE FRAMEWORK FOR SDI

- Work at EU level, not a universal framework
- Political basis: SD Strategy, Communication on Global partnership, WSSD Pol
- 10 themes and currently 30 sub-themes (strong link with the political basis)
- Each level to complement the upper level to tell a consistent story
THE FRAMEWORK FOR SDI

Economic development

2 commitments from WSSD
Sustainable Production and Consumption, Good governance

External dimension

6 SDS priorities
Climate, Health, Natural resources, Transport, Poverty, Ageing society

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THE LIST OF SDI

- Lead objectives; Long-term policy issues
- General policy performance; Priority objectives of SDS
- Monitoring of measures or actions

< 20 Headline indicators

30-40 General policy performance indicators

Detailed level of indicators on efficiency of policy measures

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THE LIST OF SDI

- Best available vs. Best needed indicators
- Look for maximal synergy with existing initiatives
- Selection criteria and quality profile
- Sub-groups working on identification of SDI per theme
Theme Climate Change and Energy

Two ‘simple’ objectives

1. Limit Climate Change and
2. increase the use of clean energy
1. Climate change

Specific targets:

“The EU will meet its KYOTO commitment”
to reduce GHG emissions by 8% by 2008-2012
compared to 1990 levels

And afterwards

“reduce GHG emissions by an average of 1%
per year over 1990 levels up to 2020”
Level 1 CC indicator

Total GHG emissions vs. Kyoto target

after 2012, to be replaced by

GHG Emissions vs. the 2020 target
GHG emissions vs. Kyoto target
Level 2 CC indicator

Greenhouse gas emissions broken down by sector

sectors' = electricity generation, industry, transport (road, aviation, other), households and services, and other emissions that cannot easily attributed to a sector (e.g. waste)
Level 3 CC indicators

- CO2 intensity of energy use defined as CO2 emissions per GJ of Gross Inland Energy Consumption
- An indicator (not yet properly defined) on Carbon sinks
- An indication of the financial losses caused by extreme weather conditions
2. Energy

Objective = increase the USE of CLEAN energy

- Focus on use of energy, including energy efficiency

- How to define clean energy? Definition may change over time, and depending on the context in which it is used
  
  Not the role of statistical services to define what is clean energy.
Level 1 Energy indicator

- **Gross inland energy consumption (GIC)**
  - this is the total primary energy consumed to meet the EU demand for energy

- Should be shown broken down by fuel types, from 'dirtiest' to 'cleanest' based on net CO2 emissions
  i.e. lignite and peat, coal, petroleum, natural gas, nuclear power, renewables
Level 2 Energy indicators

- Energy intensity = GIC/GDP at constant prices
Level 2 Energy indicators

- Final energy consumption by sector
  sectors = industry, transport, households and others
Level 2 Energy indicators

Electricity production by fuel type

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Level 3 Energy indicators - feasible

• Renewable energy as % of GIC and as % of electricity production (with targets)

• Renewable energy as % of GIC and as % of electricity production (with targets)

• Energy efficiency by sector or by specific industries

• Amount of high-level nuclear waste and spent fuel awaiting permanent disposal
Renewable energy as % electricity production

![Graph showing renewable energy as percent of electricity production from 1990 to 2000 for EU 15 and ACC regions.](Image)
Energy efficiency by sector

Some examples:

- Energy use in industry per unit of value-added

- Energy use by road transport per passenger-km

- Household energy use per capita, or total household energy use vs. number of households
Energy efficiency by specific industries
Nuclear waste

Included in SDS under the theme Climate Change and Clean Energy

Several indicators discussed:

- Nuclear waste generated per unit of energy produced from nuclear power
- Amount of nuclear waste produced annually vs. amount properly disposed of annually

Proposed indicator: amount of high-level nuclear waste and spent fuel awaiting permanent disposal

- Data source: Euratom, a Commission service
Level 3 Energy indicators – feasibility being assessed

• Energy prices/taxes
  (how to combine into one indicator?)

• Government revenue from energy taxes
  (as % of government budget)

• Use of Biofuel
Energy related indicators in other themes

- Under Public Health: Population exposed to air pollution by particulate matter
- Under production and consumption patterns:
  1. Non GHG emissions associated with energy use
  2. Electricity consumption per dwelling for light and domestic appliances
  3. Under management of natural resources: Exceedance of critical loads of acidifying substances in sensitive natural areas
- Under transport:
  1. Energy consumption by transport vs. GDP at constant price
  2. Energy consumption by type of transport
  3. Emissions of air pollutants by transport activities
- Environment-adjusted flows of materials in EU imports
### Overview

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
</tr>
</thead>
</table>
| 1. GHG emissions vs. Kyoto target | 1. GHG emissions (breakdown by sector, including aviation emissions) | • CO2 intensity of energy use (CO2 emissions per GJ of GIC)  
• Losses caused by extreme weather conditions (insurance payouts)  
• CO2 sinks  
• (Average mean temperature in Europe) |
| 2. Gross inland energy consumption (GIC) (breakdown by fuel) | 2. Energy intensity (GIC/GDP constant prices)  
3. Final energy consumption by sector  
4. Electricity production by fuel | • Renewable energy as % of the gross inland energy consumption and as % of electricity production (with targets)  
• Combined heat and power generation as % of gross electricity generation  
• Energy efficiency by sector or by specific industries  
• Energy prices/taxes  
• Government revenue from energy taxes as % of government budget  
• Fuel poverty |

• Amount of high-level nuclear waste and spent nuclear fuel awaiting permanent disposal
# OVERVIEW OF DATA AND GRAPHS AVAILABILITY
## SITUATION AS OF 11 JUNE 2004

<table>
<thead>
<tr>
<th>Theme</th>
<th>Number of ('Best Available') Indicators</th>
<th>Data available</th>
<th>Charts available</th>
<th>Number of ('Best Needed') Indicators</th>
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<td>Level 1</td>
<td>Level 2</td>
<td>Level 3</td>
<td>Level 1</td>
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<td>5 (3)</td>
<td>36 (14)</td>
<td>2</td>
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<td>3</td>
<td>23 (10)</td>
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<td>Ageing Society</td>
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<td>2</td>
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<td>6 (2)</td>
<td>13 (3)</td>
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<td>Global Partnership</td>
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<td><strong>TOTAL</strong></td>
<td>29 (12)</td>
<td>81 (27)</td>
<td>160 (73)</td>
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FUTURE ACTIVITIES

- **Set of SDI**
  - April 2004: initial set of SDI incl. progressively data, charts, metadata and quality profile
  - Beg. 2005: final recommendations to the SPC (methodology, data needs, further work)

- **Participation in the SDS review process**

- **2005: Eurostat publication on the list of EU SDI**

- **Support to international activities on SDI**

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