

# Coal-fired power plants & the impact of the EU ETS & climate policy on the European economy

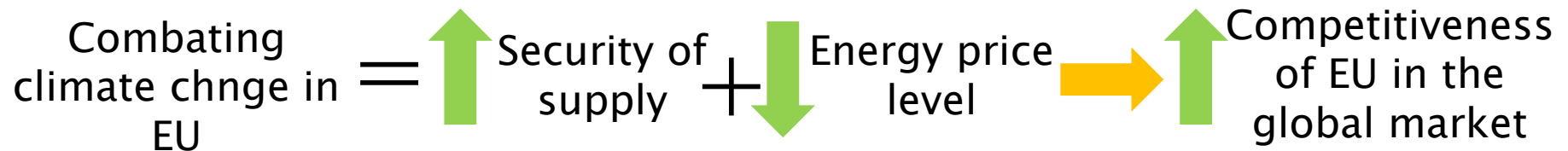
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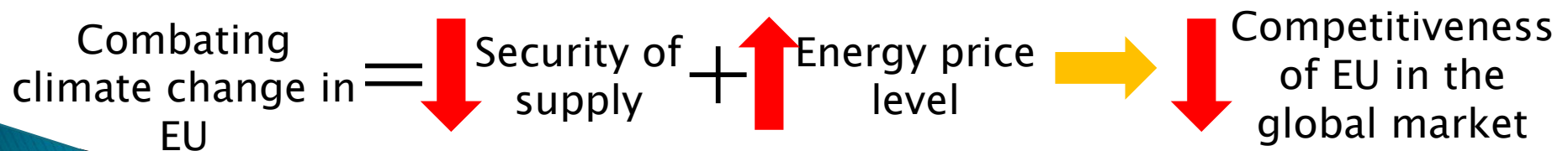
## Key drivers of the EU energy policy

- Combating climate change
- Security of supply
- Affordable energy for industry and households

## EU's way of thinking



## ... while in reality



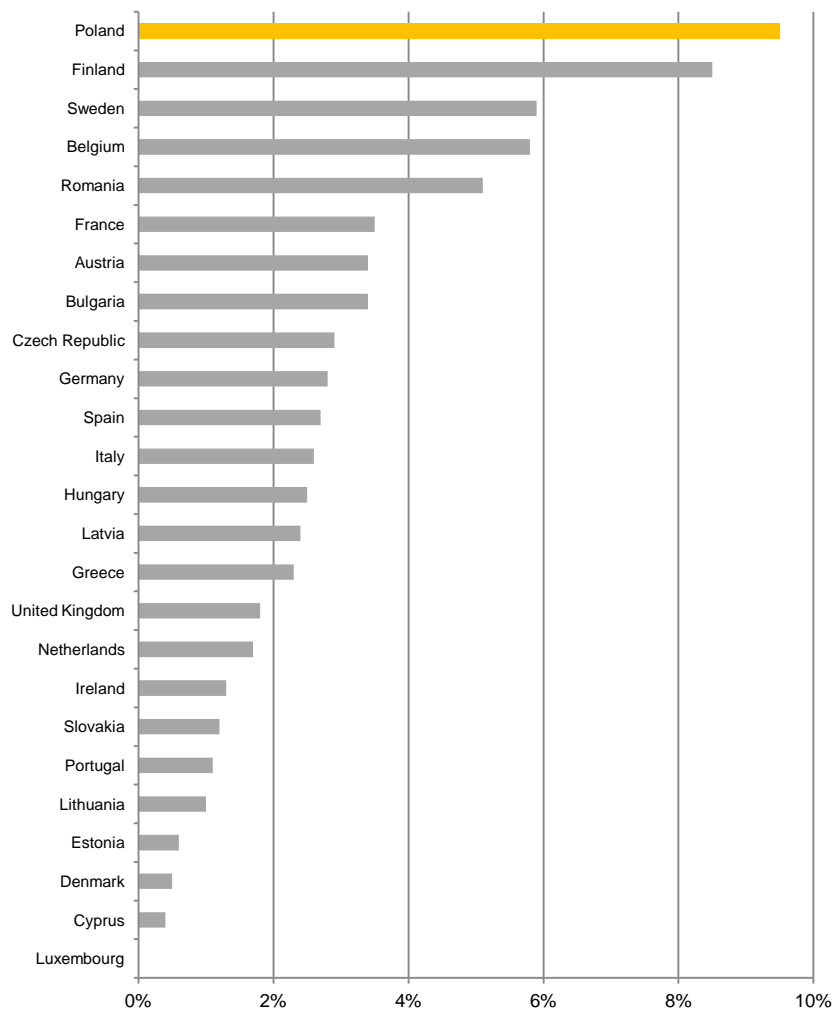
## (1) Main assumptions of EU ETS system – Directive 2003/87/EC

*Preamble (5): „This Directive aims to contribute to fulfilling the commitments of the European Community and its Member States more effectively, through an efficient European market in greenhouse gas emission allowances, with the least possible diminution of economic development and employment.”*

... whereas

- Higher CO<sub>2</sub> prices influence the electricity prices for industry and households what has a **negative impact on MS economies** (even a double-digit rise in energy prices by 2020 in Member States with a dominant share of fossil fuels in power generation fuel structure may be expected).
- Lower economic development causes the collective redundancies what leads to the **unemployment growth**.

# Employment in Sectors Exposed to Significant Risk of Carbon Leakage [%]



Source: The Kosciuszko Institute's report „Towards a New Climate Consensus for European Economic Competitiveness – Opportunities and Challenges of the EU Climate and Energy Package”; ESPON 's data

## Proof: Index on US and EU stocks for year 2012

Dow Jones Utility  
Average Index

vs

Bloomberg European  
Utilities Index



Few percent  
rise/year



Index Chart for BEUTIL >>



Over 20%  
fall/year



## (2) Main assumptions of EU ETS system – Directive 2003/87/EC

*Preamble (7): „Community provisions relating to allocation of allowances by the Member States are necessary to contribute to preserving the integrity of the internal market and to avoid distortions of competition.”*

... whereas

- Due to the fact that some technologies have already been in favorable position the competition in the market may be seriously distorted.
- Reducing the number of allowances in the auctioning system will ultimately discourage to invest in clean-coal technologies, putting conventional power in a dramatic position in the market.

## Moreover we have to keep in mind that...

- One of the main pillars of EU energy policy is to ensure security of supply while reduction of the **emissions cap threatens the functioning of the existing fossil-fired units**, thereby jeopardizing the security of energy supply in some Member States.
- In order to ensure the energy supply for industry and citizens there is a need to keep a back-up power for constantly growing number of intermittent RES sources and **fossil-fired power plants have proved to be the most reliable ones.**
- It is crucial for the MS, as well as for EU **to be independent from the external energy fuel supplies** (such a gas, oil or biomass) that mostly come from the politically unstable regions.

## Moreover we have to keep in mind that...

- At the moment there are **no available alternatives**, and the carbon capture and storage (CCS) technology is inherently associated with a substantial decrease (up to 25%) in efficiency of the entire installation (→ higher fuel consumption).
- The effects of reducing the number of CO<sub>2</sub> allowances for the EU energy sector will also have a very strong impact on the European energy-intensive industry. It will therefore be an **another “blow” to the our energy-intensive sectors**, i.e. iron, aluminum and steel sectors or pulp and paper industry.
- Finally, changing the "rules of the game" while it is ongoing, introduces a **lack of transparency and predictability for investors** in the functioning of the entire EU market. The stability of the long-term legislation is a key factor in investment decisions in the power sector.



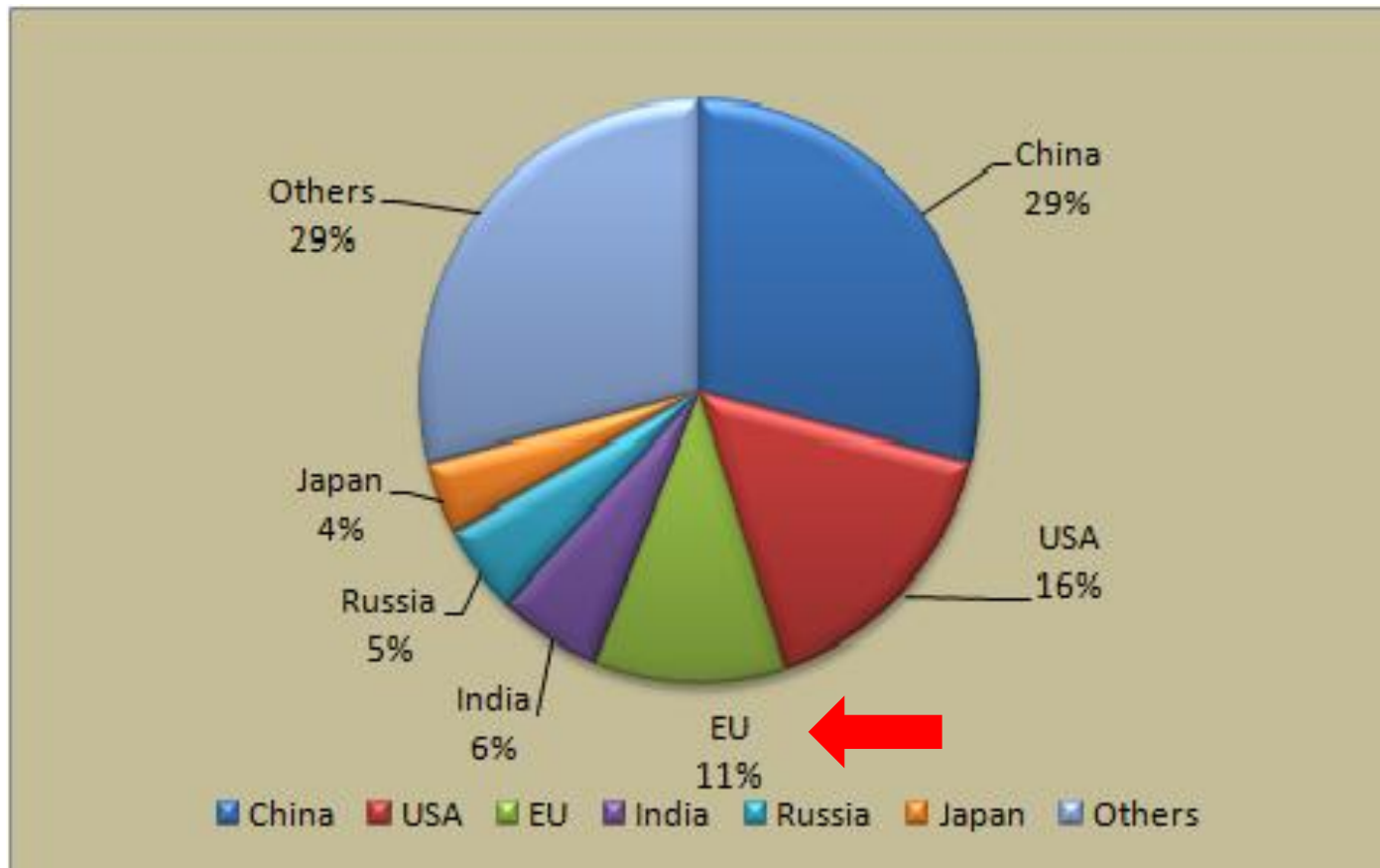
## EU's goals for 2020 stay unchangeable = Climate & Energy Package

- 20% reduction of CO<sub>2</sub> emissions (compared to 1990 level)
- 20% share of RES in final energy consumption
- 20% energy consumption reduction

Therefore any new goals for +2020 perspective including back-loading of EU ETS allowances should

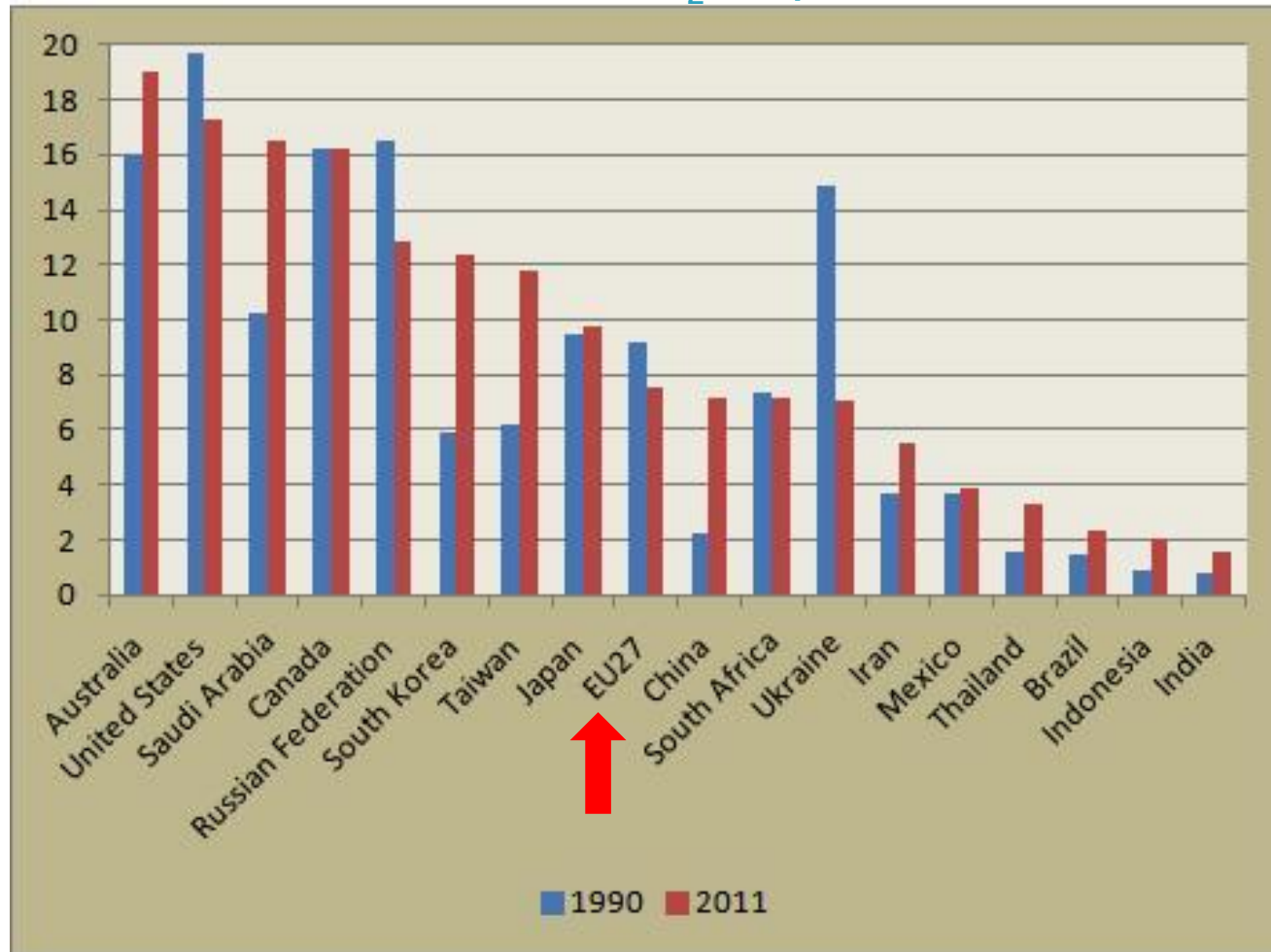
- have not been agreed so far on a political level,
- be preceded by global agreement (USA, China, India, Russia, Brazil),
- be backed by the technical and economical analysis focused on security of supply and preserving the competitiveness of both of EU & MS economies.

## The shares in global emissions per country



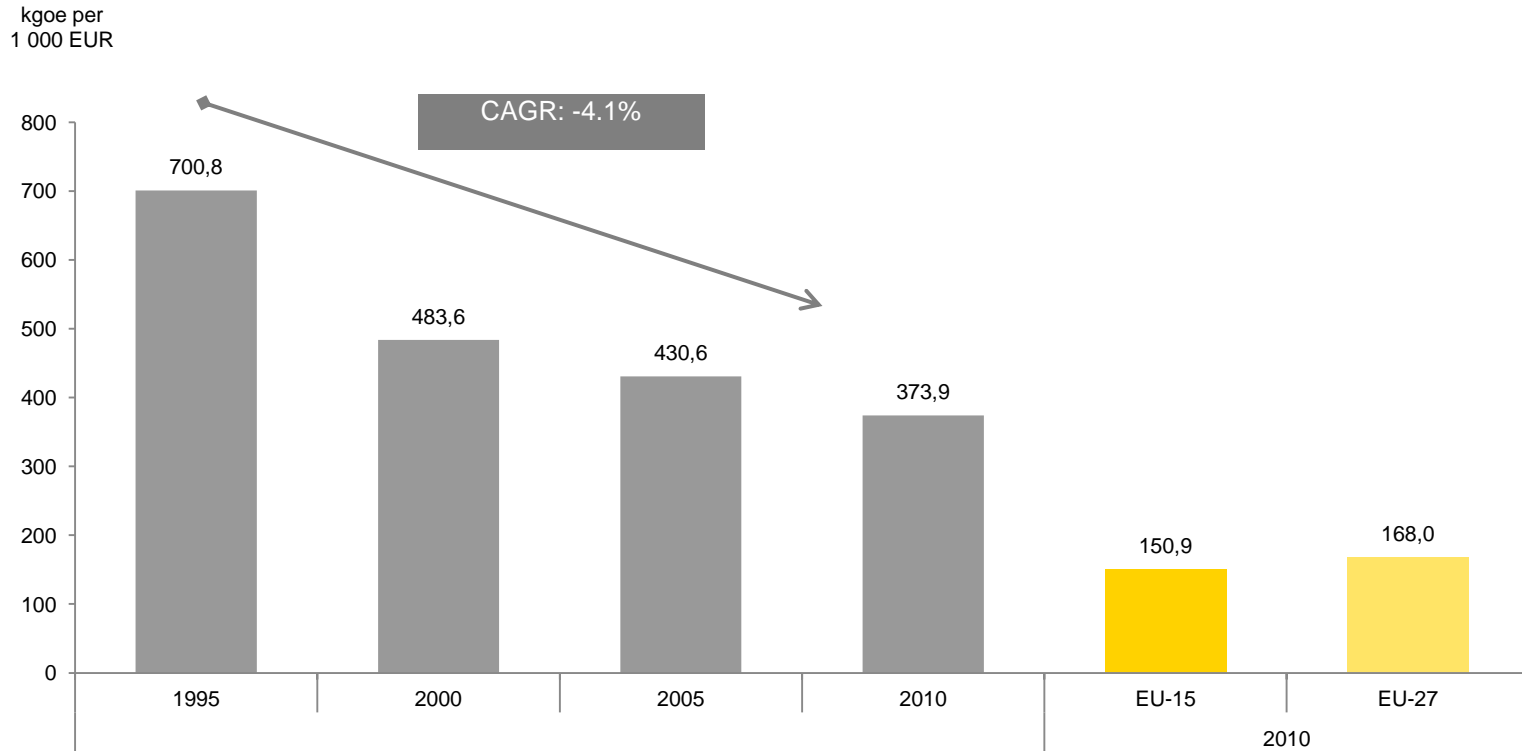
Source: „Trends in global CO2 emissions” JRC  
European Commission

# Global CO<sub>2</sub> emissions per capita 1990–2011 comparison [tons CO<sub>2</sub>/capita]



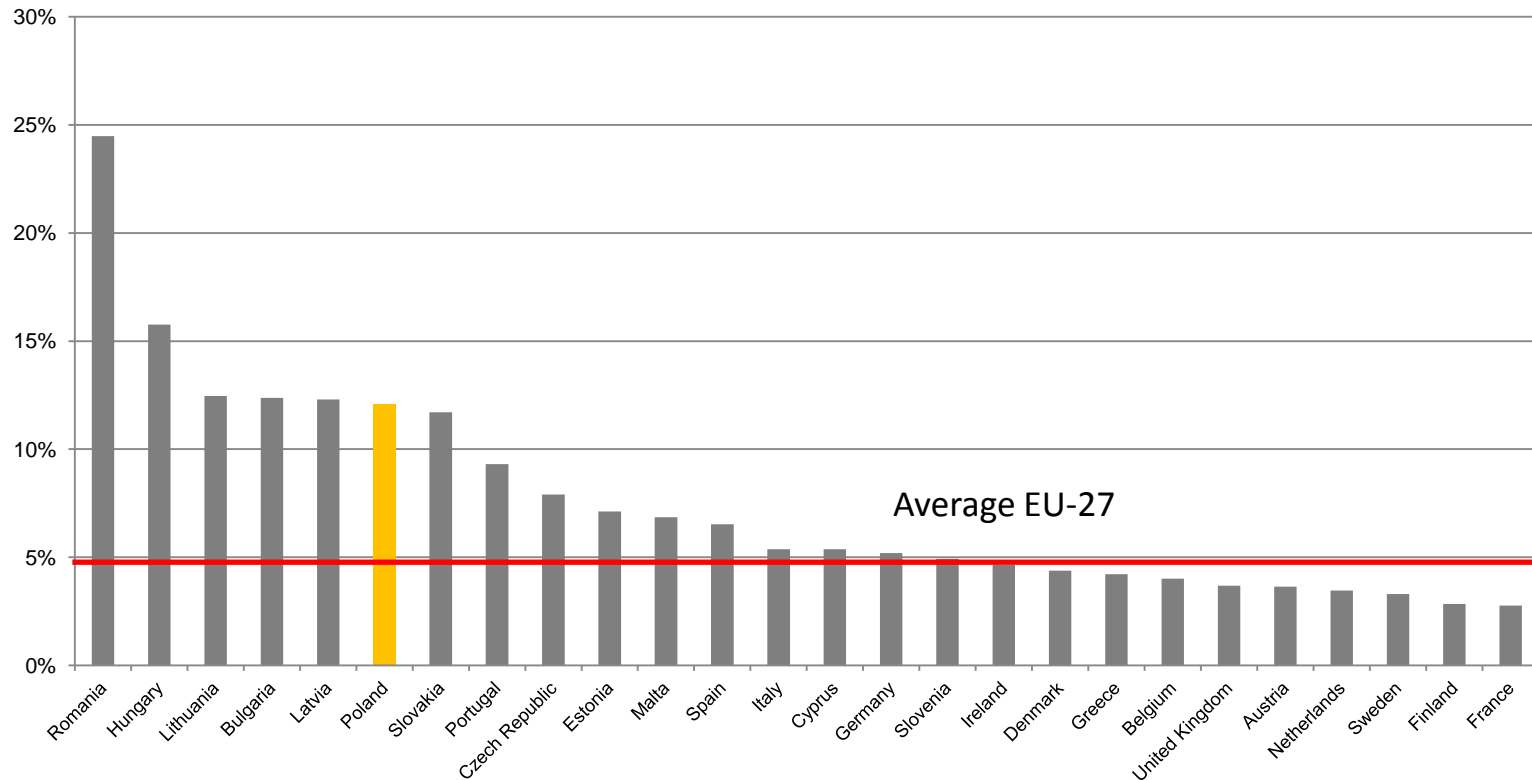
Source: „Trends in global CO<sub>2</sub> emissions” JRC  
European Commission

# Energy Intensity of the Economy in Poland in 1995–2010 in Comparison with the EU–11, EU–15 and EU–27 Averages in 2010 [kgoe/1,000 EUR]



Source: The Kosciuszko Institute's report „Towards a New Climate Consensus for European Economic Competitiveness – Opportunities and Challenges of the EU Climate and Energy Package”; Eurostat's data

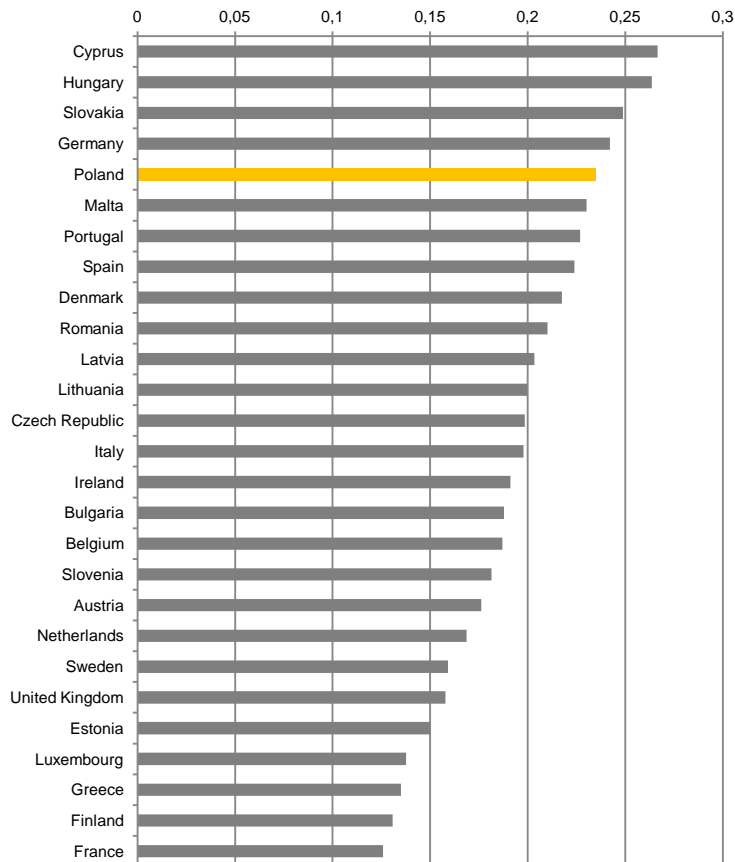
# Share of Expenditures for Electricity and Heat in the Income of an Average Household



Source: The Kosciuszko Institute's report „Towards a New Climate Consensus for European Economic Competitiveness - Opportunities and Challenges of the EU Climate and Energy Package”; Eurostat's data

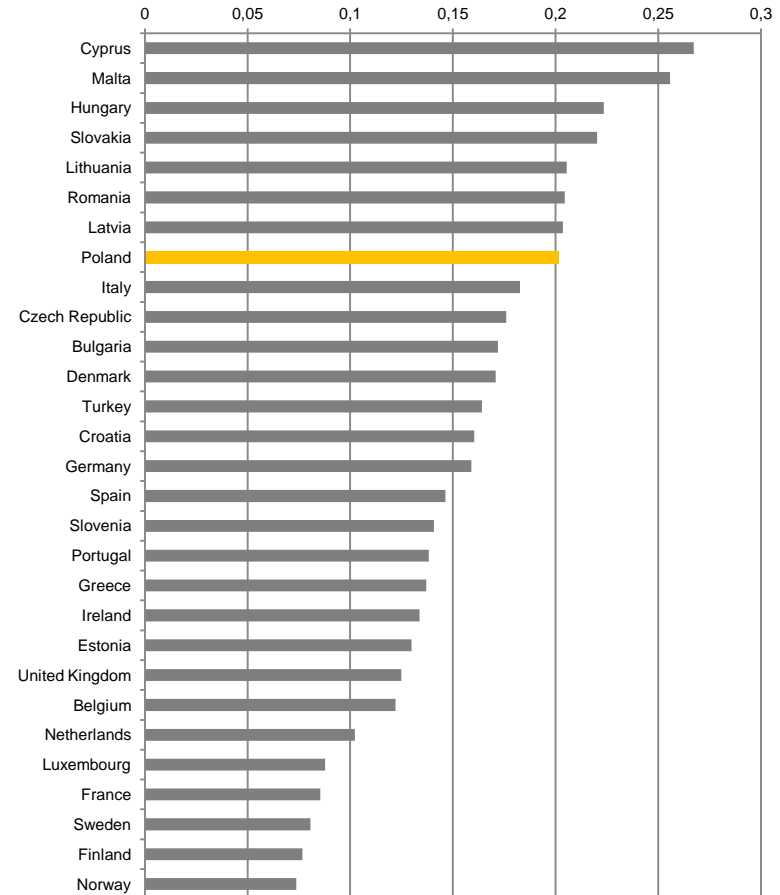
## Price of Electricity for Retail Customers [Consumption Ranging from 2,500 kWh to 5,000 kWh] in H2 2011, PPS/KWh

PPS/KWh



## Price of Electricity for Industrial Customers [Consumption Ranging from 500 MWh to 2,000 MWh] in H2 2011, PPS/KWh

PPS/KWh



Source: The Kosciuszko Institute's report „Towards a New Climate Consensus for European Economic Competitiveness – Opportunities and Challenges of the EU Climate and Energy Package”; Eurostat's data

Thank you for your attention!