

Environmental (climate) dimension of the EEP

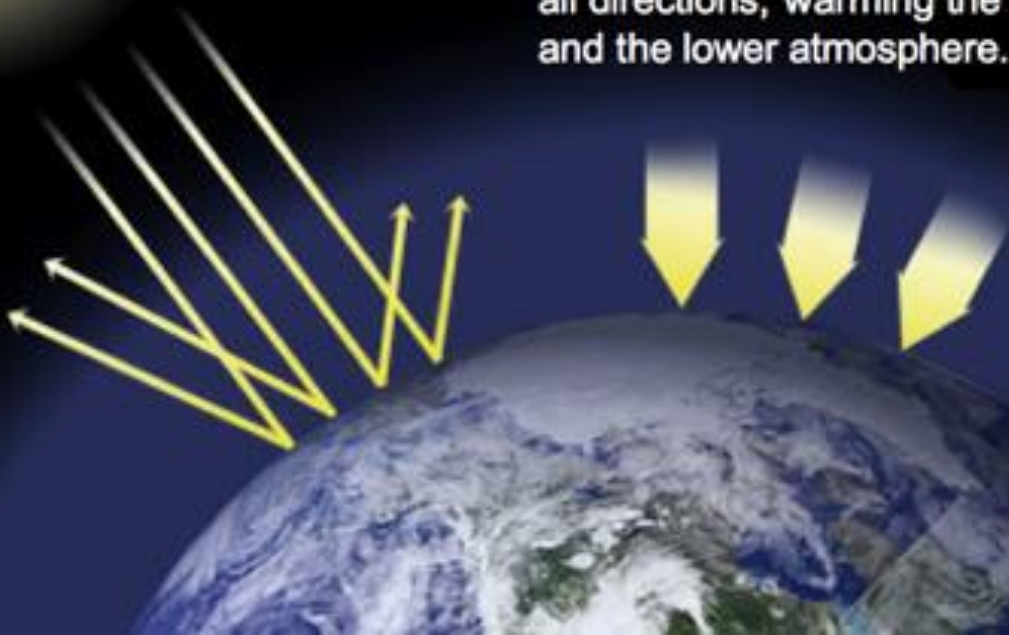
Filip Černoč
cernoch@mail.muni.cz

Environmental dimension of EEP

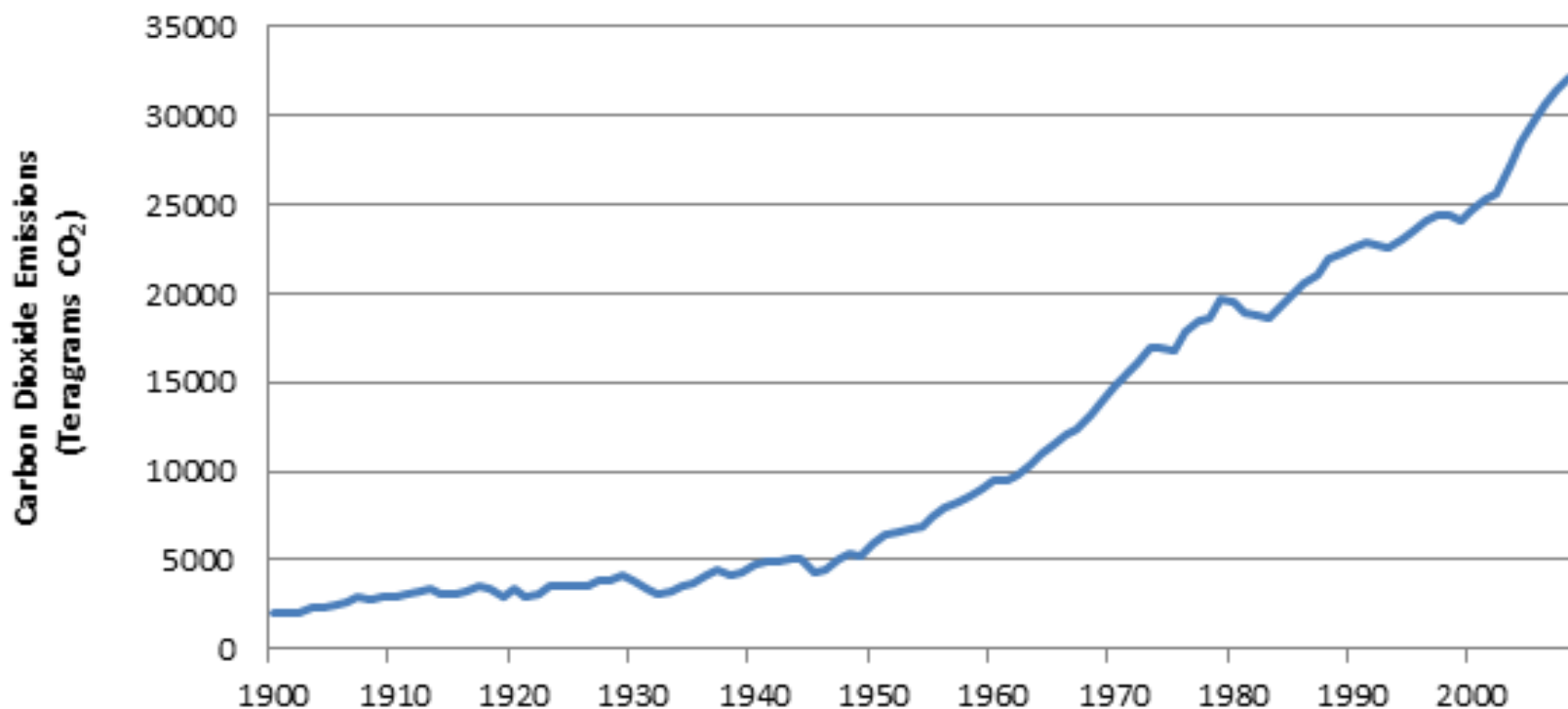
- Energy sector (extraction, transport, processing and combustion) harms the environment significantly.
- Climate change (regional/global level) – measures to reduce GHG emissions.
 - EU ETS, GHGs outside of the EU ETS.
 - RES.
 - Energy Efficiency.
 - Research and development, new technologies (CCS).
- Local environment protection – covered mainly by EU environmental policy.
 - Air, land and water pollution, noise, light pollution.
 - Industrial (energy) waste.
 - Protection of biodiversity.
 - Extraction of non-conventional sources of energy.

Sunlight passes through the atmosphere and warms the Earth's surface. This heat is radiated back toward space.

Most of the outgoing heat is absorbed by greenhouse gas molecules and re-emitted in all directions, warming the surface of the Earth and the lower atmosphere.



Global Carbon Dioxide (CO₂) emissions from fossil-fuels 1990–2008



Source of data: Boden, T.A., G. Marland, and R.J. Andres (2010). Global, Regional, and National Fossil-Fuel CO₂ Emissions. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A. doi 10.3334/CDIAC/00001_V2010.

Period between 1985 - 2000

New incentives for energy on the EC level.

- Weak competitiveness of European industry – first proposals to create the internal energy market. Competition and transparency instead of national monopolies and closed markets.
- Climate change – tools to prevent impact of usage of energy on local and global level. (to reduce the amount of emissions produced in the EU).
- Disintegration of Soviet block – proposals to manage relations between producers and consumers (EU MS) of energy.

Environmental dimension of EEP

Two interlinked (but not identical) processes:

- International regime of climate change mitigation (EU plays a significant role).
- Independent climate policy of the EU (part of the EU energy policy).

International climate regime

- Intergovernmental Panel on Climate Change – 1988.
- Rio Summit on Earth – 1992 (UN Conference on Environment and Development) → UNFCCC.
- Kyoto protocol.
- 1997, in force 2005.

= Existence of a generally accepted consensus on the climate change as well as the contribution of human activities to this process.

Kyoto protocol

- 4 GHG (carbon dioxide, methane, nitrous oxide, sulphur hexafluoride) + hydrofluorocarbons and perfluorocarbons.
- Annex I. parties (37 industrialized countries + EU15), Non-annex I. parties.
- Reducing of GHG emissions by 5,2 % for the period of 2008-2012. (4,2 % after USA left). Base year 1990.
- Flexible mechanisms – Emission trading, CDM, JI.
- Art. 4 – burden sharing agreement of European Community.
- Common but differentiated responsibility.

Table of quantified emission limitation or reduction commitments for the purpose of determining the respective emission levels allocated to the European Community and its Member States in accordance with article 4 of the Kyoto Protocol

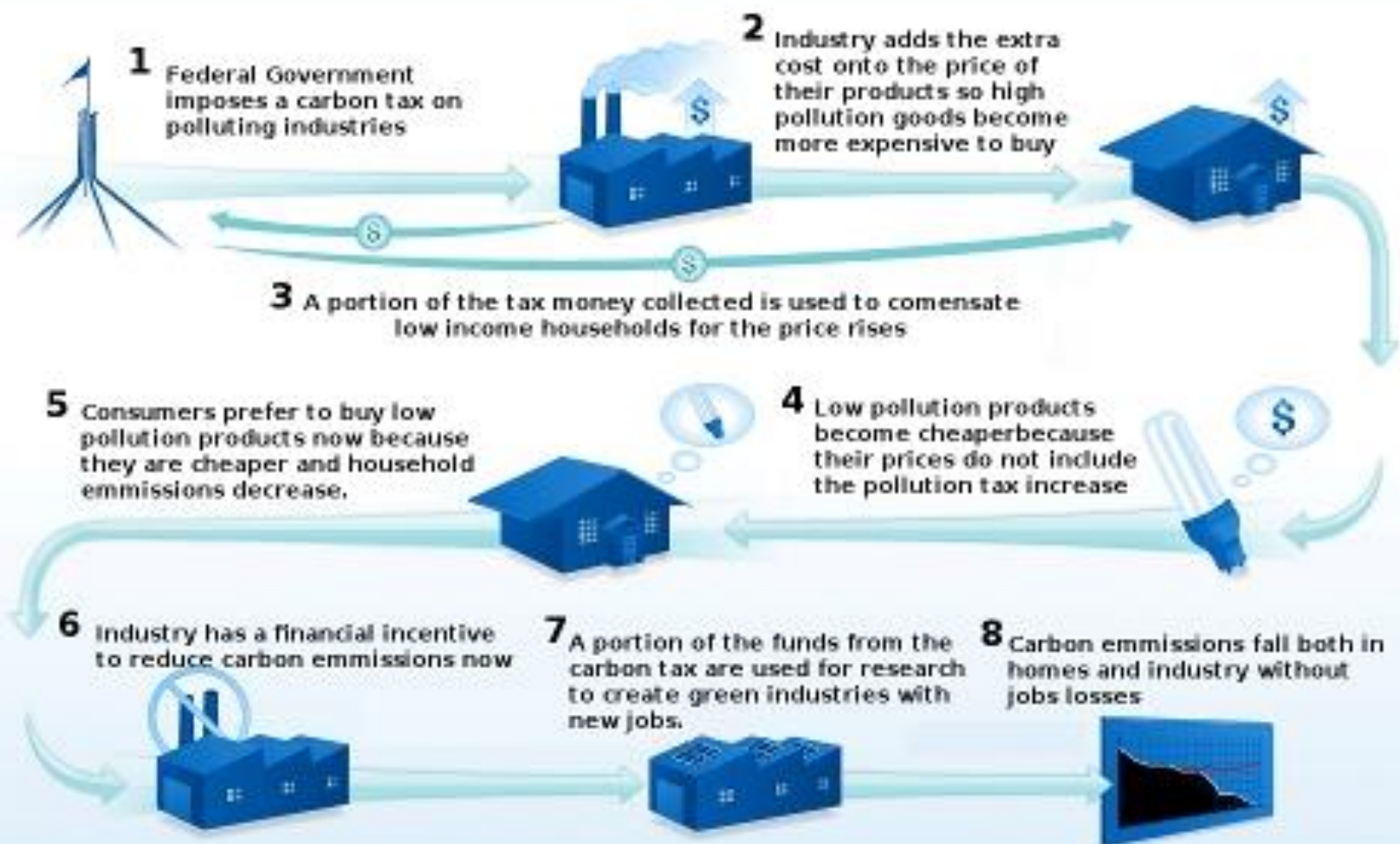
	Quantified emission reduction commitment as laid down in Annex B of the Kyoto Protocol (percentage of base year or period)
European Community	92 %
	Quantified emission limitation or reduction commitment as agreed in accordance with article 4(1) of the Kyoto Protocol (percentage of base year or period)
Belgium	92,5 %
Denmark	79 %
Germany	79 %
Greece	125 %
Spain	115 %
France	100 %
Ireland	113 %
Italy	93,5 %
Luxembourg	72 %
Netherlands	94 %
Austria	87 %
Portugal	127 %
Finland	100 %
Sweden	104 %
United Kingdom	87,5 %

EU and climate change

- Environmental awareness.
- Preemptive environmental measures.
- Common market.
- Cross-border cooperation.
- Raison d'être.

130r (TEU) „...Community policy on the environment...shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified as source and that the polluter should pay“.

EU and climate change: carbon tax



Emission trading

- EU firstly sceptical about international emission trading.
 - See it morally wrong – trading authorizes pollution, turning it into commodity to be bought and sold.
 - Questionable with regard to equity – that the richer industrialized countries can buy their way out of their obligations instead of lowering their disproportionate consumption of scarce sources.
- But – change in the position of the U.S. placed the EU in the forefront of the climate change movement.

EU and climate change: emission trading

ET: Central authority ... sets a limit ...on the amount of pollutant to be emitted ... the cap is sold/allocated as permitscompanies are required to hold those permits ...if they need to increase this volume...have to buy those permits or pay the fee.

= the buyer is paying a charge for pollution = he is motivated to invest in less-polluting technologies.

How the system works?

- It creates a dynamic monetary incentive so companies can sell their allowances to other producers and make profit.
- These incentives are based on real needs (scarcity) of allowances and on adequate monitoring and enforcement.
- This system (at least in theory) offers certainty of emission reduction corresponding to the stringency of the cap.
- Unlike domestic schemes, effective international systems are more difficult to establish.
- Even a well-designed system is not to work if it is not implemented correctly by the participants in the system (MS).

Run-up to the EU ETS

- 1988 EC's communication „The Greenhouse Effect and the Community“.
- 1998 EC's communication „Climate Change - Towards an EU post-Kyoto strategy“.
- 1999 EC's communication „Preparing for Implementation of the Kyoto Protocol“.
- 2001 – EU ETS legal preparation launched, approved in 2003.
- Designated the first period from 1.1.2005 to 31.12.2007, covering about 11.500 facilities in 25 MS = 45% CO₂ emitted in the EU.

EU ETS: The first phase 2005 - 2007

Country	Mil. EUAs	Share of the overall amount of EUA	Number of incl. facilities	The aim of Kyoto
Belgium	188,8	2,9	363	-7,5
Czech Republic	292,8	4,4	435	-8
Denmark	100,5	1,5	378	-21
Estonia	56,85	0,9	43	-8
Finland	136,5	2,1	535	0
France	469,5	7,1	1 172	0
Ireland	67	1	143	+13
Italy	697,5	10,6	1 240	-6,5
Cyprus	16,98	0,3	13	-
Luxembourg	10,07	0,2	19	-28
Lithuania	36,8	0,6	93	-8
Latvia	13,7	0,2	95	-8

EU ETS: The first phase 2005 - 2007

- Problems with the decentralised system of distribution.
- Overestimation of emissions – with the exemption of Germany and Slovenia (4 % surplus).
- Drop in the prices of allowances.
- Very limited impact on emissions of GHG.
- NAP – only Austria, Denmark, Finland, Germany, Ireland and Slovenia in time.

Figure 2: EU ETS emissions allowance prices: April 2005 - December 2009



EU ETS: The first phase 2005 - 2007

Difficult calculations due to:

- Proneness to cheating.
- Changing level of industrial production.
- Changes in energy prices.
- Increasing deployment of RES (canibalism of targets).
- Permit stockpiling.
- Weather.
- And others.

Not only GHGs decrease is desirable, but also the stability of price of EUAs.

Sources

- Linklaters (2014): Capacity mechanisms. Reigniting Europe's energy markets.