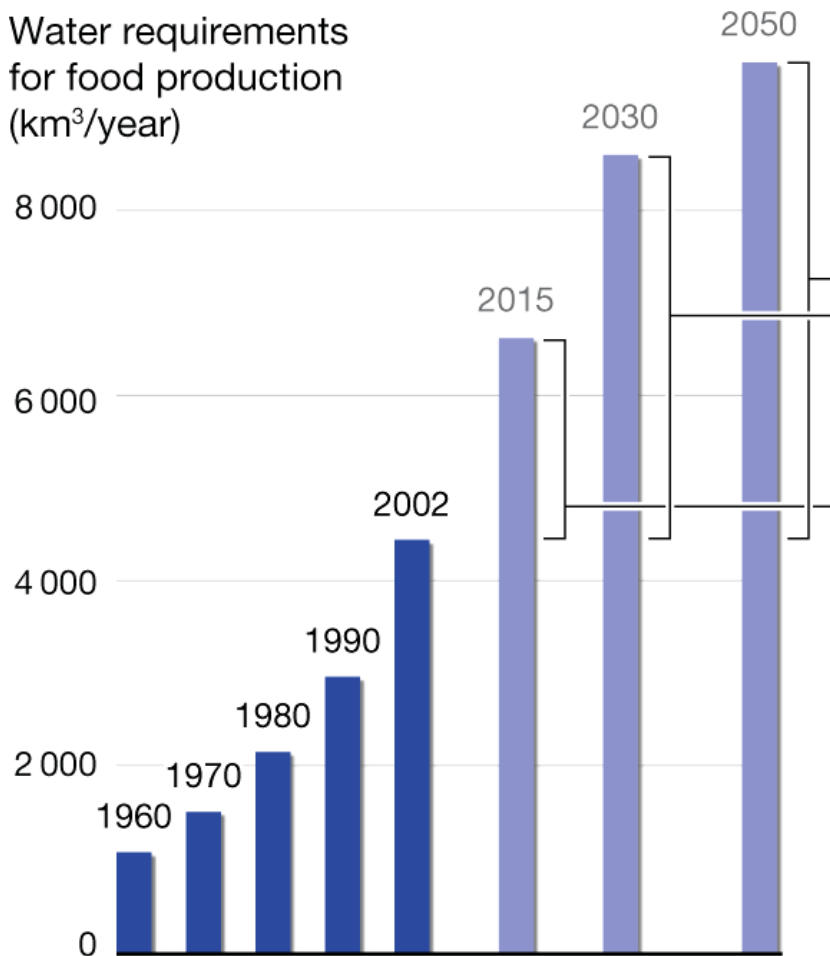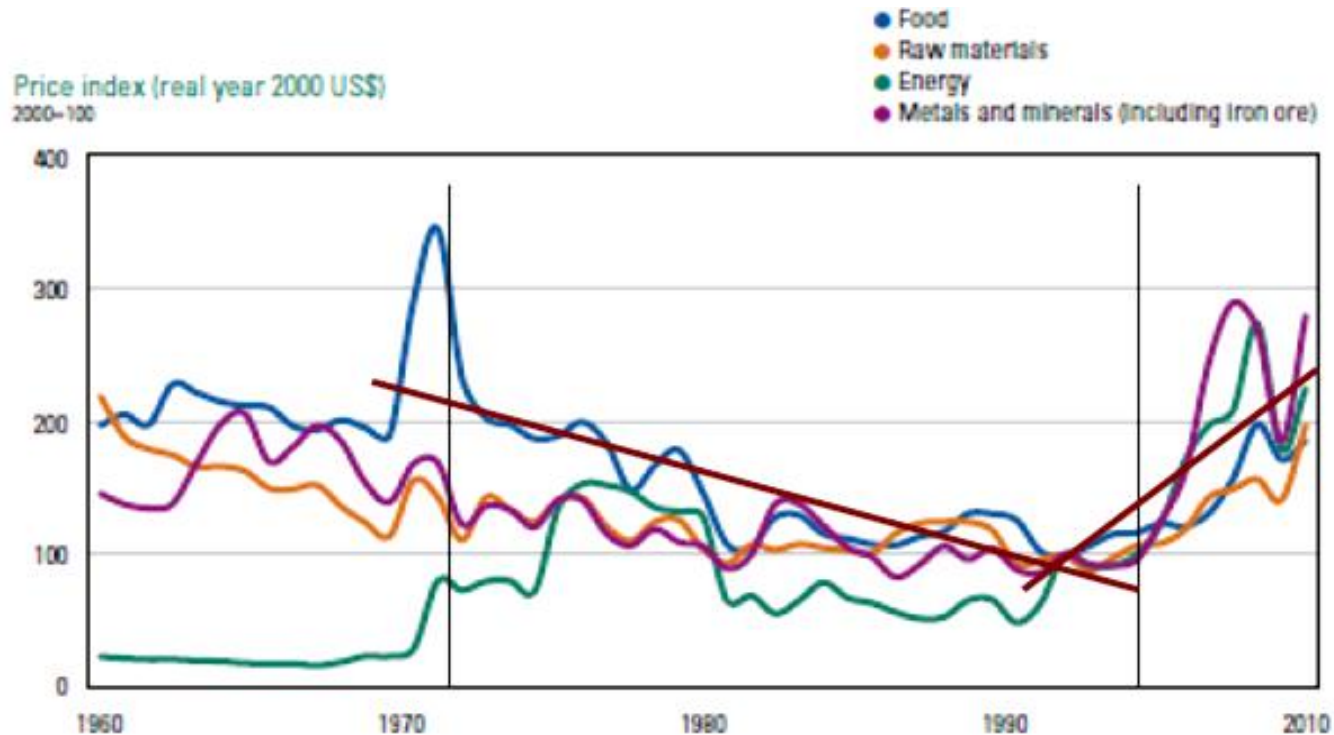# *The Challenge (1)*

Water requirements
for food production
(km³/year)

- Over 20th century, global increase of **fossil fuel** use by factor of 12, and material extraction 8 fold

- Demand for **food, feed and fibre** may increase by 70% by 2050

- 60**%** of world's major **ecosystems** that help produce these, already degraded or used unsustainably

- WBCSD estimates: **by 2050** need for **4 to 10 fold** increase in resource efficiency, significant changes needed **by 2020**

- **EU** consumes 16 to. of material p.a., of which 6 to. become waste

The Challenge (2)

- Competition for resources (including raw materials) increases, scarcities => prices rise => impact on European economy

Price index (real year 2000 US$)
2000=100

- Food
- Raw materials
- Energy
- Metals and minerals (including iron ore)

Source: World Bank Commodity Price Data (Pink Sheet), historical price data, available from http://blogs.worldbank.org/prospects/global-commodity-watch-march-2011

The Challenge (3)
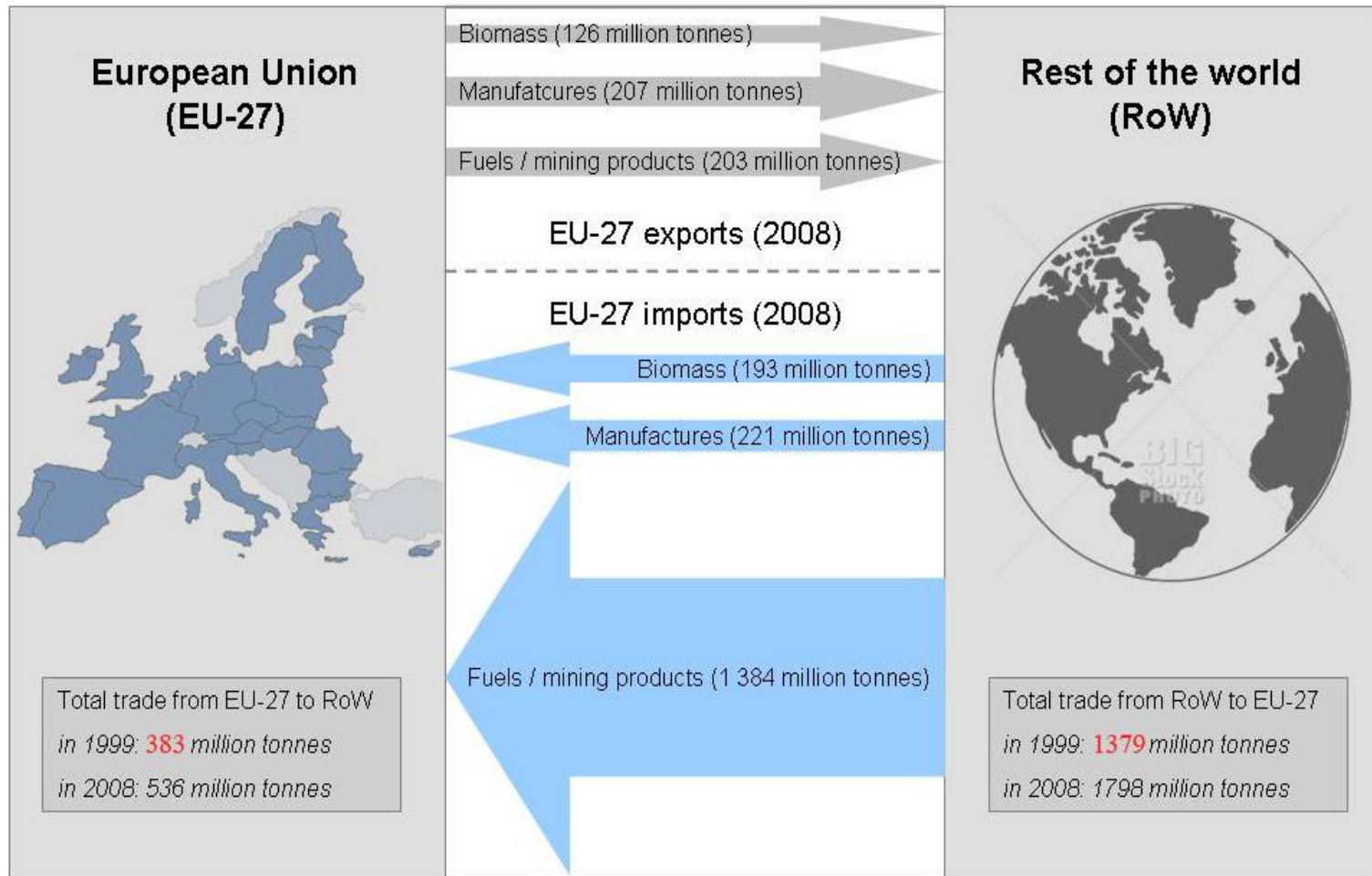
A definition of Resource Efficiency

- **Resources include all material and natural resources,** from food, timber, and biodiversity in the widest sense, to energy, metals, soil, water, minerals, our atmosphere and land.

- **Resource Efficiency is about:**

    → Sustainable management and use of resources throughout their life cycle

    → Producing more value with less material and consuming differently, within our planet's natural limits.

The Life-cycle

Growing technosphere

Extraction: 16 tons

To physical stock: 10 tons

Disposal: 6 tons

Source

Environment

Sink

Threats to ecosystem services !

EUROPEAN COMMISSION

environment
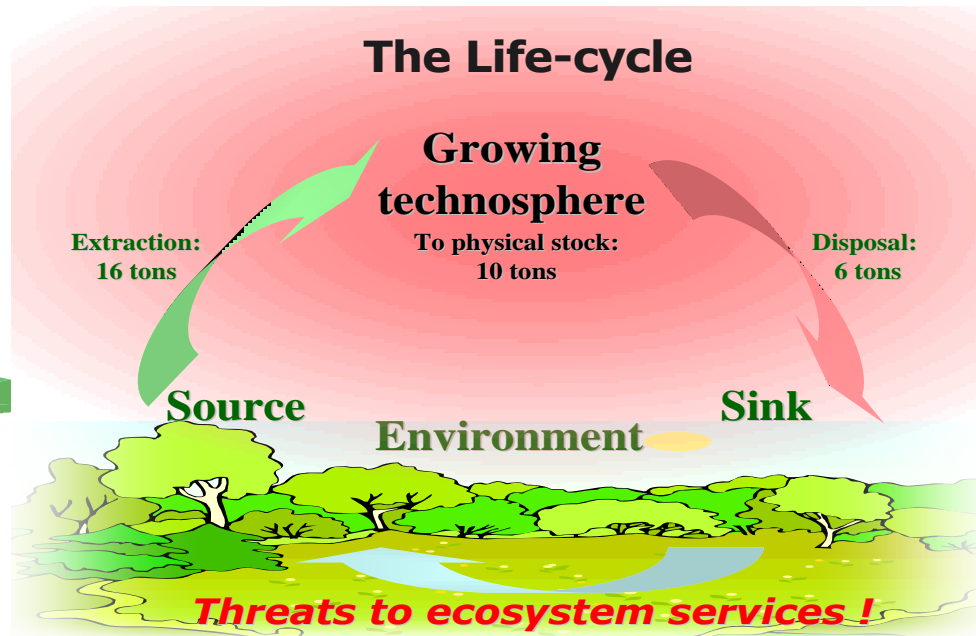
Opportunities from resource efficiency

Recent modelling results: Reduction of the total material requirements (TMR) by 15% can boost GDP by up to 3.6% and employment by around 2.5 m. McKinsey: $ 3.5 trn gain in improving resource efficiency

■ Short term benefits

- Growth and job creation
- Improving competitiveness and security of supply
- Inducing innovation
- Supporting fiscal consolidation

■ Longer term opportunities

- Economic and Environmental resilience
- Improving competitiveness and security of supply
- Improved quality of life and human health
- Global stability

EUROPEAN COMMISSION

environment

Policy process: EU and MS to deliver jointly under Europe 2020

- **Europe 2020**: Sustainable growth as one priority; Resource efficiency as key element;

- **Flagship Initiative** "A resource efficient Europe": help decouple economic growth from resource use, support shift towards a low carbon economy (renewable energy sources, transport, energy efficiency);

- **Roadmap to a Resource Efficient Europe** (Sept. 2011): framework for implementation of EU and MS initiatives for resource efficiency

environment

The Roadmap – general approach
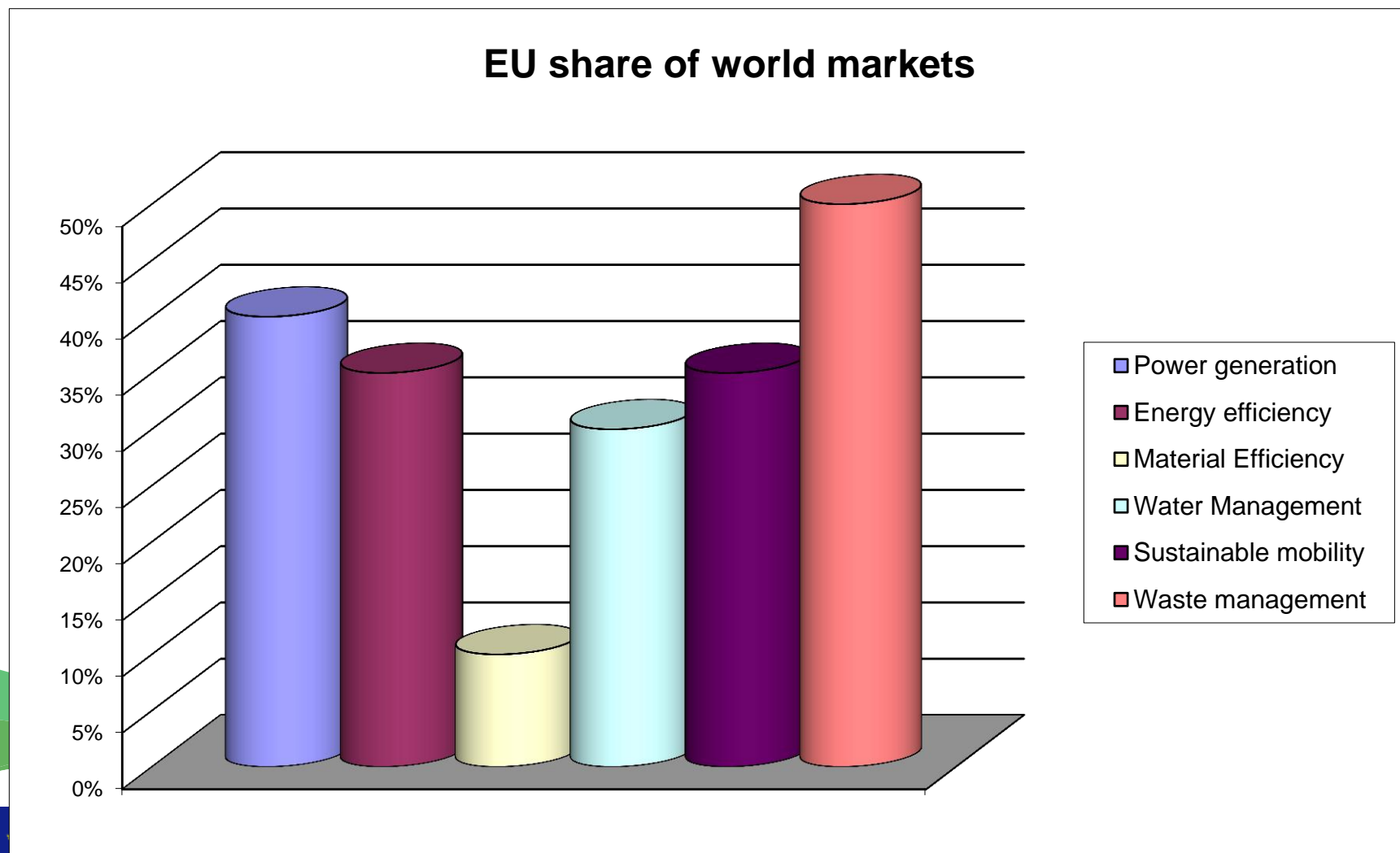
- **Three timelines**
    - → long term **2050 vision** (⇔ short-termism)
    - → milestones for **2020**
    - → actions to be taken **now** by the **Commission** and **MS**
- **Three action lines**
    - → Transforming the economy
    - → Safeguarding the resilience of our natural capital
    - → Tackling key sectors
- **Shared responsibility of EU and MS:** governance and monitoring under Europe 2020

Opportunities to improve:
EU Share of world eco-industries, 2008

EU share of world markets

Legend:
- Power generation
- Energy efficiency
- Material Efficiency
- Water Management
- Sustainable mobility
- Waste management

EUROPEAN
COMMISSION

environment

Transforming the Economy

- **Improving products, boosting efficient production and changing consumption patterns:** GPP, LCA methodology, product design, new business models, assistance to SMEs, etc.

- **Turning waste into a resource:** stimulating secondary materials markets (end-of-waste criteria, recycled content), assessing new targets, tackling illegal waste shipments, improving implementation.

- **Stimulating innovation:** Horizon 2020, innovation partnerships, joint technology initiatives (public-private partnerships).

- **Getting the prices right**: Phasing out environmentally harmful subsidies; shift from taxing labour towards environmental taxes.

EUROPEAN COMMISSION

environment

Recycling of municipal waste in 2009
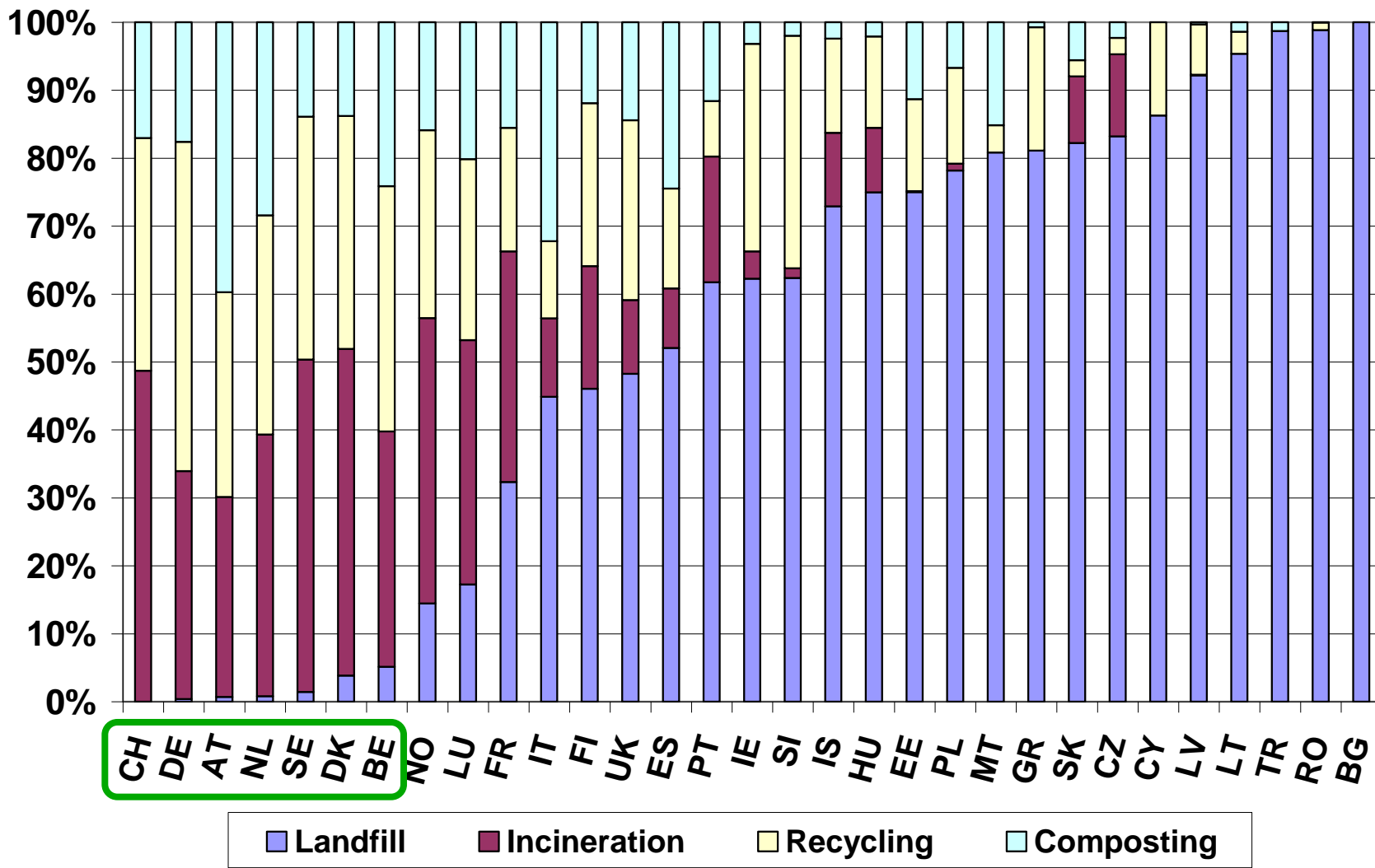
Safeguarding natural capital

- **Ecosystem services** → Incorporating their values in accounting and decision making

- **Biodiversity** → Halting the loss and restoring

- **Minerals & metals** → Improving efficiency through SCP

- **Water** → Water Blueprint; water efficiency targets

- **Air** → Comprehensive review in 2013

- **Land and soils** → Land use (no net land take by 2050); soil sealing; contaminated sites

- **Marine resources** → EHS; marine litter; network of protected areas; business opportunities

EUROPEAN COMMISSION

environment

Tackling key sectors

- **Food**
  - → Addressing consumption patterns
  - → Sustainability criteria for commodities
  - → Phosphorus: security of supply and sustainable use
- **Housing / buildings**
  - → Promoting investment and innovation in construction => sustainable housing, growth and jobs.
- **Efficient Mobility**
  - → Integrating resource efficiency objectives in transport, incl. impact on all resources, e.g. land, air, ecosystems.

EUROPEAN
COMMISSION

environment

Steps to implement the Roadmap – the European Semester

- **Ensure mutually supporting actions** at MS, EU and international levels and **Sharing of best practices** among MS.

- Inclusion of environment/resource efficiency issues in Semester: In 2012, **Country-specific Recommendations** on environmental tax reform; in climate and energy area (incl. Renewables, energy efficiency of buildings), some on water and waste management.

- Deeper analysis on opportunities in waste management in **Staff Working Documents,** particularly on waste.

Opportunities to improve:
Environmental taxes as a % of all taxes, 2009
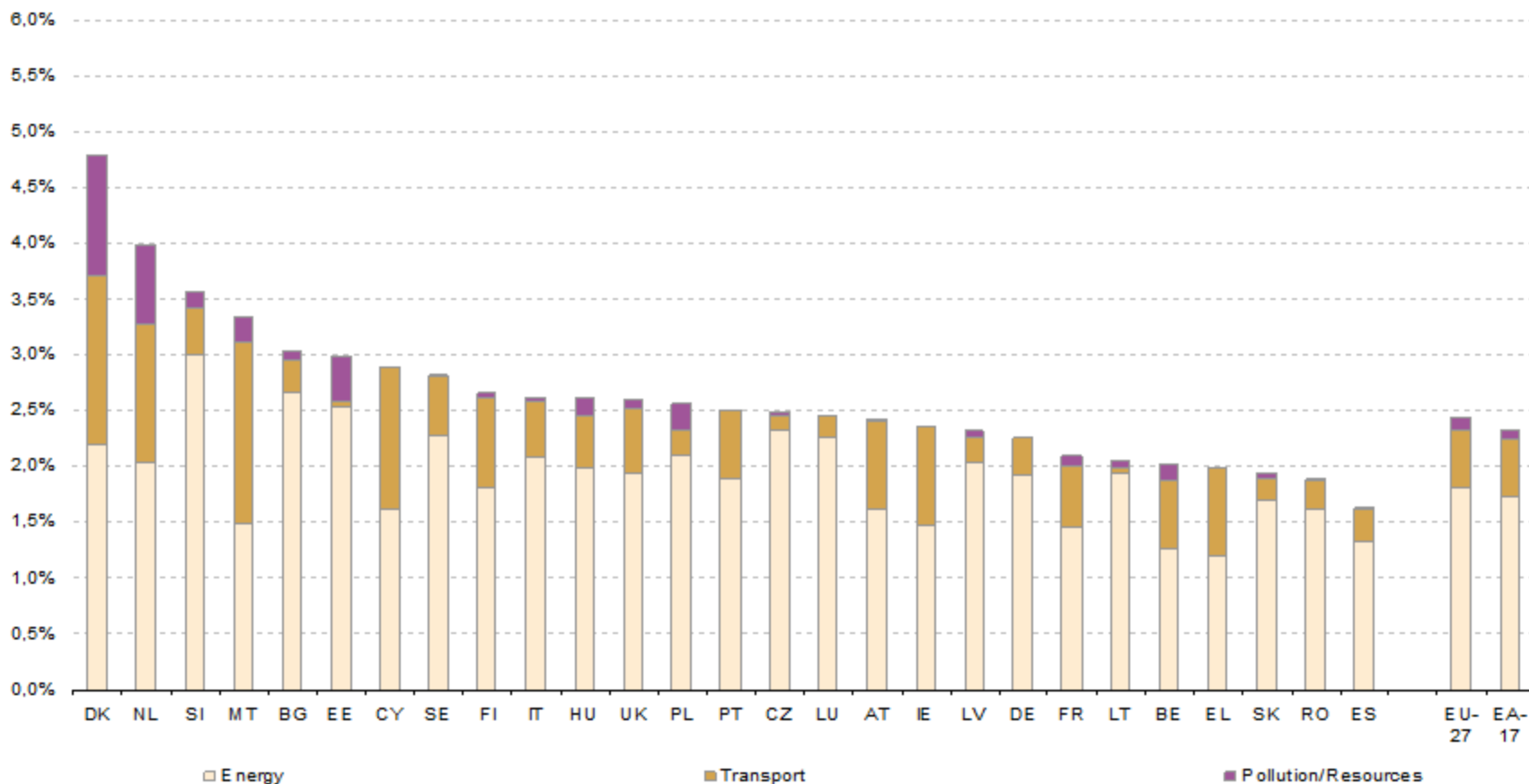
Steps to implement the Roadmap – further policy initiatives

- Revision of **EIA** directive (2012)

- Green paper on **green infrastructure** (2012)

- Proposal for a **7th EAP** (2012)

- **GDP and beyond**: Report, Communication (2012/3)

- **Greening the single market** (2013)

- Follow-up to **Rio+20** (2013)

environment

Steps to implement the Roadmap – Stakeholder involvement

- **Resource efficiency platform (EREP)**: various stakeholder groups, debate on policy options, provide guidance/advice, concrete ideas for actions.

  → 3 **Working groups**: circular/green economy; objectives and measurement; framework conditions (incl. MBI).

- Part of wider consultation/debate structure: open web platform for wider consultation (**OREP**) – mirrors debates in EREP, welcoming papers and contributions.

- Preparations for **Finance Round Table**: complement EREP working group on framework conditions.

environment

Thank you!

http://ec.europa.eu/environment/resource_efficiency/