



European Environmental Policy

Agenda

Introduction

Climate Change

EU Policy specifics

EU Policy towards climate change

Current topic: nuclear energy

Instruments and measures

Environment and economics

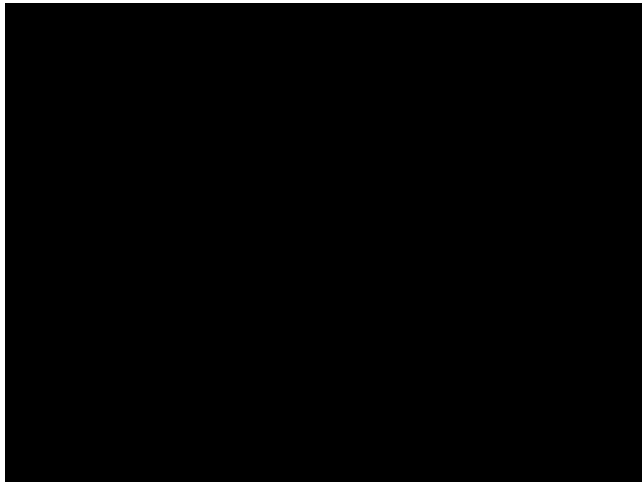
Are you up for another

QUIZ



Introduction

One earth to protect



European
Comlssioner for
Environment



Janez Potočnik

Introduction

What do Europeans think about the environment?

Key results of a **2002 survey** by the European Commission:

Environmental issues are the **prime concern** of Europeans

The environment is a major determinant of the **quality of life**.

Europe is the **preferred level** of decision-making.

The majority does **not** feel to be **satisfactorily informed**.

Introduction

Vital areas of environmental protection



Specific Policy Areas

Air
Biotechnology
Chemicals
Environmental economics
Enlargement and Neighbouring Countries
Industry and technology
International issues
Land use
Nature and biodiversity
Noise
Soil
Sustainability development
Waste
Water and Marine

Personal responsibility

Our choices matter - some examples

save electricity

save water

sort your domestic refuse

buy products with a packaging which can be recycled

travel by public transport

check the level of gas emission from your car

drive your car slower

buy organic products

make compost with your garden



Energy

Water

Waste

Mobility

How much of the energy used by the average European household goes towards heating the home?

- 30%
- 50%
- 70%

How much of the energy used by the average European household goes towards heating water?

- 2%
- 50%
- 14%

What could we do with the energy saved by not boiling water we don't need?

- Eighty million Europeans could have a bath
- Light one-third of Europe's streets
- Make 800 million more cups of tea

Fact: On average, each European citizen boils about one litre of water every day that they don't use.

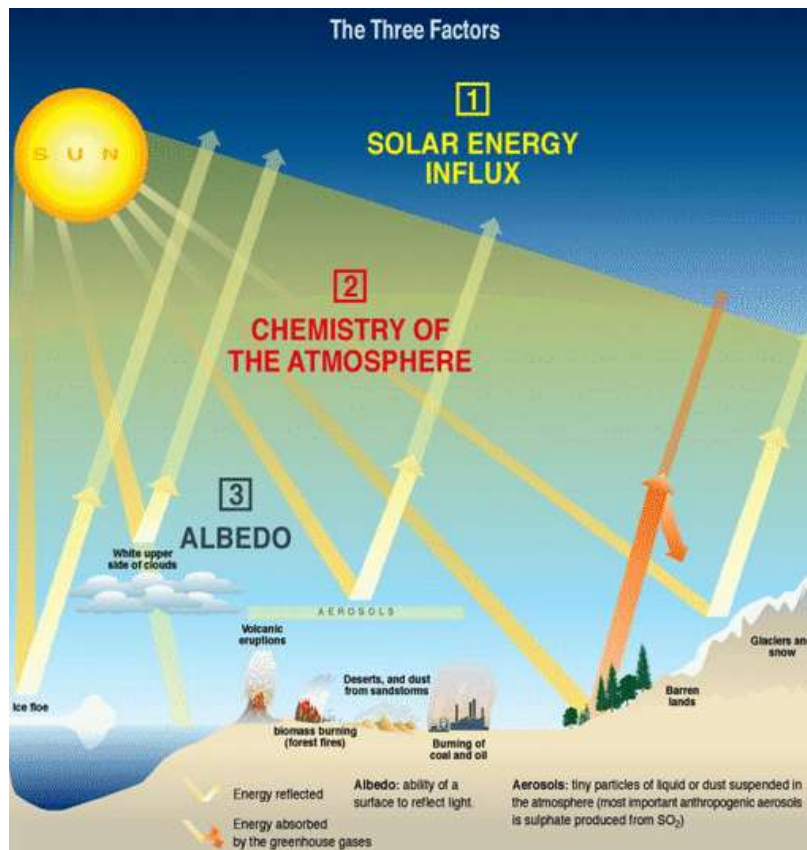
Private households are responsible for what proportion of the energy consumed in the EU?

- a third
- a quarter
- a half

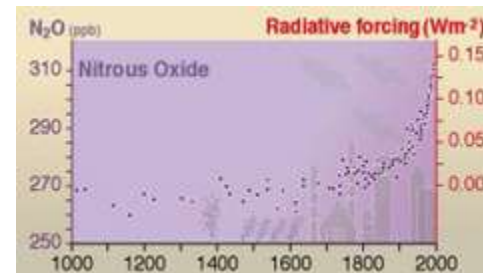
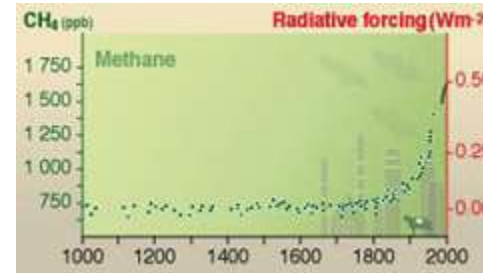
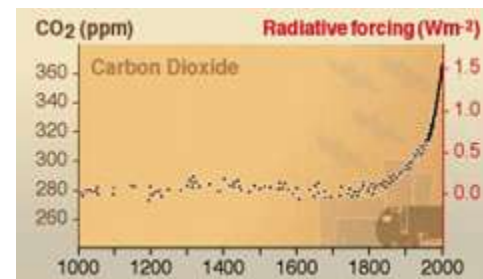
Introduction

Emissions, global warming and the need to act now

Greenhouse effect



Human influence

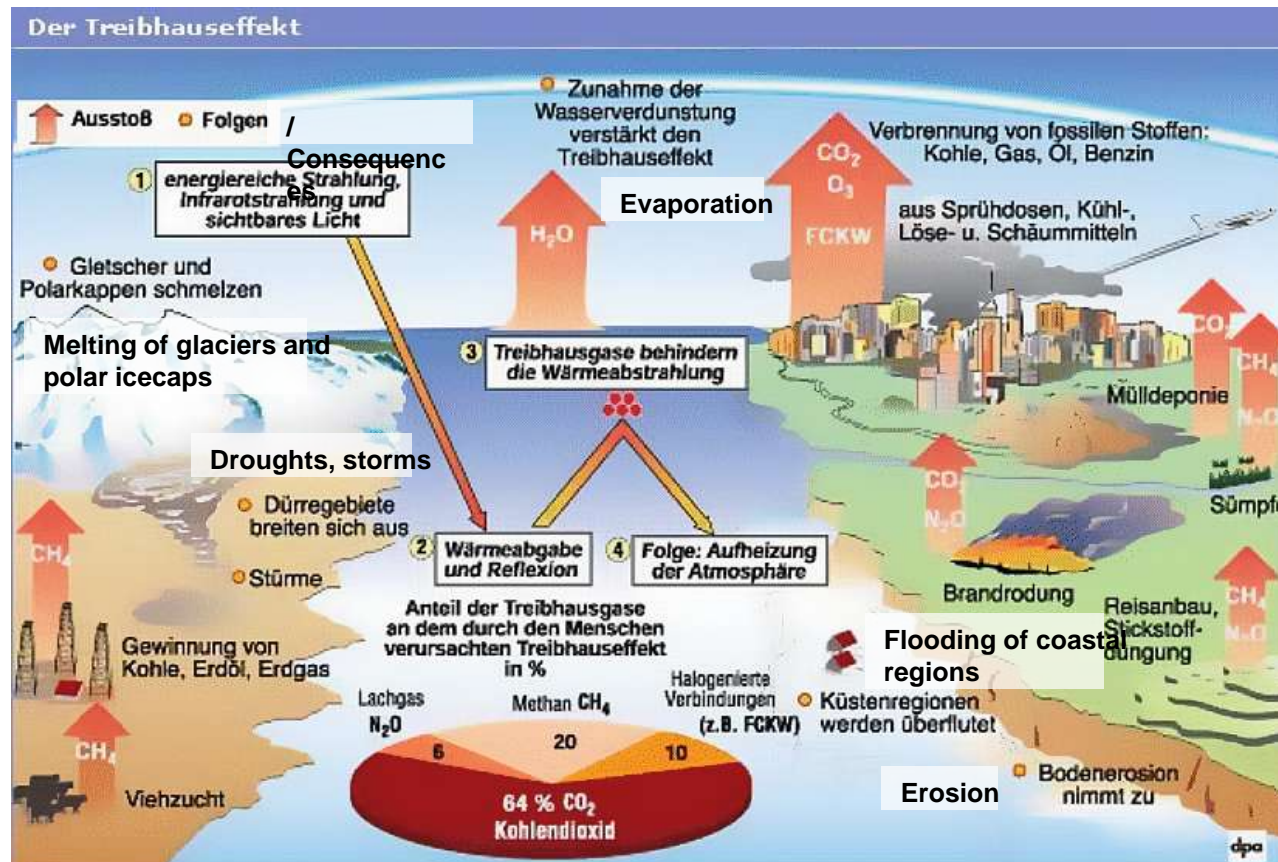


Source: UN, 2002

Introduction

Emissions, global warming and the need to act now

The greenhouse effect and climate destabilization



Deforestation alone is responsible for around ...

X% of global CO2 emissions

- 10%
- 20% of global CO2 emissions
- 50%

A single tree of average size absorbs CO₂ at a rate of ...

- 1.5kg
- 10kg
- 6kg

per year

Which of the following is **NOT** a predicted effect of climate change?

- An increase in the frequency and severity of extreme weather events such as droughts, floods, hurricanes and heatwaves
- Rising sea levels putting millions of coast dwellers at risk
- A reversal of the seasons

Introduction

Emissions, global warming and the need to act now

Flooding in Eastern Germany, 2002



Source: NASA, 2002

Heat wave in Spain, 2004



Source: NASA, 2004

Indicators of things to come?

Introduction

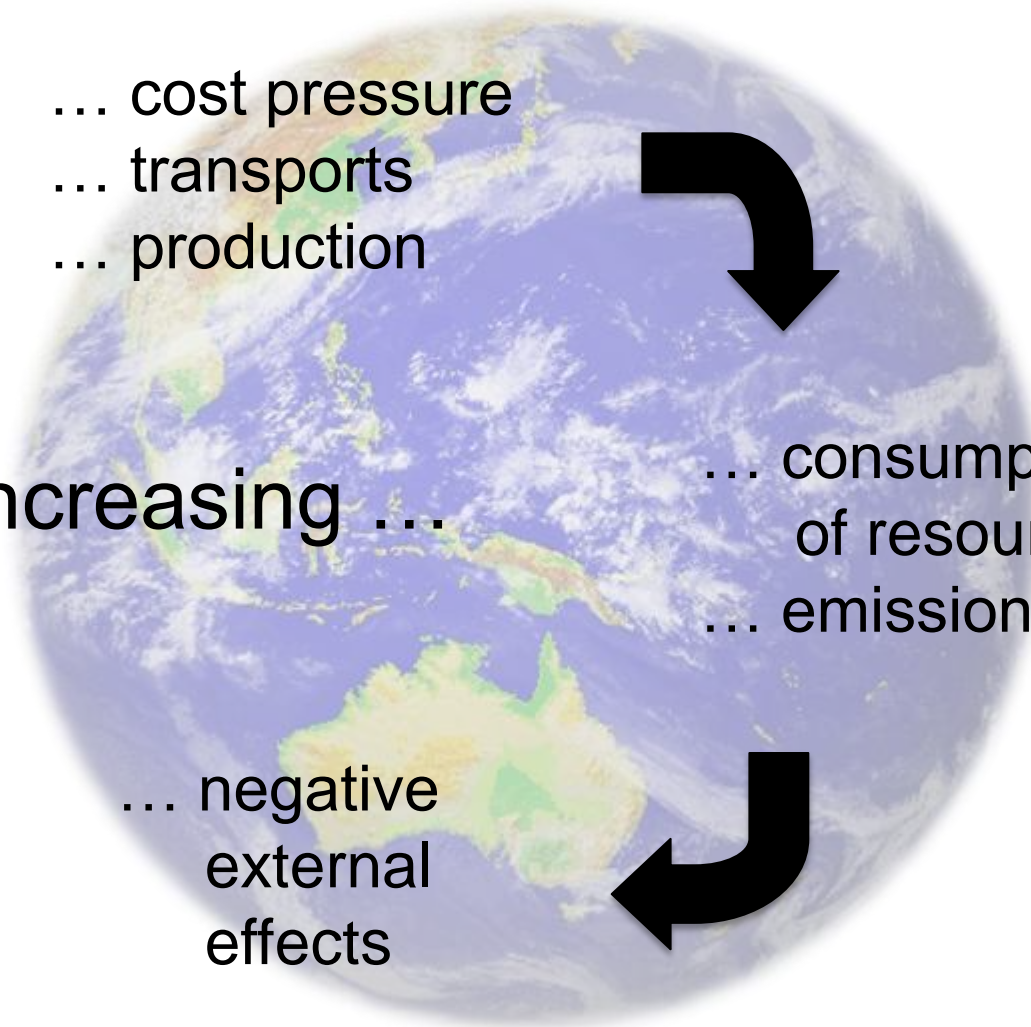
Globalization and its impact on the environment

... cost pressure
... transports
... production

Increasing ...

... consumption
of resources
... emissions

... negative
external
effects



Legal basis for an EEP

Environmental policy is **one of the most important and far-reaching areas** of EU legislation

legislation

The EU is the leading authority in this area with **up to 80% of UK legislation on environmental affairs estimated to come from the EU.**

European 2020 Strategy
integration of economic, social and environmental policies

2010

Renewal of environmental directives

2007

Lisbon Treaty

sustainable development a key objective

1997

Treaties of Amsterdam and Maastricht

sustainable development one of the EU's central objectives

1992

Single European Act

more prominent role for environmental protection in EU policy-making

1986

EAP

first of a series of European Environmental Action Plans

1972



Legal basis for an EEP

The institutions

Commission ⇒ DG Environment

- to protect, preserve and improve the environment for present and future generations
- makes sure that Member States correctly apply EU environmental law

Council of the European Union

European Parliament

European Council

European Court of Justice

- Interpretation & enforcement

European Environmental Agency

- Provision of Information

Interest Groups



DG Karl Falkenberg



Council



Parliament
(Strasbourg)

EU Policy Towards Climate Change Objectives and principles

Art. 174

Protecting, sustaining
and improving the
environment

Promotion of human
health

Intelligent use of
natural resources

Modern, all-embracing concept:

Sustainable
development

*"Meeting the needs of
the present
generation without
compromising the
ability of future
generations to meet
their needs."*

Brundtland Report, 1987

Under the Kyoto Protocol, what cuts in greenhouse gas emissions must the EU-15 countries (the 15 countries that made up the EU when the Protocol was agreed) make by 2012?

They have to cut emissions as a whole by X% compared to 1990 levels

- 8
- 5
- 15

How many industrialised countries are committed to meeting targets to cut greenhouse gas emissions as set by the Kyoto Protocol?

- 36
- 52
- 172

In March 2007, EU governments agreed to cut their greenhouse gas emissions by how much?

X% of 1990 levels by 2020

- 10%
- 20%
- 30%

EU Policy Towards Climate Change

Kyoto Protocol

1997 UN Conference on Climate Change in Kyoto, Japan. Under the terms of the Kyoto Protocol, industrialised countries must on average reduce their greenhouse gas emissions by 5% below 1990 levels. The reductions will be measured between 2008-2012

EU committed its members to reducing **greenhouse gas emissions by 8% by 2012**, compared to levels in 1990.

2008 **targets** set in the EU Climate Change package :

20% of energy to come from **renewable sources**

reduce greenhouse gas emissions **to 20% by 2020**.

The EU is responsible for what percentage of global greenhouse gas emissions?

- 20%
- 28%
- 14%

Countries in the EU are committed to cutting their greenhouse gas emissions by at least 20% below 1990 levels by 2020. They have agreed to increase this to 30% if ...

- other industrialised countries agree to make similar efforts
- the United States agree to do the same
- new Member States meet the agreed targets

EU Policy Towards Climate Change Principles

Environment-specific

- Principle of Precaution
- Source principle
- Polluter pays principle
- Integration principle

General

- Subsidiarity principle

Basis for

Action Program Policies

- Guidelines
- Regulations / Decisions

Instruments

Multiple means to the same end

Aim of all environmental instruments:

- Internalization of external costs

Criteria for evaluation

- Effectiveness
- Practicability
- Surveillance costs
- Efficiency
- Enforceability

Substantial instruments

Regulation of emissions

Products and Processes

Regulation of environmental quality (immissions)

Procedural Instruments

- Supplement to substantial instruments
- Participation-/information rights
- Incentives

Instruments

Classification by means of enforcement

Force:

Administrative regulations
Liability law



Incentives:

Dues, taxes, deposits



Information:

Voluntary commitment
Planning instruments



Under the EU's Emissions Trading System (ETS), governments in Member States ...

- set limits on how much CO₂ certain industrial plants can emit.
- force companies to bottle and sell their CO₂ Emissions
- use CO₂ Emissions for other purposes

Fact: The market-based system that has been introduced by the ETS helps industries covered by the scheme to lower the costs of cutting emissions.

Measures

European carbon emissions trading scheme (January 2005)

sets limits on the amount of carbon dioxide (CO₂) firms can produce in 6 key industries:

- Energy
- Steel
- Cement
- Glass
- brick-making
- paper/cardboard production

General idea

Emission reductions should be performed where they cost least

How it works:

- Concerned plants are identified
- Maximum allowance is set
- Tradeable emission certificates are created
- Initial distribution of certificates is performed
- Trading mechanisms are established

Market forces ensure efficiency

Measures REACH (June 2007)

Acronym

Registration, Evaluation and Authorisation of Chemicals



General idea

Ensuring that chemicals used in everyday products are safe for humans and the environment

How it works

- Extensive testing and information-gathering phase
- Request for authorisation based on this data
- Requirements are targeted on risk (volume, exposure)
- Commission: Costs counterbalanced by savings

European Initiatives

European Green Capital

Today four out of five Europeans live in towns and cities.

Urban areas concentrate most of the environmental challenges facing our society but also bring together commitment and innovation to resolve them.

The European Green Capital Award has been conceived to promote and reward these efforts.

The award is given to a city that:

Has a consistent record of achieving high environmental standards

Is committed to ongoing and ambitious goals for further environmental improvement and sustainable development

Can act as a role model to inspire other cities and promote best practices to all other European cities.

2010 Stockholm



2011 Hamburg



2012 Vitoria-Gasteiz



2013 Nantes



Review of selected successes and shortcomings

Recent progress

- Reduction of emissions from large combustion plants
- Gradual improvements in urban air quality
- Stricter controls on waste water
- Establishment of carbon emissions trading scheme (see case study)
- Transparency issues (Arhus convention)
- Health hazards are more sharply addressed

Shortcomings

- Raise contingent of renewable energy (up to 15 %)
- Biodiversity is at stake

Emission of greenhouse gases in comparison to Kyoto targets

Priority issues

Meeting the Kyoto goals and **limiting climate change**
Protecting **nature and biodiversity**

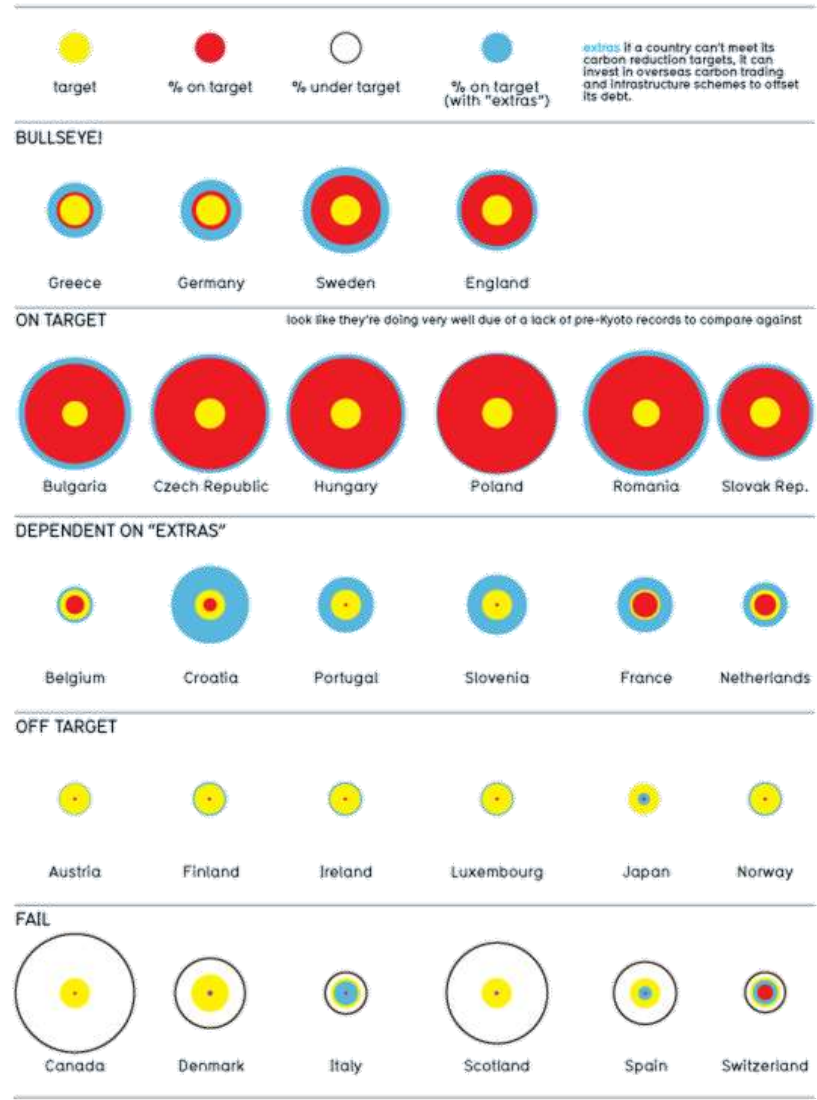
Sustainable management of **resources**
Health and environment
issues

Key measures to address these
issues

Resolving **implementations** issues
Greater focus on **market instruments**
Integration with other policy areas

Kyoto: Who's On Target?

projections for 2010



Despite Kyoto, the EU's CO2 emissions will increase by 1% by 2012 source: European Environment Agency

Current topic: nuclear energy



Countries currently using nuclear energy

some 150 reactors scattered across the continent in half as many nuclear power plants

Nuclear power plants currently produce around a third of the EU's electricity and around 15 percent of its total energy, but that statistic is dwindling as plants built in the 1960s and 1970s come to the end of their lives

Current topic: nuclear energy



Chernobyl disaster 1986 is classified as a **level 7** event on the International Nuclear Event Scale

The disaster sparked the **anti-nuclear power movement** in Germany and brought it to the attention of the **public**.

The **second** level 7 incident happened in **Fukushima Daiichi**, Japan



Estimates on **cancer deaths** as a result of Chernobyl **fallout** range from 30,000 to **1.4 Million**

Current topic: nuclear energy



Countries currently
using nuclear energy

What lies ahead?

Germany and Switzerland to **halt**
nuclear programs, while
Italy and Poland for the time being have
suspended plans to
sign on to nuclear
energy

Environment and Economics

Objectives and principles

“Influencing individual behaviour in order to minimize negative external effects on the environment.”

F. Stehling, *Umweltökonomik*, 2001

Ensure that **costs and benefits** of environmental measures are well **balanced**. Although it is difficult to estimate costs and benefits, there is an increasing demand that this is done **before environmental policy is decided on** a European level. With the use of market-based instruments, environmental goals can sometimes be reached **more efficiently** than with traditional command and control regulations.

Economic motivation

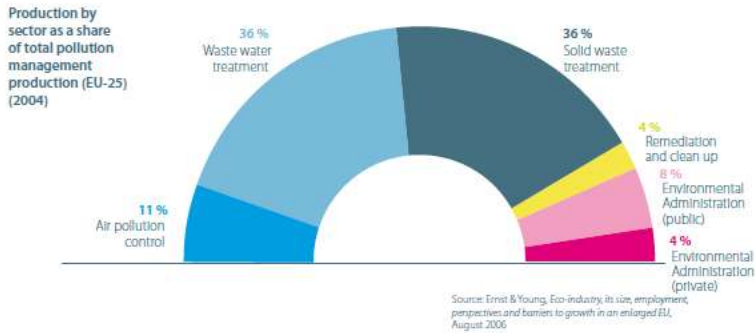
Functioning environment as a prerequisite for economic activities
(anthropocentric view)

⇒ EP not (only) an end in itself

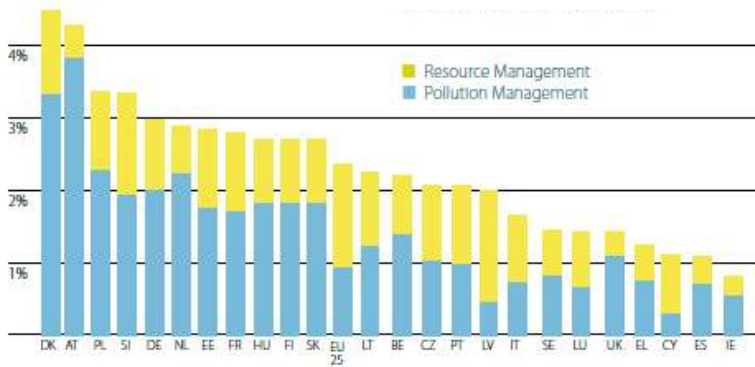
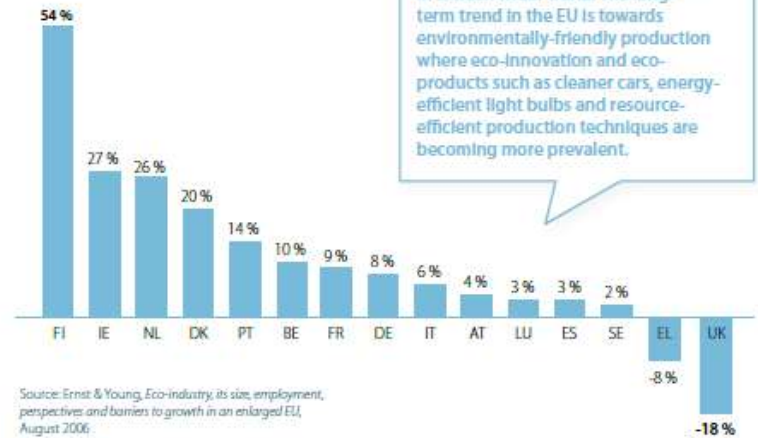
But: Conflicting short-term aims within society; perceived as being contradictory!

Facts and Figures

Size of the **eco** industries



Turnover growth by Member State (EU-15) (1999-2004), as a percentage



Renewable energy sources provide ...

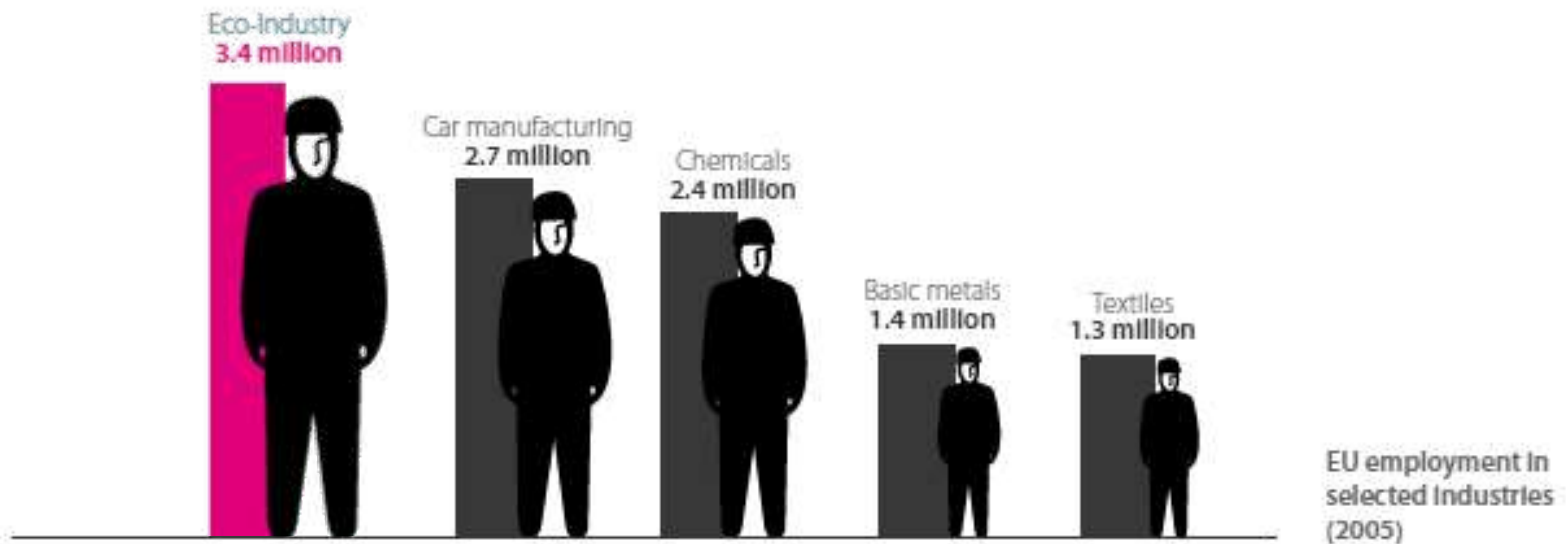
X% of the EU's total energy consumption

- 20%
- 6%
- 4%

Explanation: Renewable energy sources include wind, hydro, wood, biogas, and solar energy.

Facts and Figures

Employment



Source: Ernst & Young, *Eco-industry, its size, employment, perspectives and barriers to growth in an enlarged EU*, August 2006 for eco-industry; Eurostat, *EU Labour Force Survey* for other industries.

Approximately how much of the EU's total greenhouse gas emissions are emitted by transport?

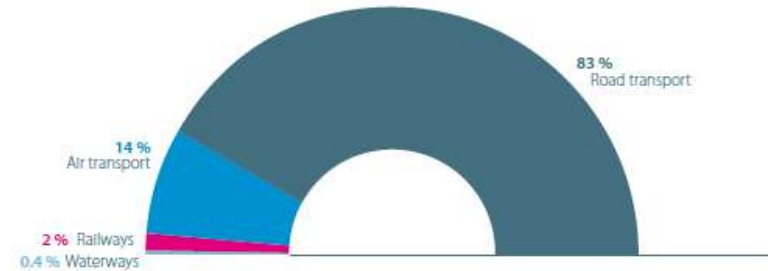
- a third
- a fifth
- half

Fact: About 90% of these emissions come from road transport.

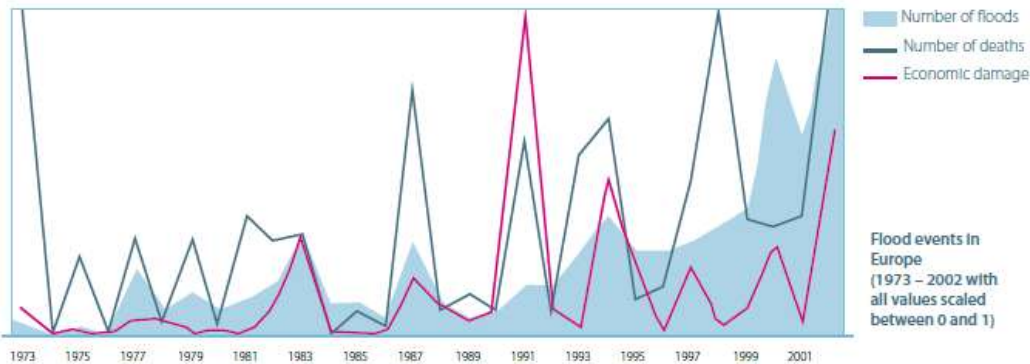
Facts and Figures

Costs of Pollution and Avoidance

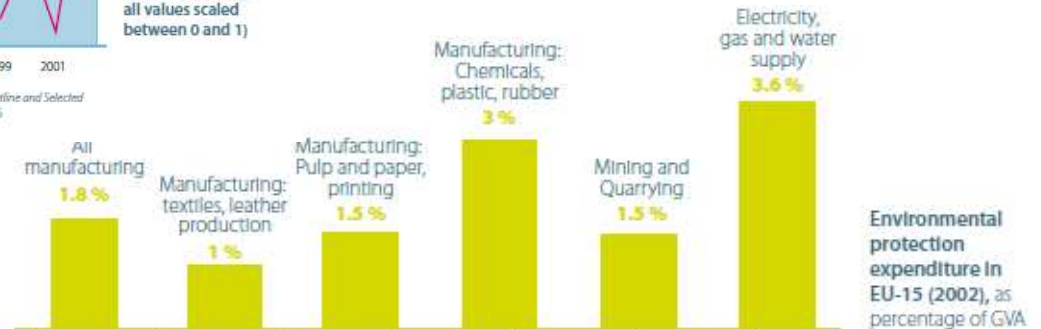
Environmental and accident costs of transport by source (2000), as a percentage of total costs



Source: IWW Universität Karlsruhe, INFRAS, External Costs of Transport Update Study, Final Report, Zurich/Karlsruhe, October 2004



Source: OECD, Cost of Inaction: Annotated Outline and Selected Draft Chapter, March 2007, ENV/EPOC(2007)6

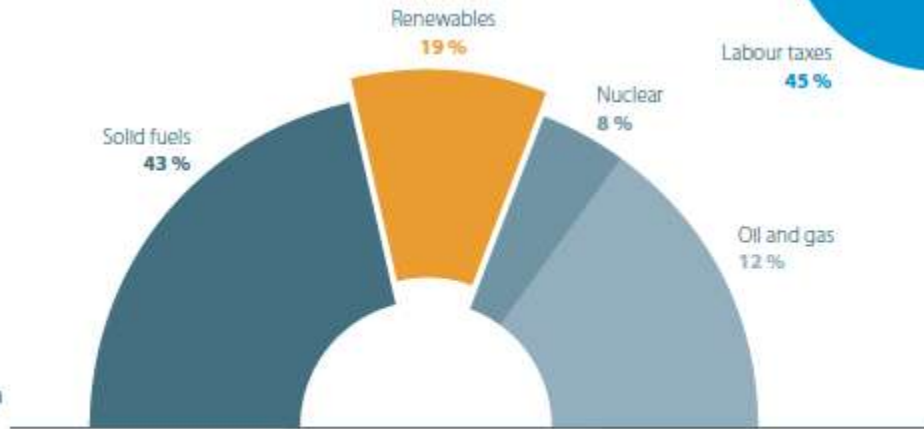


Source: Eurostat, New Cronos Database

Facts and Figures

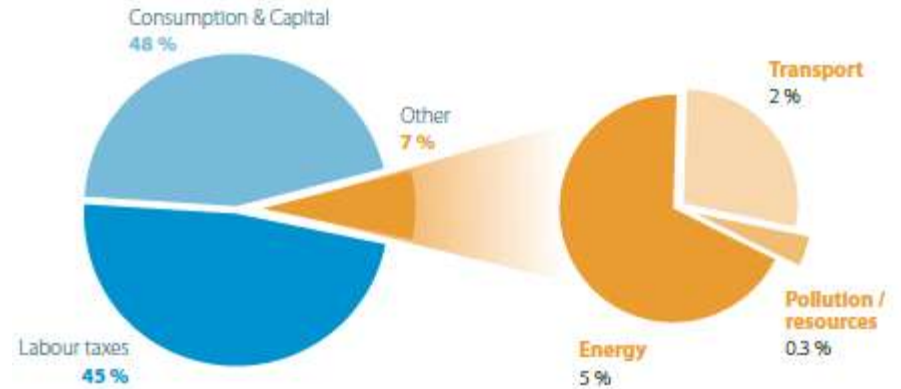
Environmental Policy and International Competitiveness

Indicative estimates of the distribution of energy subsidies in EU-15 (2001)



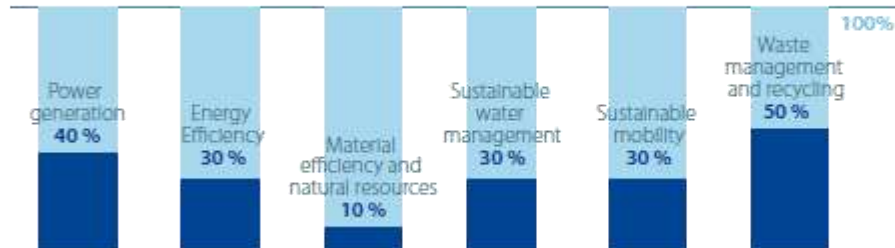
Source: EEA, Energy and Environment in the EU, 2006

Sources of tax revenue in EU-25 (2004)



Source: Eurostat, Structures of the taxation systems in the European Union, 2005

■ Others ■ European share



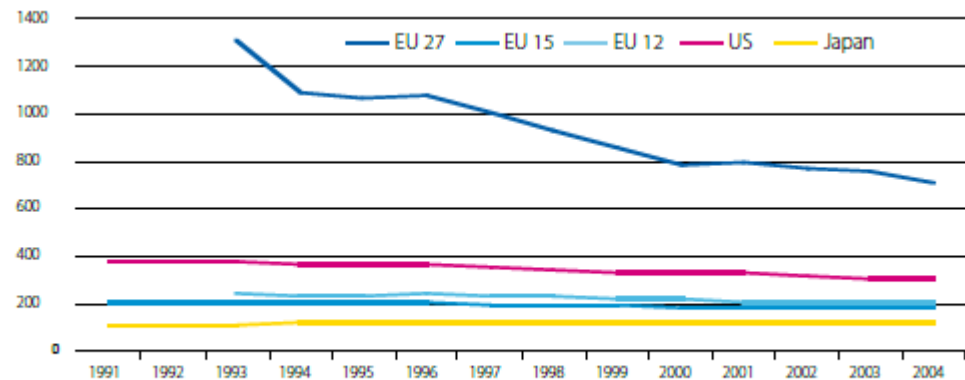
EU's market share in global eco-industries (2005), as a percentage of exports by Member States

Source: Roland Berger Strategy Consultants, 2006

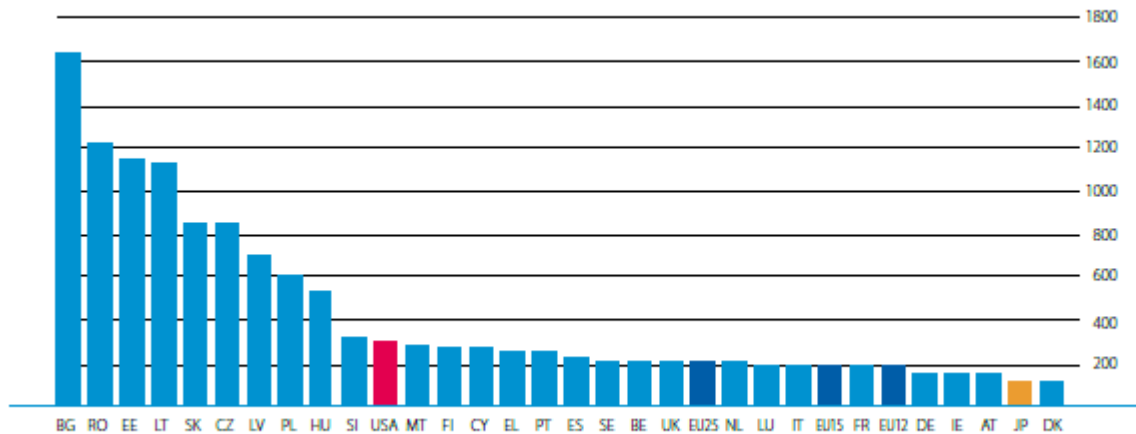
Facts and Figures

Energy Efficiency and Consumption

Energy Intensity
In the EU, US,
Japan, Gross Inland
consumption of
energy divided by
GDP, in kilogram of
oil equivalent per
1 000 euros



Source: Eurostat, New Cronos Database

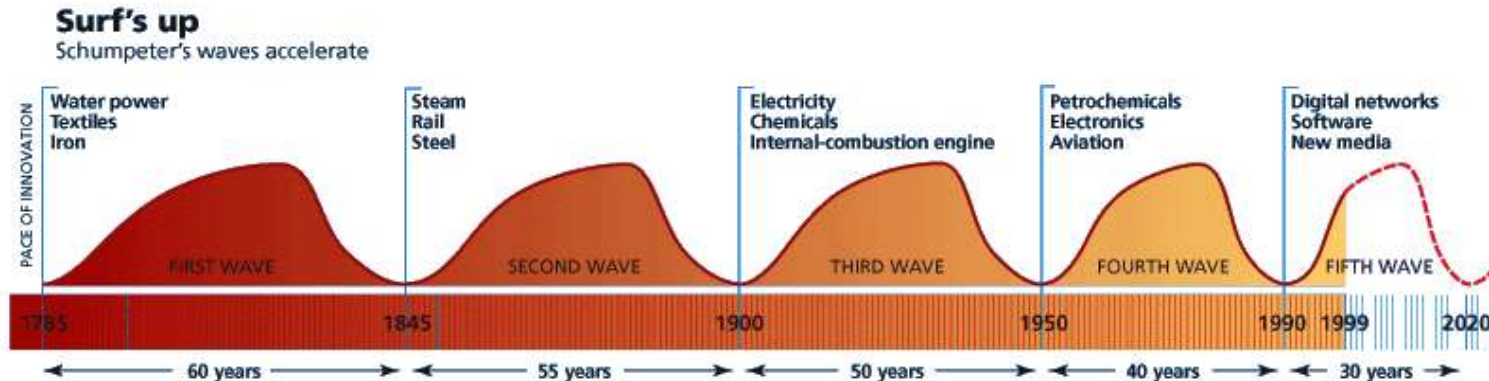


Source: Eurostat, New Cronos Database

Energy Intensity
(2004), Gross Inland
consumption of
energy divided by
GDP, in kilogram of
oil equivalent per
1 000 euros

The Future

Sustainable economic growth



Will the next Kondratieff cycle be based on sustainable technologies?

⇒ R&D is another vital aspect of environmental policy!

