EUCONAS

EUROPEAN UNION FOR THIRD-COUNTRY NATIONAL STUDENTS OF THE UAB

20-9-2019, Seminar 8

Environmental protection in the EU

Paola Rocchi, Joint Research Centre

Seminar's outline

I. Introduction: sustainable development
II. EU environmental policy: a short history
(break)
III. Today's environmental challenges: the 7th EPA
(break)
IV. Energy taxes and Emissions Trading System (activity)
V. Conclusion

I. Introduction: Sustainable development

Introduction: sustainable development

"Sustainable development"

- Theory:
  1. What does it mean? Definition
  2. What principles is it based on? (What? When? Where? Who?)
- Practice:
  3. How are we doing?

Introduction: sustainable development

1. Definition

Economic and social development that meets the needs of the present without compromising the ability of natural systems to provide the natural resources and ecosystem services for future generations

Introduction: sustainable development

2. Principles

1. Balancing: **environmental** and **social** concerns with **economic** development

Introduction: sustainable development

Definition

Economic and social development that meets the needs of the present without compromising the ability of natural systems to provide the natural resources and ecosystem services for future generations

Introduction: sustainable development

2. **Principles**

1. Balancing: **environmental** and **social** concerns with **economic** development
2. Inter-generational equity: safeguard against adverse **future** impacts
3. Intra-generational equity: fairness of the **distribution** in access/use/benefits of economic/environmental **resources** and **risks**

Introduction: sustainable development

2. **Principles**

4. **Good governance**

- **Horizontal integration** of sectorial policies
- **Vertical integration**: cooperation between different tiers of governance and different stakeholders
- **Reflexivity**: considering different types of knowledge thorough the policy making process

Introduction: sustainable development

3. **How are we doing?**

The Anthropocene: pervasive, profound and permanent impact of humans on the environment: "we are making our own epoch"

How long will human impacts last?

II. EU environmental policy: a short history

EU environmental policy: a short history

International setting

Year	Event
1972	UN Stockholm conference on the environment
1992	UN Conference on Environment and Development (Rio Conference, Earth Summit): UN Framework Convention on Climate Change
1997	Kyoto Protocol: legally binding obligations for GHG emissions reduction (2008-2012)
2009	Copenhagen negotiations: failed attempt to set more ambitious targets
2010	Cancun Conference: limit global warming to max 2°C relative to pre-industrial level
2012	Doha Conference: failed amendment to the Kyoto protocol (2013-2020)
2015	Paris conference: global warming target lowered to 1.5°C; requires all parties to set their Intended Nationally Determined Contributions (INDCs)

EU environmental policy: a short history

"Environmental Action Programme" (EPA)

7 medium-term strategic policy documents on contemporary environmental thinking and strategic policy orientation

- Not binding
- Defining principles and policy actions


28.12.2013 EN Official Journal of the European Union L 354/171

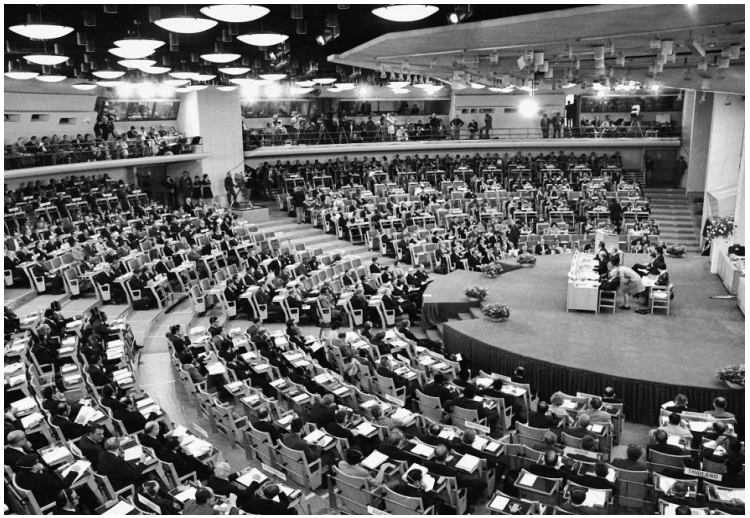
DECISIONS

DECISION No 1386/2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 20 November 2013
on a General Union Environment Action Programme to 2020 'Living well, within the limits of our planet'
(Text with EEA relevance)

EU environmental policy: a short history

EPA 1: 1973-1977

- Framework
  - Signed after the UN Conference on the Environment in Stockholm (1972)
  - EU active initiating an original Community policy



EU environmental policy: a short history

EPA 1: 1973-1977

- Principles/objectives
  - Many ideas of sustainable development
    - Mutual interdependence of economic development, prosperity and environmental protection
  - Main objectives:
    - Prevention/reduction of environmental damages
    - Conservation of ecological equilibrium
    - Rational use of natural resources

EU environmental policy: a short history

EPA 1: 1973-1977

- Actions: first steps more "down-to-earth"
  - Research activities on:
    - Problems related to pollution
    - Criteria for environmental objectives
  - Definition of product and environmental quality norms
    - Based on the protection of single environmental media (water, air, soil…)
    - Focused on specific fields (waste, agriculture, spatial planning..)

EU environmental policy: a short history

EPA 2: 1978-1981

- Follow-up of the first one
- Economic recession ('75-'78): declined of initial enthusiasm
- A number of framework directives were decided (water, waste)

EU environmental policy: a short history

EPA 3: 1982-1986

- Framework
  - '81-'83: economic crisis
  - Strong German pressures
    - The government decided ambitious clean-air policies (emissions reductions for large combustion plants)
    - Industries and government lobbied for a harmonized EU emissions control policy

EU environmental policy: a short history

EPA 3: 1982-1986

- Principles/objectives
  - Explicit reference to sustainable development
  - Shifted approach from quality of media to limit damages of emissions
  - Much more related to the completion of internal market
    - Avoid risks for competitiveness (harmonization of emissions standards and product regulation)

EU environmental policy: a short history

EPA 3: 1982-1986

- Actions
  - Focused on:
    - Efficient resource use
    - Clean-air policies ("end-of-pipe" technologies)
    - Waste avoidance

EU environmental policy: a short history

EPA 4: 1987-1992

- Framework: 3 external factors
  1. End of '80s: debate on climate change as global threat
     - Reached the official agenda ("end-of-pipe" technologies perceived as not enough)
     - New wave of environmentalism: urging for dramatic policy changes (structural changes in production/consumption patterns, different sectors involved…)

EU environmental policy: a short history

EPA 4: 1987-1992

- Framework: 3 external factors
  2. Preparation of the UNCED conference (1992)
     - Global leadership in the debate on climate change as an important incentive for strengthening European integration and the Commission's role in international politics

EU environmental policy: a short history

EPA 4: 1987-1992

- Framework: 3 external factors
  3. Neo-liberal wave and wider support for economic instruments rather than command-and-control policies
     - Market instrument, deregulation, self-regulation

EU environmental policy: a short history

EPA 4: 1987-1992

- Principles/objectives
  - Pragmatic change to a sustainability frame
    - Far from the shortcoming of the earlier ones (quality policy and emissions orientation)
    - Sustainable development as a tool for improving environment, social efficiency and competitiveness simultaneously

EU environmental policy: a short history

EPA 4: 1987-1992

- Actions
  - Focus on:
    - Integrated approach (i.e. reducing material inputs to minimize waste stream)
    - Sector analysis
    - Evaluation of new incentive-based instruments (taxes, subsidies, tradable emissions permits)

EU environmental policy: a short history

EPA 5: 1993-2002

- Framework
  - Split between different levels of governance (EU vs Member States)
    - Resistance from governments and interest groups that should bear the cost
    - Symptom of the limits of the EU integration on environmental policies
  - Germany focused on economic issues arising from reunification (i.e. unemployment)

EU environmental policy: a short history

EPA 5: 1993-2002

- Principles/objectives
  - Integration as priority objective
  - Set all necessary elements for an ecological structural change
    - Sustainable development
    - Sectorial approach
    - New market-based instruments
    - Consensus-oriented approach (NGOs and local governments)

EU environmental policy: a short history

EPA 5: 1993-2002

- Actions
  - Considerable resistance of Member States
    - Demand to re-nationalize environmental policies
    - Failure of the energy/CO2 tax (pilot project for the new approach)

EU environmental policy: a short history

EPA 5: 1993-2002

- Actions
  - New regulatory approach: procedural requirements, framework directives, voluntary agreements
  - 1997-2002: huge revival of environmental legislation
    - New holistic framework legislations
    - New target-oriented legislations
    - Revision of existing programmes
  - No strong bottom-up response

EU environmental policy: a short history

EPA 6: 2002-2012

- Framework
  - Concerns on
    - New Member States
    - Economic crisis
  - Changes in the political majorities in the EU
    - New wage of deregulation

EU environmental policy: a short history

EPA 6: 2002-2012

- Principles/objectives
  - The persistent environmental problems require a broader approach beyond environmental legislation (first EPA adopted through a co-decision process)
  - More cautious approach identifying key issues and policy areas (climate change, nature and biodiversity, environment and health, natural resources and waste)

EU environmental policy: a short history

EPA 6: 2002-2012

- Actions
  - Changing role of the Commission from initiator of legislation to manager of policy process
  - Cooperative approach with industries, voluntary agreements, cooperation with member states experts
    - Very demanding in terms of resources
    - Risk of political rhetoric (vs real actions)

III. The 7th EPA :
Today's environmental challenges
What/how is the EU doing?

Today's environmental challenges

EPA 7: 2013-2020

- Framework: current EU growth strategy 2020 (2010)
  1. **Employment**: 75% of the 20-64 year-olds to be employed
  2. **R&D**: 3% of the EU's GDP
  3. **Climate change and energy sustainability**
     - 20% decrease in GHG compared to 1990 level
     - 20% of energy renewables
     - 20% increase in energy efficiency
  4. **Education**: Rate of early school leaving below 10%, 40% of 30-34 year-olds completing third level
  5. **Poverty reduction**: 20 million less people in poverty

Today's environmental challenges

EPA 7: 2013-2020

- Framework:
  - Coherent with the most recent initiatives of the EU
    - *Environmental acquis*: legislation, legal acts, and court decisions which constitute the body of EU law
    - Most comprehensive modern set of environmental laws (around 500)

Today's environmental challenges

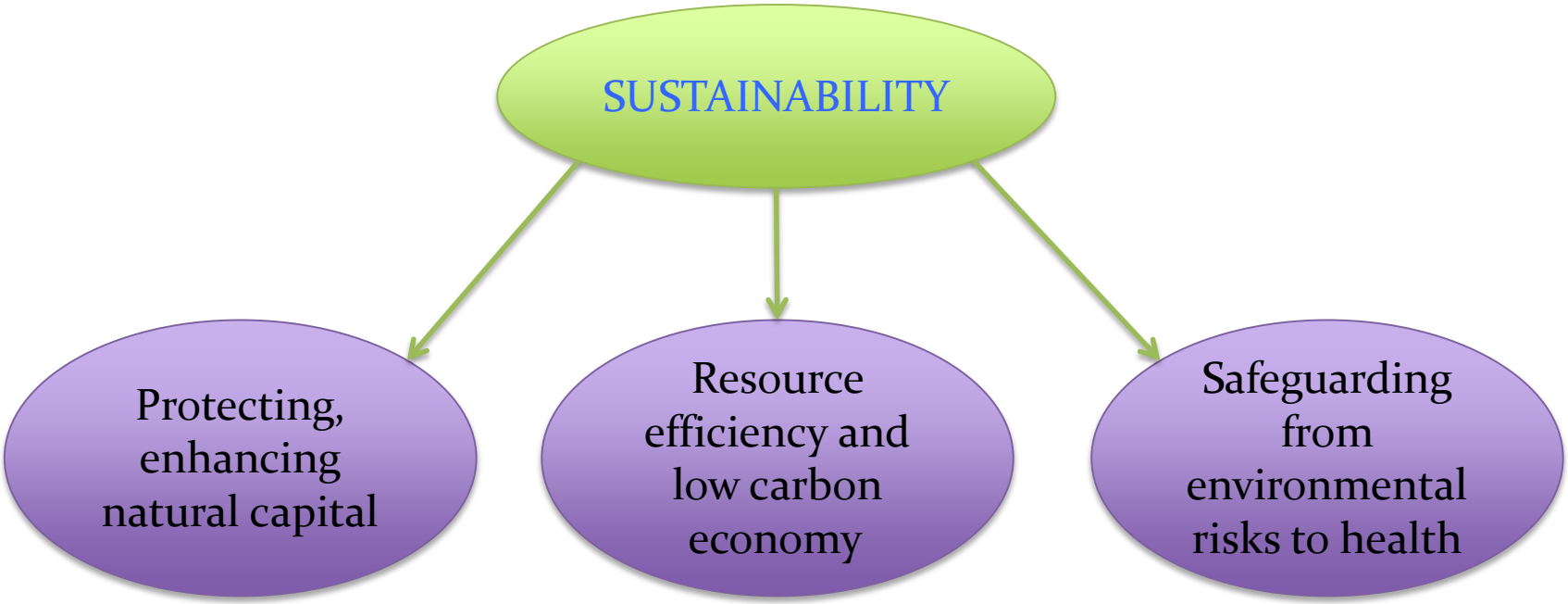
EPA 7: 2013-2020

- The environmental issues are inseparable from the broader economic and societal context (vision of sustainability)

In 2050, we live well, within the planet's ecological limits. Our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is protected, valued and restored in ways that enhance our society's resilience. Our low-carbon growth has long been decoupled from resource use, setting the pace for a safe and sustainable global society.

Today's environmental challenges

EPA 7: 2013-2020



Today's environmental challenges

Nature of environmental pressures

- Some are local
- Most part are
  - Systemic
    - Linked to production/consumption patterns
    - Depends on megatrends (demographic, economic growth, trade, technological progress)

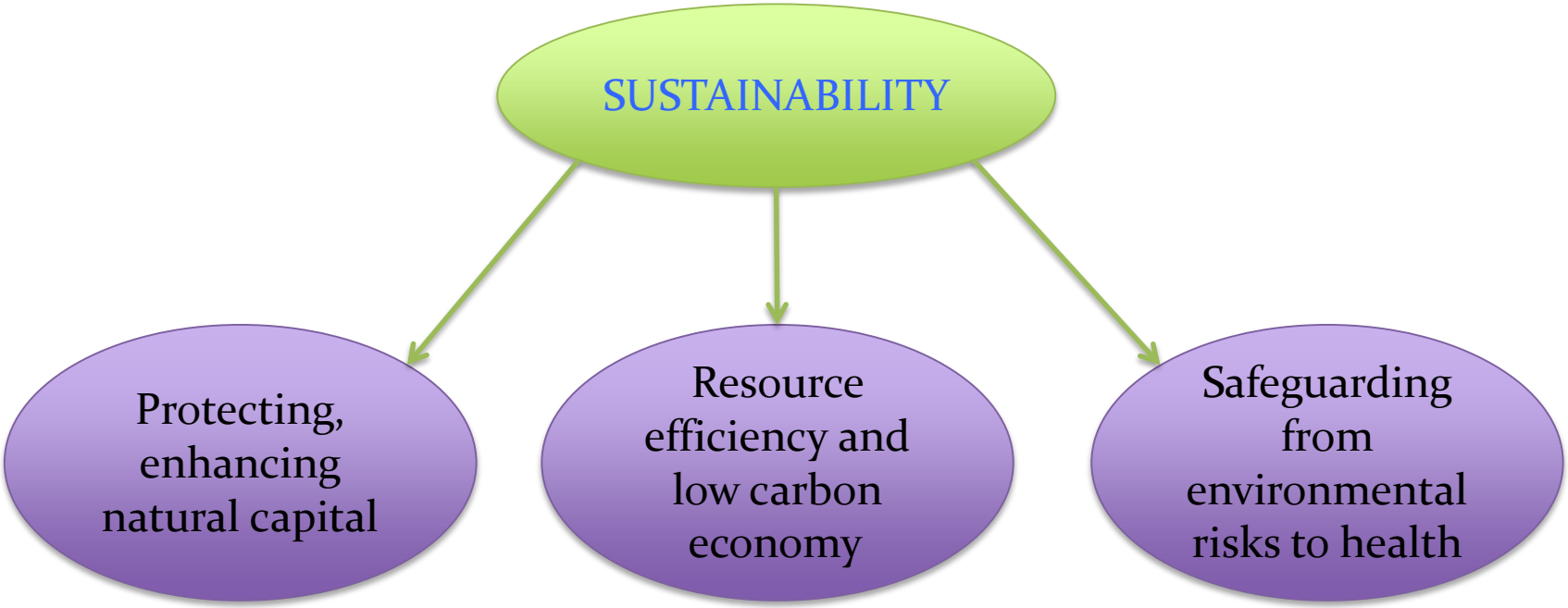
	1900	1950	2015	2030	2050
Global population		3 billion	7 billion		9 billion
Material use	→		Twice	→	Twice
Energy/water demand			→	+30/40%	
Food/fibre demand			→		+60%

Today's environmental challenges

Nature of environmental pressures

- Some are local
- Most part are
  - Global: production vs consumption perspective (56% of land footprint of EU consumption is abroad)
  - Complex: multiple causes, drivers and impacts that require integration of multiple instruments and levels of governance

Today's environmental challenges



Today's environmental challenges

Protecting, enhancing natural capital

Environmental issues under this priority:

1. Biodiversity and marine
2. Land and soil
3. Water
4. Air

Today's environmental challenges

Protecting, enhancing natural **capital**

Environmental issues under this priority:

1. Biodiversity and marine
2. Land and soil
3. Water
4. Air

Today's environmental challenges

1. **Biodiversity and marine**
   - Variety of life necessary for the ecosystem resilience (capacity to adapt or tolerate disturbs without collapsing into a qualitative different status) necessary for the social resilience
   - EU target:
     - halting overall biodiversity loss
     - achieving 'good environmental status' by 2020

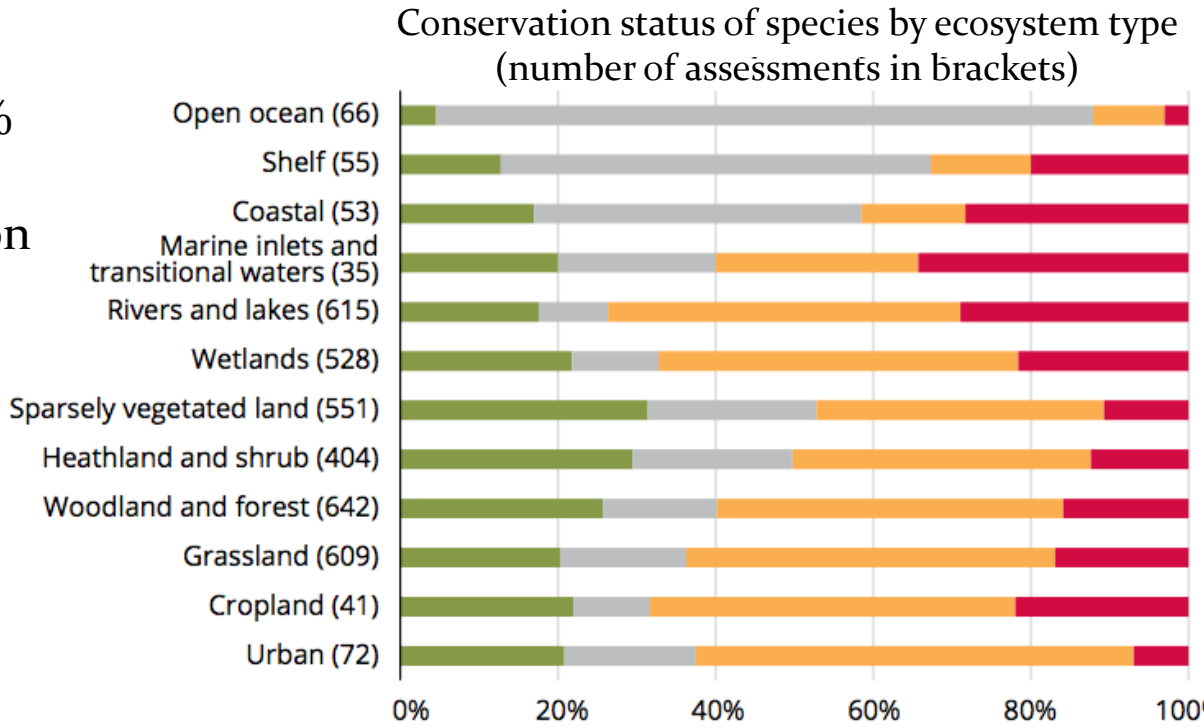
Topic	Overarching strategies	Related Directives
Biodiversity	Biodiversity Strategy to 2020	Birds Directive Habitats Directive Invasive Alien Species Regulation
Maritime	Integrated Maritime Policy including the Common Fisheries Policy and Blue Growth Strategy	**Marine Strategy Framework Directive** Maritime Spatial Planning Directive

Today's environmental challenges

1. Biodiversity and marine

- Much is still unknown
- The available information on EU gives raise to concerns

Only 23% of plants/animals and 16% of habitats are in "favourable conservation status"



EUCONAS

Today's environmental challenges

2. Land use

- Three trends in the land-use change
  - Urbanization
  - Land abandonment
  - Intensification of agricultural production
- Leading to
  - *Land take*: Decline in the area of natural and semi-natural habitats for commercial/industrial/mining/construction sites
  - More fragmented natural areas

Topic	Overarching strategies	Related Directives
Land-soil	Thematic Strategy on Soil Roadmap to a Resource Efficient Europe	

Today's environmental challenges

1. **Biodiversity and marine**
   - The growth of maritime activities (transport, offshore renewables, tourisms, extraction of resources) is taking place without a complete understanding of their effects

	5–10 year trends	20+ years outlook	Progress to policy targets
Protecting, conserving and enhancing natural capital			
Terrestrial and freshwater biodiversity			☐
Marine and coastal biodiversity			☒

"The European environment state and outlook 2015 " (EEA 2015), assessment of environmental trends

Today's environmental challenges

2. Land use

– EU target: no net land take by 2050 (but non binding)

	5–10 year trends	20+ years outlook	Progress to policy targets
Protecting, conserving and enhancing natural capital			
Terrestrial and freshwater biodiversity			☐
Marine and coastal biodiversity			☒
Land use and soil functions			No target

Today's environmental challenges

Protecting, enhancing natural **capital**

Environmental issues under this priority:

1. Biodiversity and marine
2. Land and soil
3. Water
4. Air

Today's environmental challenges

3. Water

- Man aim of the EU water policy is to ensure a sufficient quantity of good quality water available
- 100% of surface water bodies in good status in 2015

Topic	Overarching strategies	Related Directives
Water	Blueprint to Safeguard Europe's Water Resources	**Water Framework Directive** Flood Risk Directive Urban Waste Water Treatment Directive Priority Substances Directive Drinking Water Directive Groundwater Directive Nitrates Directive

Today's environmental challenges

4. Air

- Air pollution harms human and ecosystem health
  - It contributes to
    - eutrophication
    - atmospheric ozone
    - acidification of water and soil
  - It impacts agricultural production and forests

Topic	Overarching strategies	Related Directives
Air	Thematic Strategy on air pollution Clean Air Policy Package	Ambient Air Quality Directive National Emission Ceilings Directive

Today's environmental challenges

3. Water

- Although nutrient levels in freshwater are decreasing and water is much cleaner than 25 years ago, they are still high in some countries
- In 2015 around 50% of surface water bodies were in good status

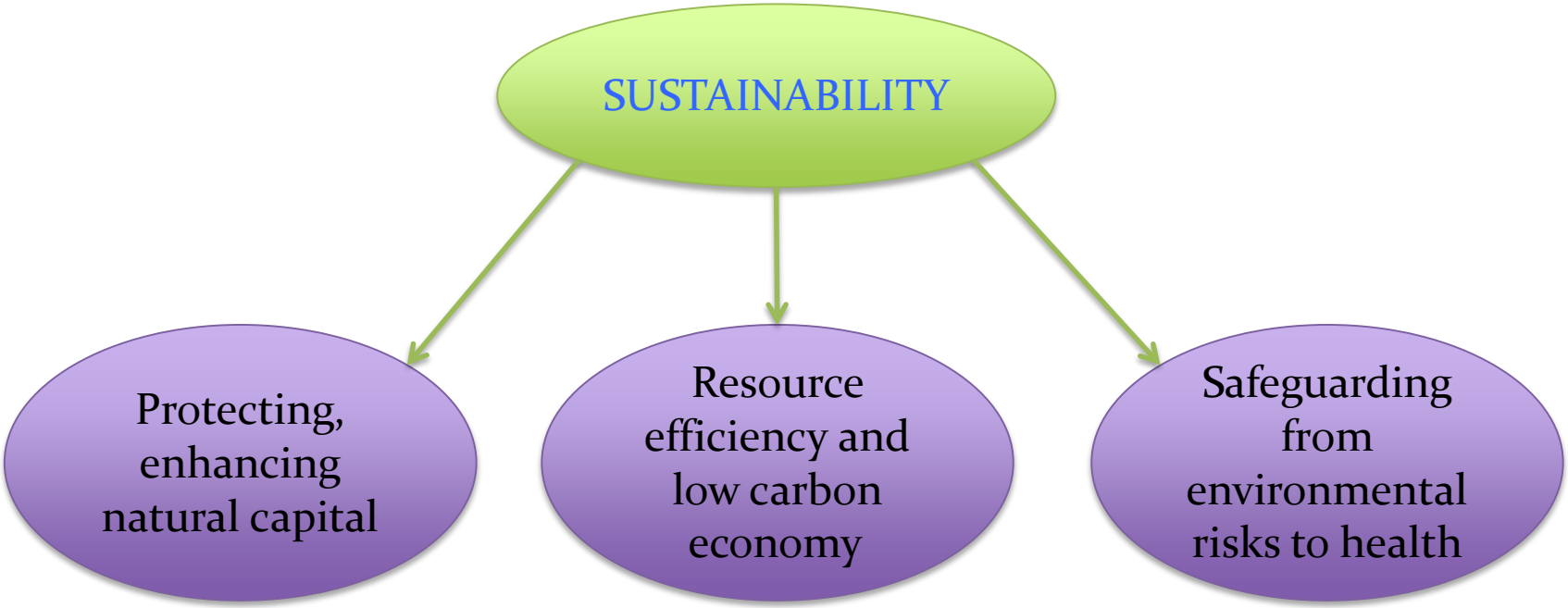
	5–10 year trends	20+ years outlook	Progress to policy targets
Protecting, conserving and enhancing natural capital			
Terrestrial and freshwater biodiversity			☐
Land use and soil functions			No target
Marine and coastal biodiversity			☒
Ecological status of freshwater bodies			☒
Water quality and nutrient loading			☐

Today's environmental challenges

5. **Air**
   - Clean Air Policy Package (2013): measures and targets expected to deliver some benefits

	5–10 year trends	20+ years outlook	Progress to policy targets
Protecting, conserving and enhancing natural capital			
Terrestrial and freshwater biodiversity			☐
Land use and soil functions			No target
Marine and coastal biodiversity			☒
Ecological status of freshwater bodies			☒
Water quality and nutrient loading			☐
Air pollution and its ecosystem impacts			☐

Today's environmental challenges



Today's environmental challenges

SUSTAINABILITY

Resource efficiency and low carbon economy

Resource efficiency
Less material per unit produced

Low carbon economy
Less emissions per unit produced

Inputs

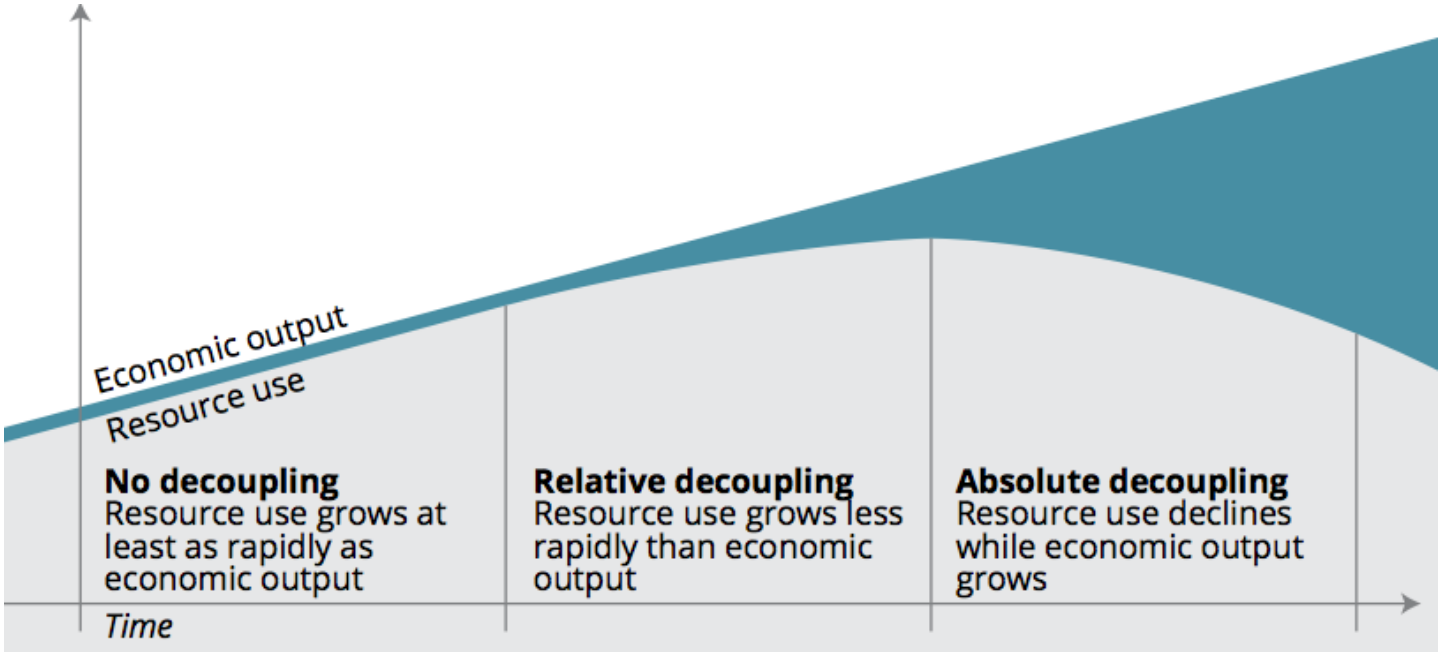
Outputs

DECOUPLING

Today's environmental challenges

Decoupling (D)

- Relative D: production increases more than resource use
- Absolute D: production increases while resource use decreases



Today's environmental challenges

Resource efficiency and low carbon economy

Three main indicators for decoupling:

1. Material efficiency and use
2. Waste management
3. GHG and climate change

Today's environmental challenges

Resource efficiency and low carbon economy

Three main indicators for decoupling:

1. Material efficiency and use
2. Waste management
3. GHG and climate change

Today's environmental challenges

1. Material efficiency and use

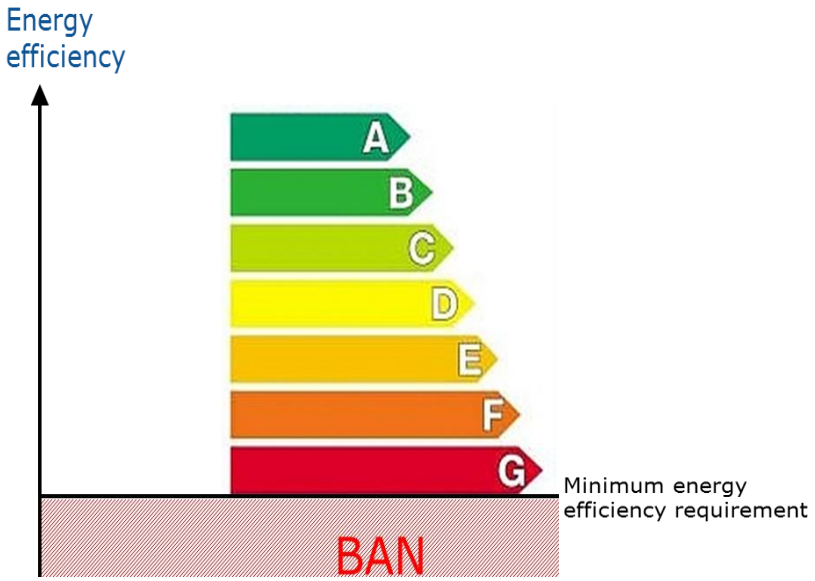
- Resource efficiency:
  - Resource productivity: economic output (GDP)/ material use
  - Resource intensity: resources needed for the production of a unit of good or service (material use/GDP)

Topic	Overarching strategies	Related Directives
Material use	Resource-efficient Europe flagship initiative under the Europe 2020 Strategy Roadmap to a Resource Efficient Europe	Ecodesign Framework Directive Energy Labelling Framework Regulation

Today's environmental challenges

1. Material efficiency and use

- Directives on energy efficiency
  - Two requirements:
    - Minimum energy efficiency requirements
    - Eco-labels for consumers to identify
  - Ongoing revision (technological progresses)



Today's environmental challenges

1. Material efficiency and use

EUROPEAN
COMMISSION

Brussels, XXX
[…](2018) XXX draft

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Commission Regulation implementing Directive 2009/125/EC of the EuropeanParliament and of the Council with regard to ecodesign requirements for household dishwashers

[…]Commission Delegated Regulation supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of household dishwashers

EUROPEAN
COMMISSION

Brussels, XXX
[…](2018) XXX draft

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Commission Regulation implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household washing machines and washer dryers

Commission Delegated Regulation supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of household washing machines and washer dryers

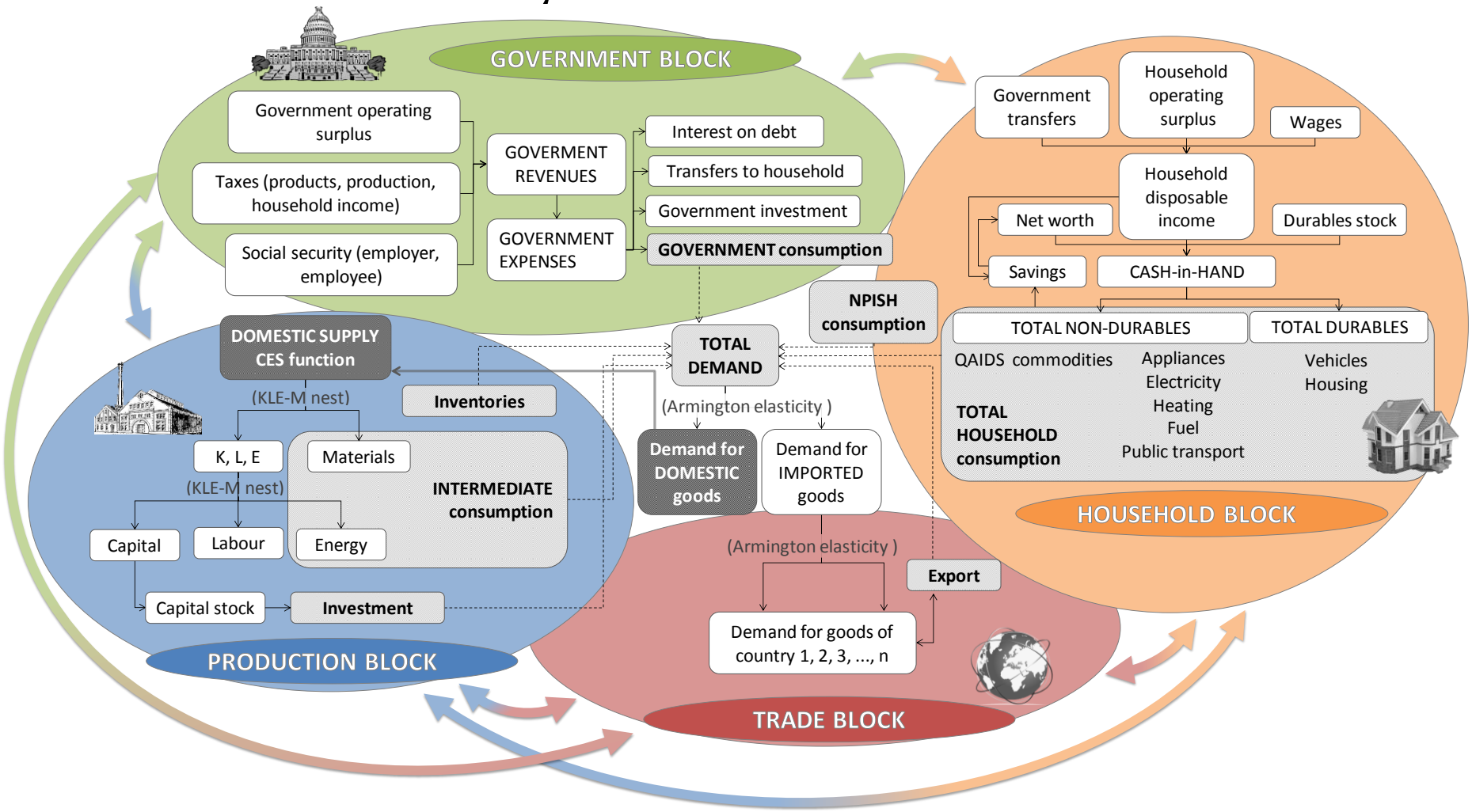
Today's environmental challenges

1. Material efficiency and use

- Assessment content:
  - Why the revision is necessary?
    - Technological progress
    - Consumers do not use the most efficient programmes
    - Poor circular economy performances
  - What possible policy options?
  - What would be the impacts of the reform
    - Environmental: energy, water, emissions
    - Economic: producers, consumers, society (macroeconomic effect on GDP and employment)

Today's environmental challenges

1. Material efficiency and use



Today's environmental challenges

1. **Material efficiency and use**

- What happens to the assessment?
  - Revisions
    - Different DGs
    - WTO
    - Regulatory Committee (national experts)
  - If approved, supporting document of the Commission proposal
  - The Parliament vote the proposal

Today's environmental challenges

2. Waste management

- Circular economy: waste prevention, reuse, recycling in all lifecycle (design, choice of material..)

Topic	Overarching strategies	Related Directives
Waste management	Thematic Strategy on the prevention and recycling of waste Circular Economy package	Waste Framework Directive Landfill Directive Waste Incineration Directive

Today's environmental challenges

2. Waste management

– Mixed performances:

- Largely positive trends for waste generation and management
- High proportion of recycling for specific materials (steel: 56%)
- Very high difference across countries
- Overcapacity of incineration plants (to phase out landfilling of recyclable waste)

	5–10 year trends	20+ years outlook	Progress to policy targets
Resource efficiency and the low-carbon economy			
Material resource efficiency and material use			No target
Waste management			□

Today's environmental challenges

Resource efficiency and low carbon economy

Three main indicators for decoupling:

1. Material efficiency and use
2. Waste management
3. GHG and climate change


....

....

Today's environmental challenges

3. **GHG emissions cut**
   - To reach the international community goals on the increasing global temperatures (1.5°C), different GHG cut targets (compared to 1990):
     - 20% in 2020
     - 40% in 2030
     - 85-90% in 2050

Topic	Overarching strategies	Related Directives
Climate	EU Strategy on adaption to climate change 2020 Climate and energy package	Renewable Energy Directive Biomass Directive Energy

Today's environmental challenges

3. **GHG emissions cut**
   - Significant progress in decoupling growth and emissions
     - 6% population growth
     - 45% GDP growth
     - 19% emissions reduction (close to 2020 targets)
   - Different drivers
     - Climate and energy policies
     - Economic restructuring in eastern countries ('90s): changing agricultural practices, closing heavily polluting plants..
     - Financial and economic crisis

Today's environmental challenges

3. GHG emissions cut

- Very far away from 2030/2050 targets
  - Actual measures: -21% by 2030
  - Planned measures: -28%
  - Fully implemented Climate and Energy Package : -32%
- EU demand is driving emissions abroad

	5–10 year trends	20+ years outlook	Progress to policy targets
Resource efficiency and the low-carbon economy			
Material resource efficiency and material use			No target
Waste management			☐
Greenhouse gas emissions and climate change mitigation			☑/☒

Today's environmental challenges

4 main conclusions

1. Mixed progresses towards 2020, far from 2050 targets
   - Environmental system
     - Quality of air and water improved, but concerns for soil functions, land/maritime degradation and biodiversity
   - Economic system
     - Good short term trends (19% decrease in GHG, decrease in total use of resource, less waste generated..)
     - Important role of crisis
     - Policies insufficient for 2050 targets

Today's environmental challenges

4 main conclusions

2. Three gaps in the EU policy process for environmental protection
   - Knowledge
     - More knowledge on relation between ecosystem resilience and human resilience
   - Policy
     - Timeframe (many targets for 2015/2020, few for 2050 or more)
     - Degree of integration (policy measures still compartmentalized)
   - Implementation
     - Between policy intention and results delivered

Today's environmental challenges

4 main conclusions

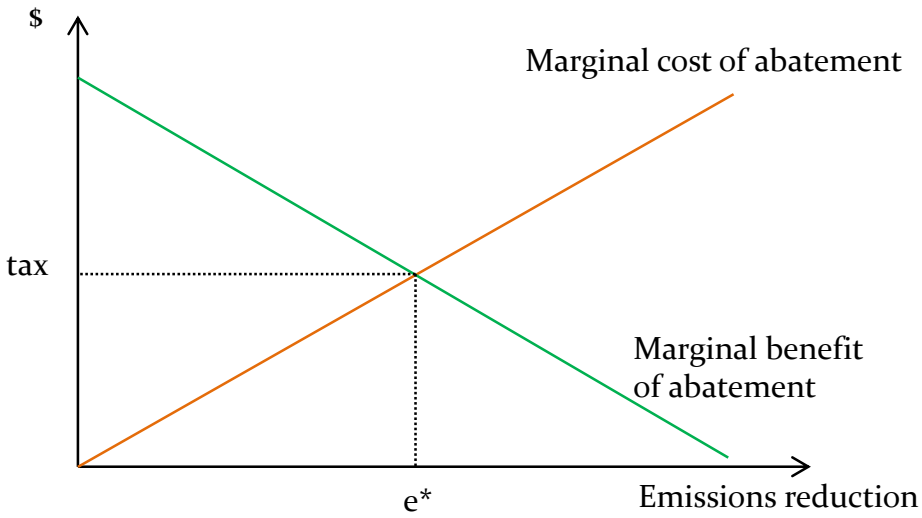
3. Challenges from globalized production/consumption
   - The EU policy framework is mostly targeted on the production and end-of-life stages
4. Investment essential for long-term transition
   - Water, energy, transport: costly and long-lasting infrastructures
   - Need to avoid investments that lock in existing technologies

IV. Energy tax and emissions trading: activity

Energy tax and emissions trading

Introduction

- Two main market instruments to reduce emissions
  1. Carbon (energy) taxes
  2. Carbon emissions trading
- EU has both
  1. Energy Tax Directive (ETD)
  2. Emissions Trading System (ETS)



Energy tax and emissions trading

Introduction

- Energy taxes:
  - Past: used to raise revenue and reduce imports
  - '80s: instrument for emissions control

Year	
1992	First EC proposal for environmental concerns (CO_2 content) Approved taxation on mineral oils and natural gas and harmonized minimum tax
1995	Failed attempt to introduce a carbon tax (unanimity requirement for taxation)
2003	Current Energy Tax Directive (ETD) • Limited environmental targets • Many reductions and exemptions

Energy tax and emissions trading

Introduction

- Emissions trading:
  - Need for alternative emissions control tool

Year	
1997	Kyoto protocol: "flexible mechanisms" for emissions control
1998	EC proposal for an ETS
2003	EU ETS adopted

How does the European Union carbon emissions trading scheme work?

Energy tax and emissions trading

Introduction

- Emissions trading:

  Two main limits

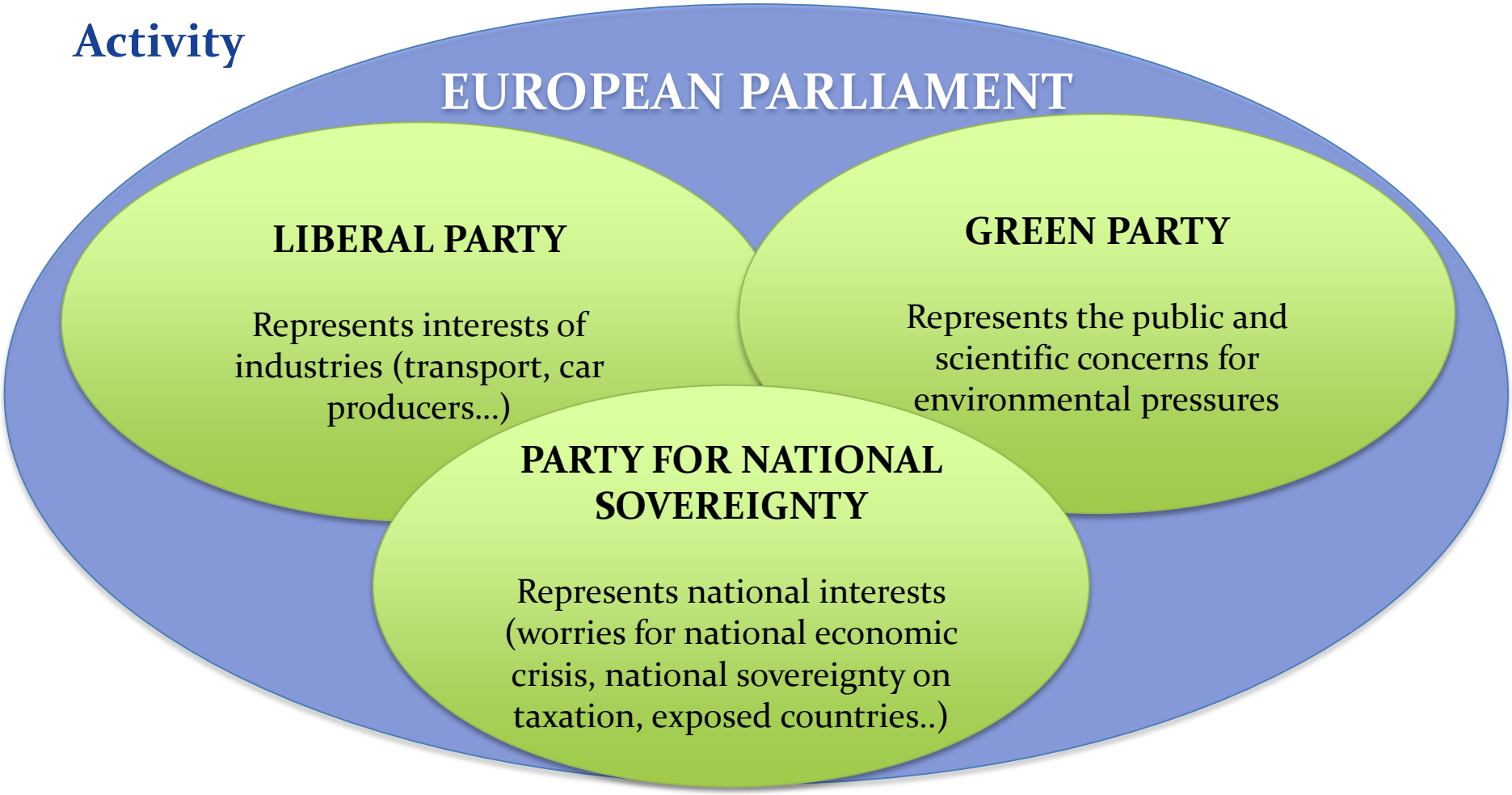
  1. EU ETS covers around 45% of EU GHGs
  2. In the first 12 years, too many allowances: price was too low to create incentive for low carbon technologies

Energy tax and emissions trading

Introduction

- 2011: ETD Commission's reform proposal
  - Aim:
    - Coherence with ETS (new tax rates : CO_2 content-Energy content)
    - Higher emission control (Higher rates, fewer exemptions)
  - Moderate but useful step towards the policy on climate change
- 2012: Parliament halted
  - Many economic agents (reaction of various interest groups)
  - Many countries (different priorities regarding the climate change policy)
  - Unanimity requirement for taxation

Energy tax and emissions trading



Energy tax and emissions trading

Conclusions

- Difficulties of the political process on environmental protection
  1. Convergence of different interests
  2. Coordination of different level of governance
  3. Costs today for benefits tomorrow

Energy tax and emissions trading

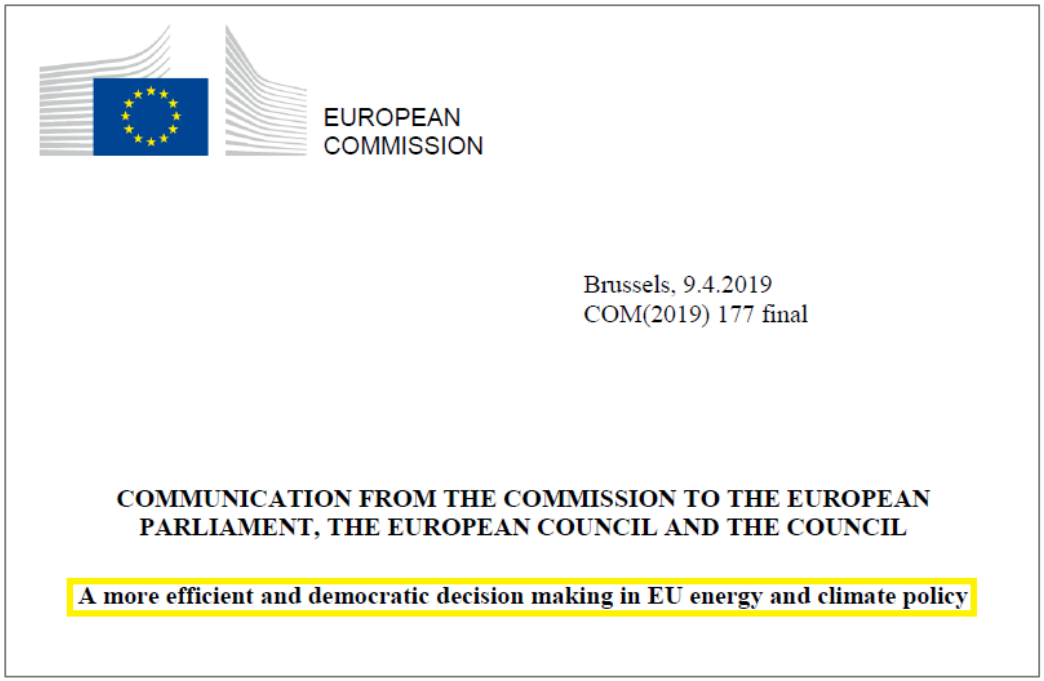
Conclusions

- On the two policy instruments
  1. ETD

Energy tax and emissions trading

Conclusions

- On the two policy instruments
  1. ETD
     - In (environmental) taxation matter: all decisions require unanimity
     - Proposal for qualified majority


EUROPEAN
COMMISSION

Brussels, 9.4.2019
COM(2019) 177 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL AND THE COUNCIL

A more efficient and democratic decision making in EU energy and climate policy

Energy tax and emissions trading

Conclusions

- On the two policy instruments
  1. ETS: 2017 agreement on the Market Stability Reserve
     - Allowances surplus moved to the reserve
     - The reserve is limited in size

V. Conclusion

Environmental protection in the EU

Conclusion

- What next?
  1. The disarming case to act right now on climate change
  2. 

Environmental protection in the EU

Thank you!

European Commission

[Departments / Executive agencies]