International energy statistics

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Energy and environment

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European Environment Agency

The European Environment Agency is the EU body dedicated to providing sound, independent information on the environment

http://www.eea.eu.int

EEA member and collaborating countries

Member countries

Collaborating countries

EEA makes use of energy statistics

- Compiling the annual EU greenhouse gas inventory, based on the national GHG inventories (include underpinning energy data) submitted by countries to the European Commission and subsequently to UNFCCC.
- Fact-sheet production: Emissions and Energy and environment indicators.
- Core set of indicators.
- State of the Environment Report and related integrated assessments.
- EEA cooperates closely with Eurostat (e.g. Eurostat compiles for EEA estimates of CO2 emissions from fossil fuels using the IPCC Reference Approach and compares these with estimates submitted by countries).

Energy and environment reporting mechanism principles

Aim: To provide policy-relevant information on energy-related environmental pressures, state, impact, drivers, responses

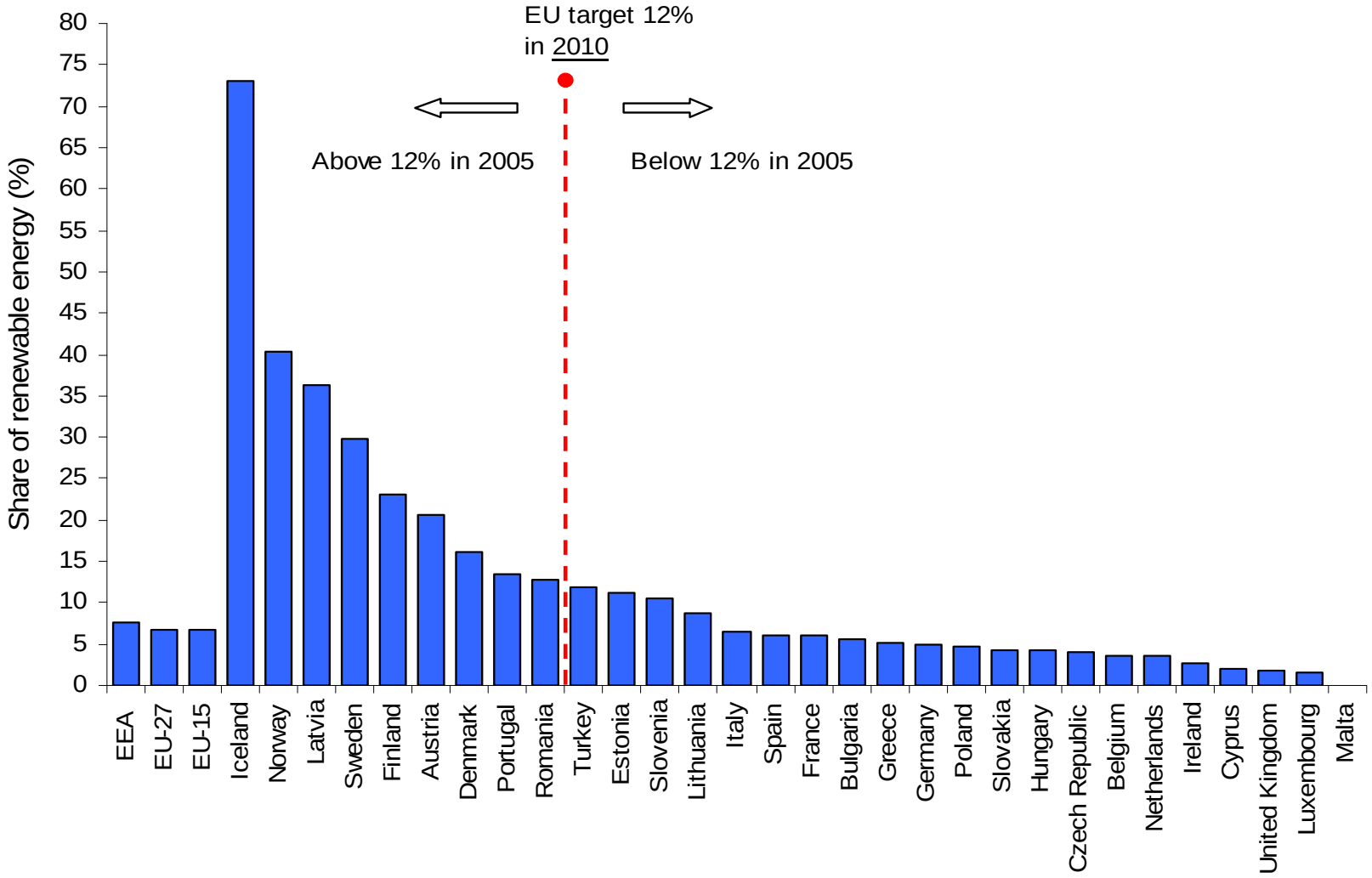
Organised around policy questions, each answered by one or more indicators (fact sheets)

A brief Energy and Environment report summarizing these fact sheets and providing background information behind the trends observed.

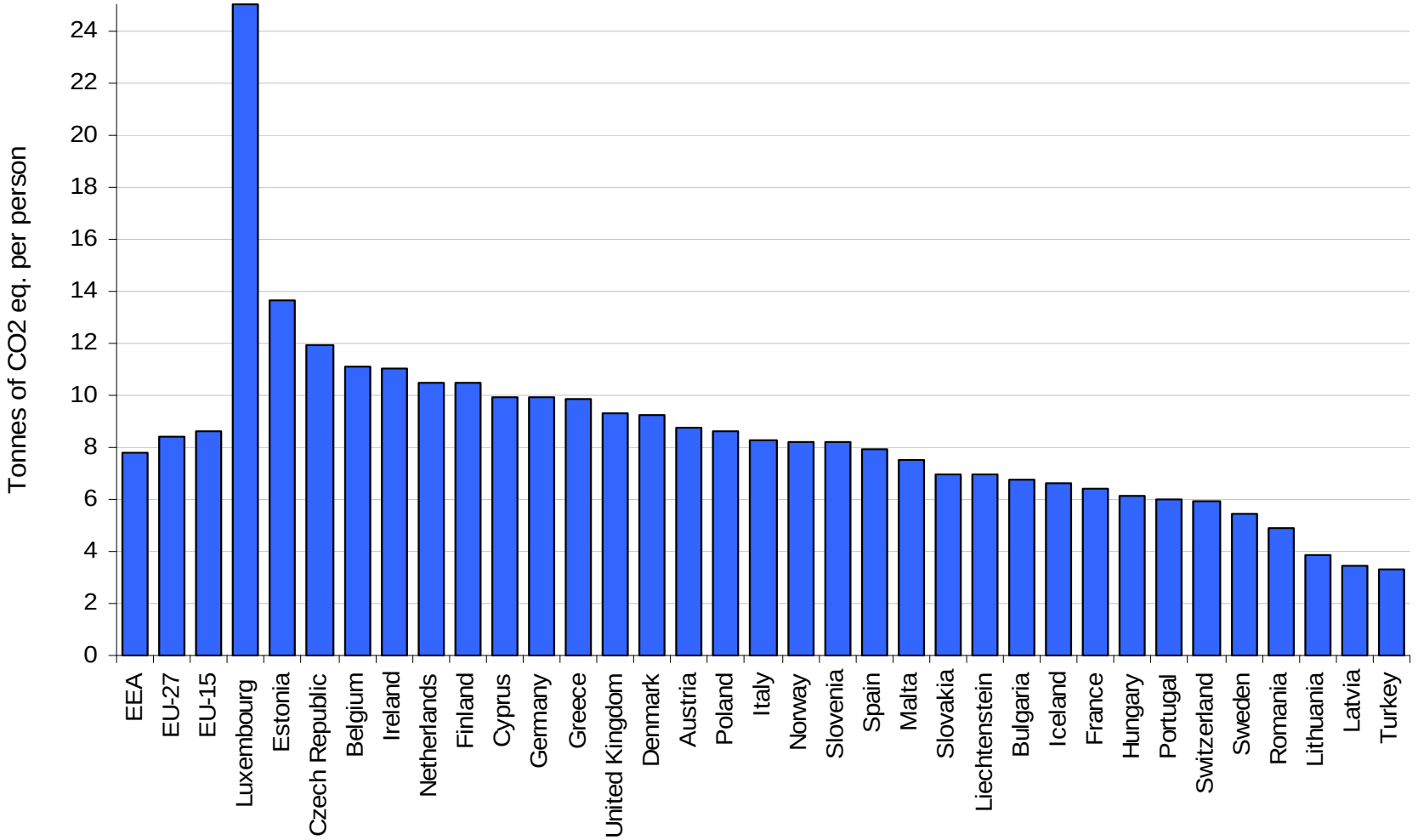
Policy questions

- Is the use and production of energy having a decreasing impact on the environment?
  - GHG emissions; ozone precursors; acidifying substances; particle emissions; emissions intensity; nuclear waste; oil tanker spills and discharges.
- Is energy use decreasing?
  - Final energy consumption by sector; electricity consumption.
- How rapidly is energy efficiency being increased?
  - Total energy intensity; final energy intensity; efficiency of electricity generation; share of combined Heat & Power.
- Is there a switch to less polluting fuels?
  - Fuel mix of total energy consumption and electricity production.
- How rapidly are renewable energy technologies being implemented?
  - Renewables in total energy consumption and renewable electricity.
- Are environmental costs better incorporated into the pricing system?
  - Energy prices, taxes, subsidies and external costs of electricity production.

Share of renewable energy in total energy consumption in 2005



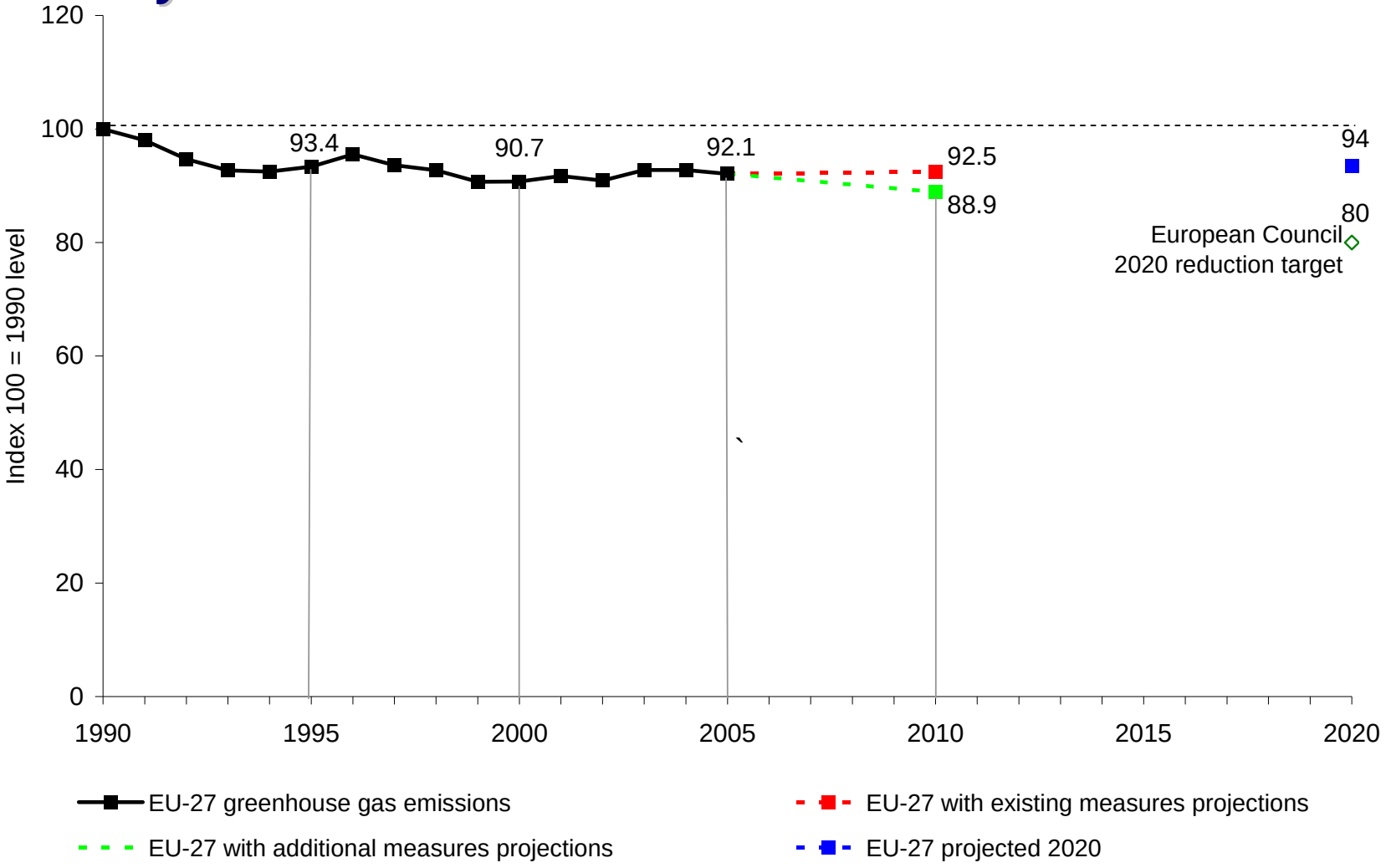
Energy-related greenhouse gas emissions per capita in 2005



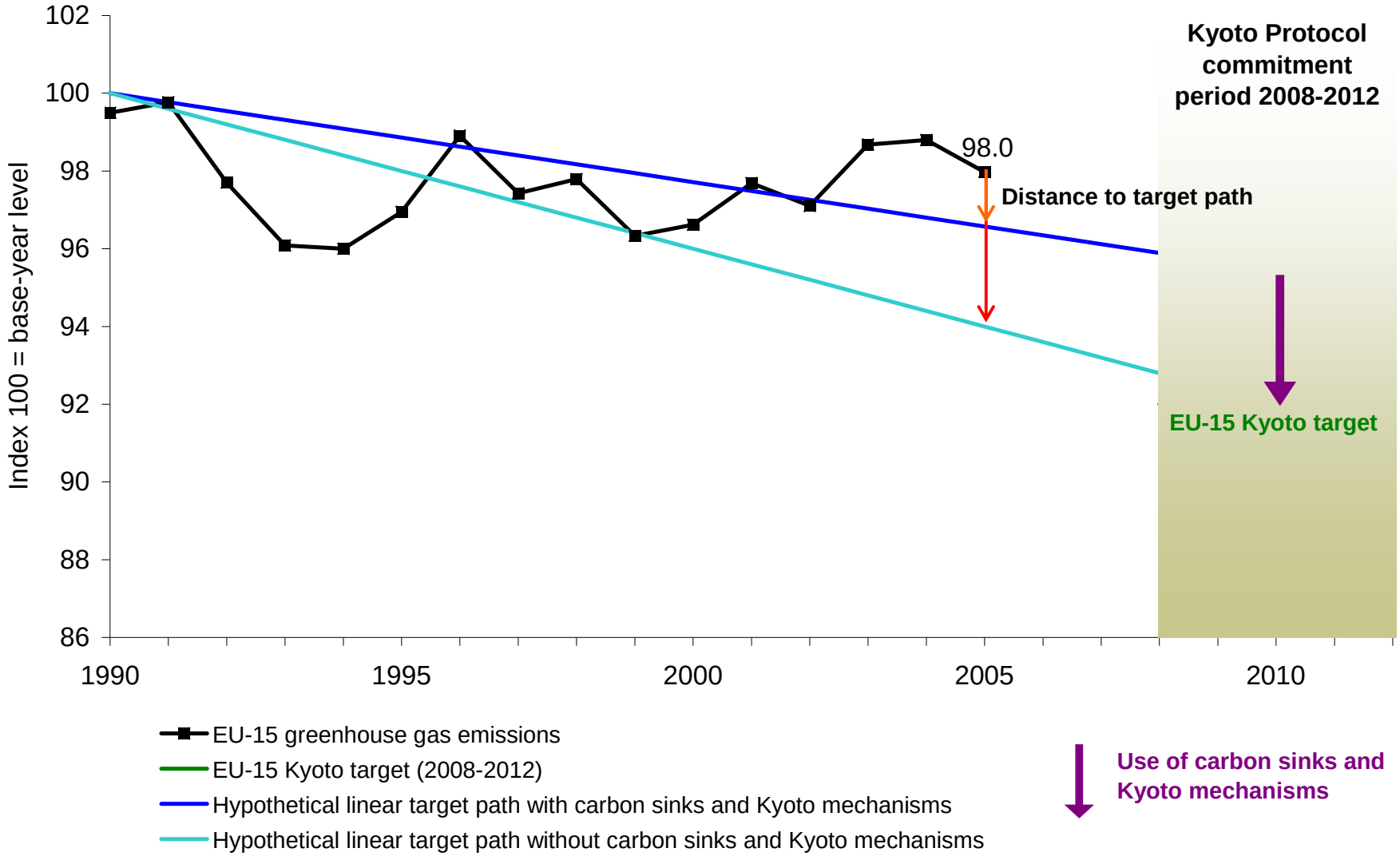
EEA annual report on GHG trends and projections (key questions)

- Input to Commission's report on progress to Kyoto Protocol targets (shared in EU-15)
- Are the EU-15, Member States and other EEA countries on track to reach their Kyoto targets?
- Indicators by country and sector, past and projected trends; country profiles with details
- How effective are existing measures?
- What additional measures are needed?
- How are the different sectors performing?
- Which sectors need the most efforts?

EU-27 emissions are projected to be 6% by 2020 below 1990 with all measures



Based on 1990-2005 emissions trends, the EU-15 is not on track to meet its target



New energy policy in Europe

Climate change

Energy policy for Europe

Sustainable, low carbon economy

Competitiveness

Security of supply

Limiting temperature increase to 2ºC

20% GHG emission reductions by 2020

20% RES by 2020
10% target for bio-fuels
Electricity
Heating and cooling

Internal energy market

Resilience

Adaptation

Partnership with Russia

NIC

Neighbourhood policy

20% Energy efficiency by 2020

Interaction with other sectors: construction, transport, water, agriculture, forestry

Environmental

Affordable energy

Integrating new policy goals and global context

- Integrating the new goals of energy policy requires shifting from Eurocentric to understanding the global context in which Europe operates ~ more use of IEA data
- Use of a wider range of projections (PRIMES, IEA, POLES)
- To improve the links with the EC greenhouse gas inventory and Trends and Projections Report
- To use the Eurobarometer Surveys to link public opinion to environmental political action or inaction
- Use of spatial representations of the data (e.g. Global Monitoring for Environment and Security - GMES)
- To improve the uncertainty sections of all the indicators

Integrating new policy goals and global context

- To develop an indicator on security of energy supply (Eurostat)
- To develop indicator/s on energy efficiency and energy savings (Odyssee, Eurostat, IEA, GHG Monitoring Decision)
- To develop an indicator using data from the European Trading Scheme for CO2 emissions (EU ETS)
- To improve the indicators on taxes, prices, subsidies and external costs, not least to capture 'competitiveness'

EEA as a user: some general challenges

- Geographical coverage of EEA broader than Eurostat's (IEA becomes an important source as the focus is widening beyond EU borders)
- Commodity/energy balances are different (main aggregates differ e.g. non final energy consumption)
- Lack of comparable country data if mixing both sources (e.g. Eurostat for EU/EEA countries and IEA for non-EU countries)
- Most important differences are documented but users still get confused (are conversion factors, calorific values also different?)
- Uncertainties not clearly documented

Conclusions

- consistency between energy data in GHG inventories (Common reporting format) and in questionnaires has improved the past years;
- - further improvements are still possible (e.g. calorific value);
- - EEA welcomes in that respect the new proposed EU Energy Statistics Regulation which is expected to improve energy data collection in the EU;
- - EEA also welcomes various international improvement activities including coordination between UNFCCC, IPCC and IEA;

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