



Zinc... essential for life

Implications of the EU ETS on the Zinc Sector



Ifri Energy Program:

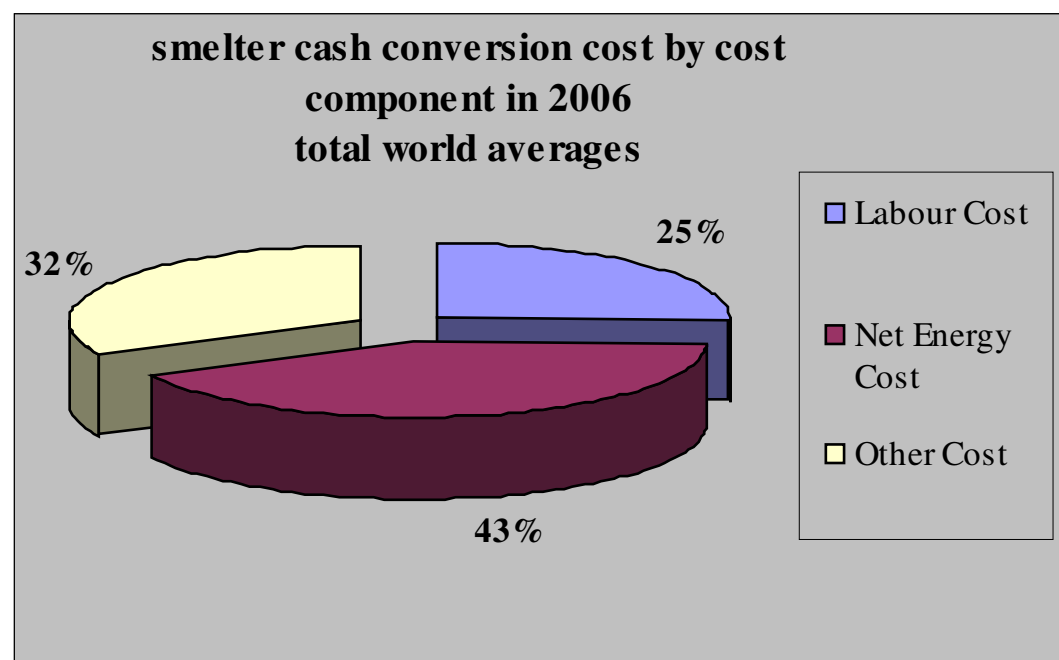
“After the G8, industry facing the
Climate Change Challenge”

17 September 2008 - Brussels



Zinc smelting activity is a highly energy-intensive activity

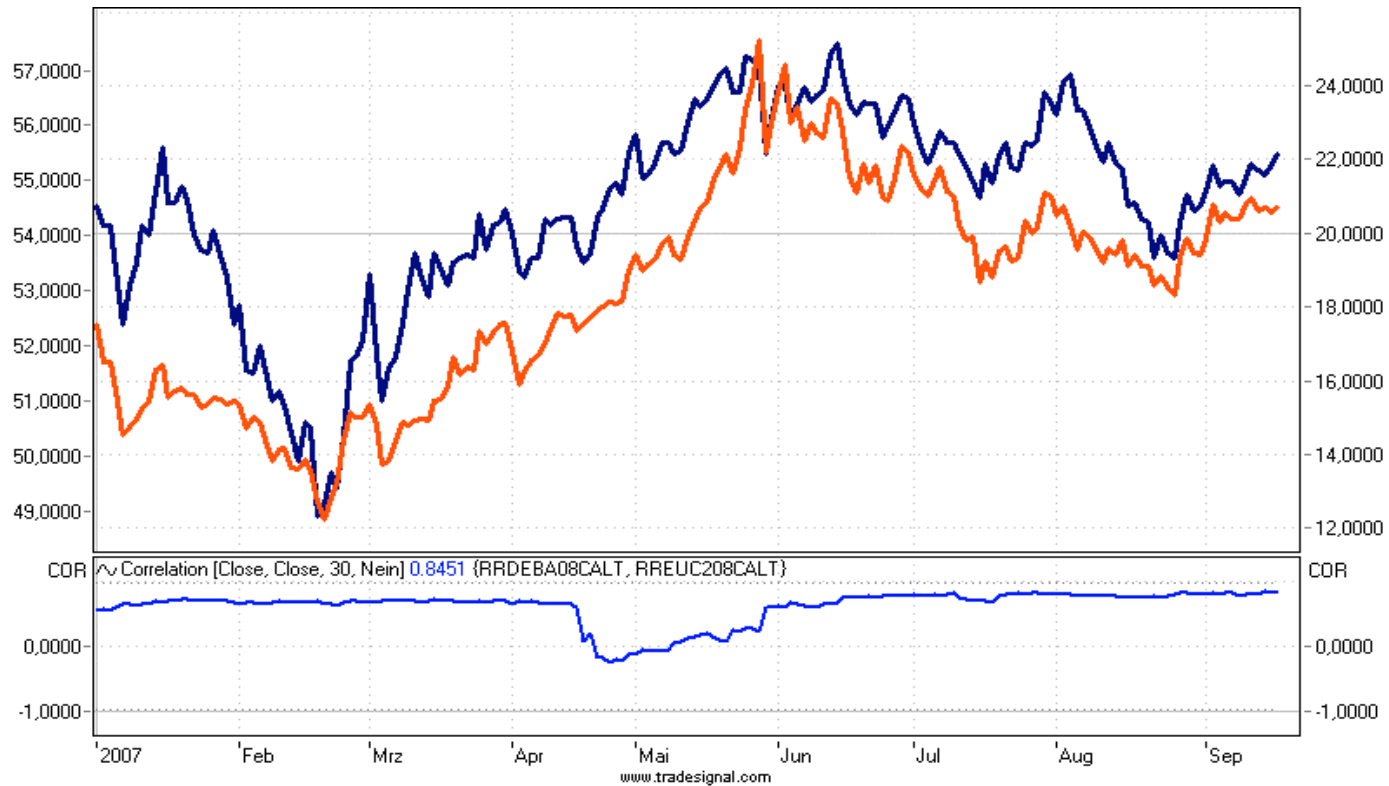
- About 4 300 kWh electricity per ton zinc
- About 170 kWh per ton zinc of other energy sources (gas, fuel)
- Impact of indirect emissions (95%) is much higher than the impact of direct emissions





Impact of ETS on electricity prices and hence on zinc smelting activity

Correlation between CO2 and electricity prices



CO2 price €/TCO2	CO2 cost €/tZn	% of operating cost
20	40 - 80	10 - 20%
40	80 - 160	20 - 45%

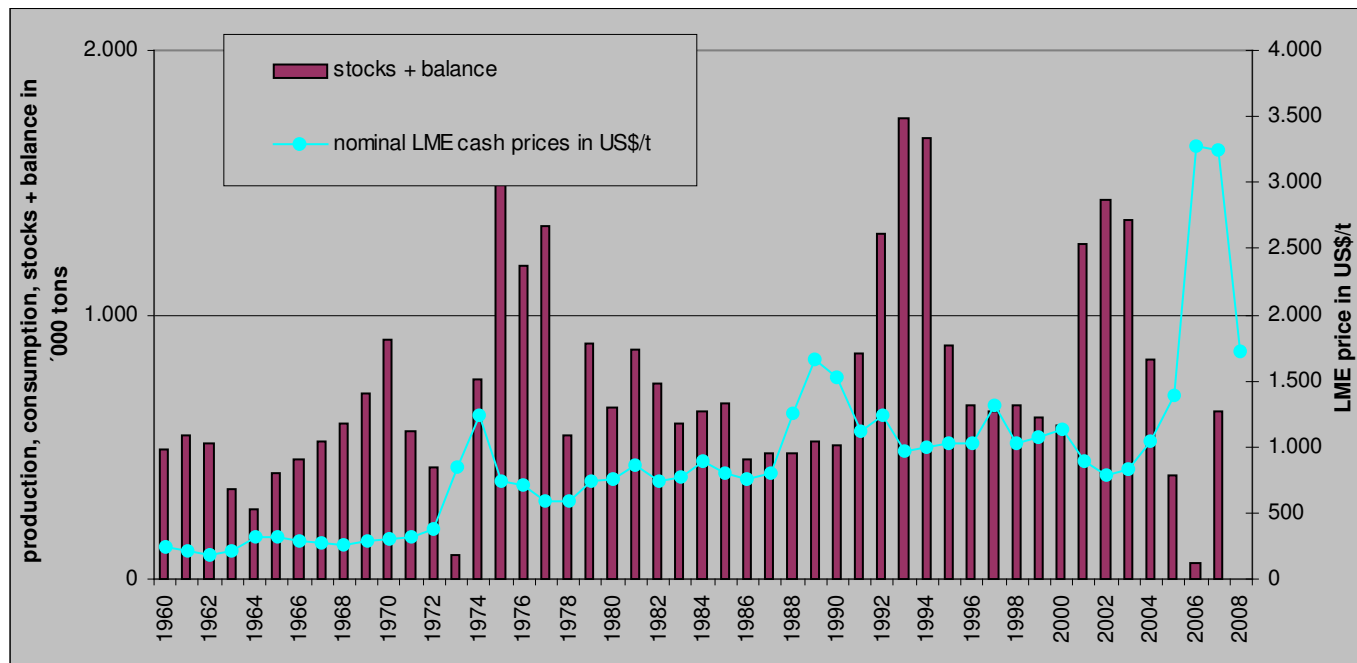


Very limited scope for emission reduction

- Energy efficiency is at the core of our competitive advantage
- A shift to the most energy efficient process already occurred (beginning of 2000) from ISP to RLE
- Electrolysis process is restricted by laws of physics (Faraday's law)
- No technological breakthroughs in R&D at the moment
- Aim should be to be measured on “best practice levels”



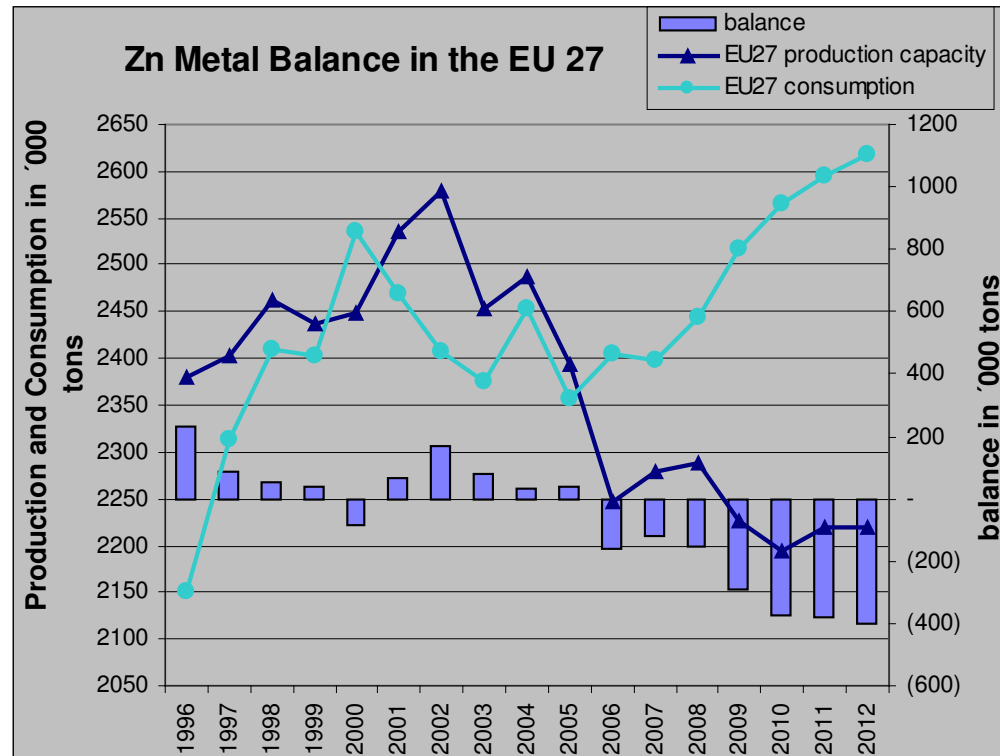
No possibility for pass-through of ETS costs: zinc price is supply and demand driven and traded on the LME



- Zinc is a volatile and cyclical industry this means that impact of ETS needs to be assessed on a complete cycle of 10 -15 years
- EU zinc production is only 0.63% of LME zinc turnover => no scope for price setting



Trade exposure of the zinc sector



- Zinc production in EU has declined:
 - Inability to pass-through rising energy costs has led to the closure of ISP smelters in the EU which are less energy efficient than RLE smelters
 - The EU production deficit has been met by increased imports



Carbon leakage

ETS **will not** lead to:

- Substitution to other products:
 - the zinc price is set by the LME it will not change due to ETS
 - No other materials are available with a better environmental footprint
- Substitution to more energy efficient process
 - The most efficient technology is in place

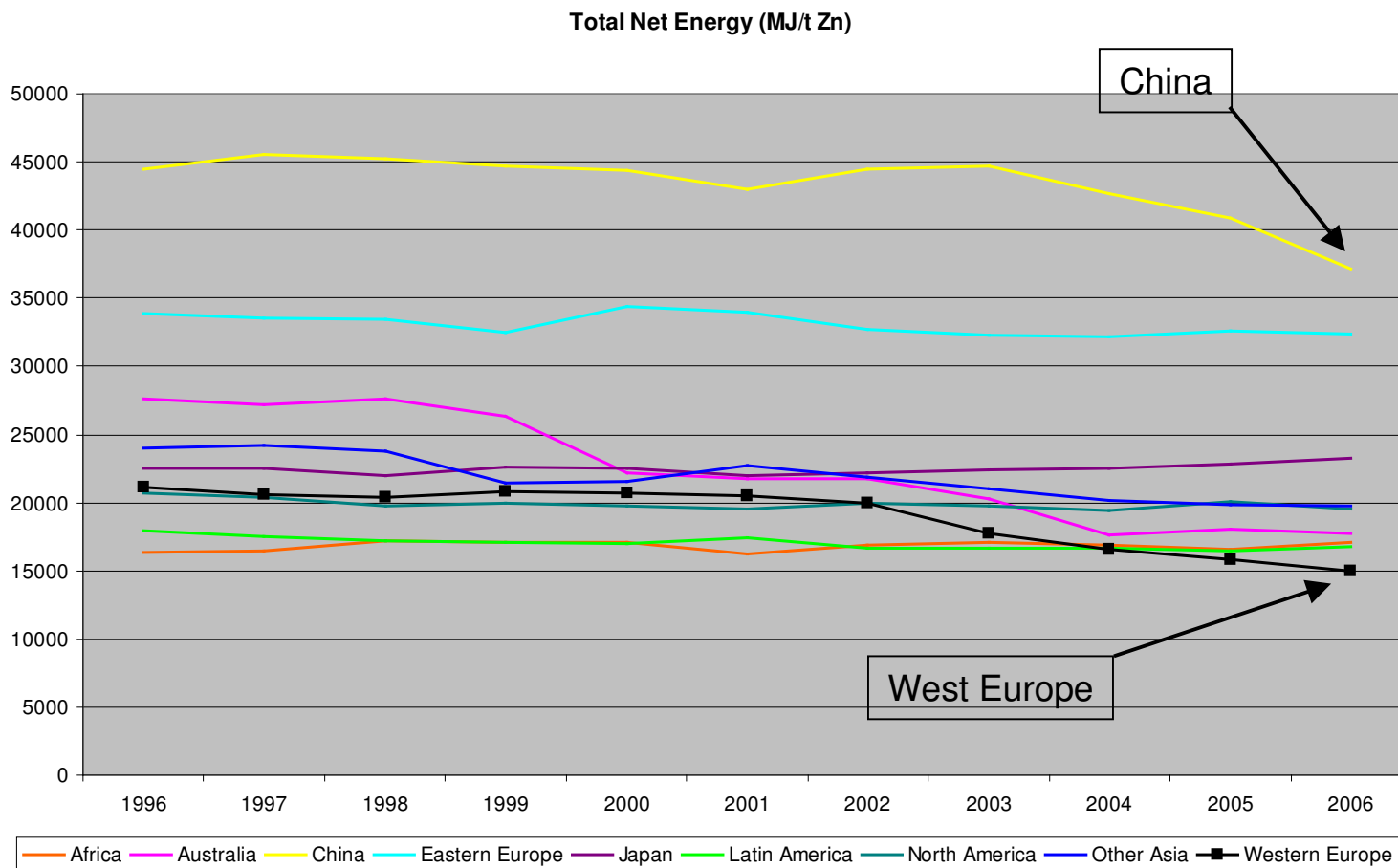
ETS **will lead** to a switch to cheaper non-EU production

- Carbon leakage will depend on:
 - Energy efficiency of zinc smelter
 - Electricity generation mix of the importing countries

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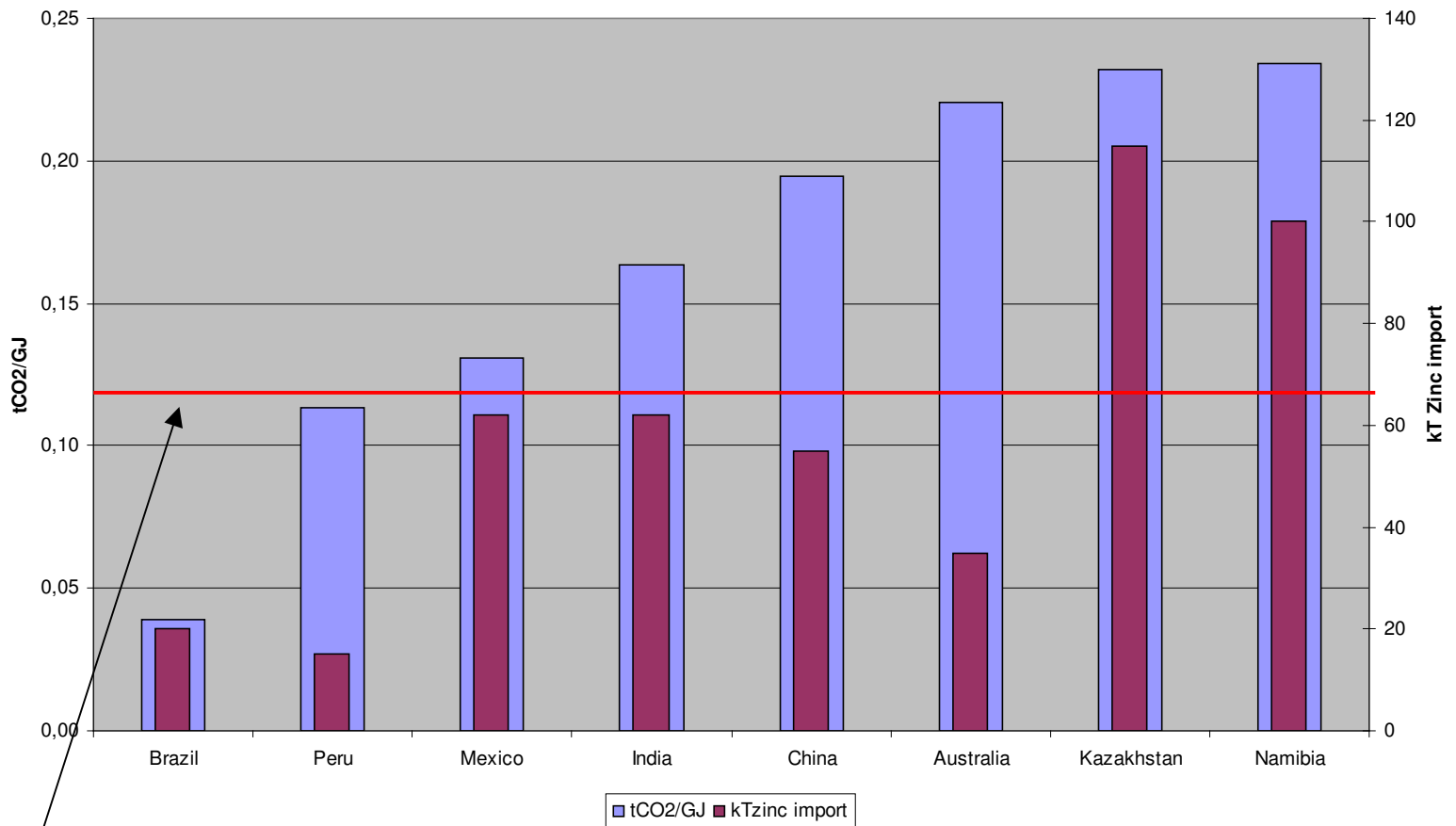
Energy efficiency





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Carbon intensity of the electricity generation mix of EU most important trade partners



EU Average

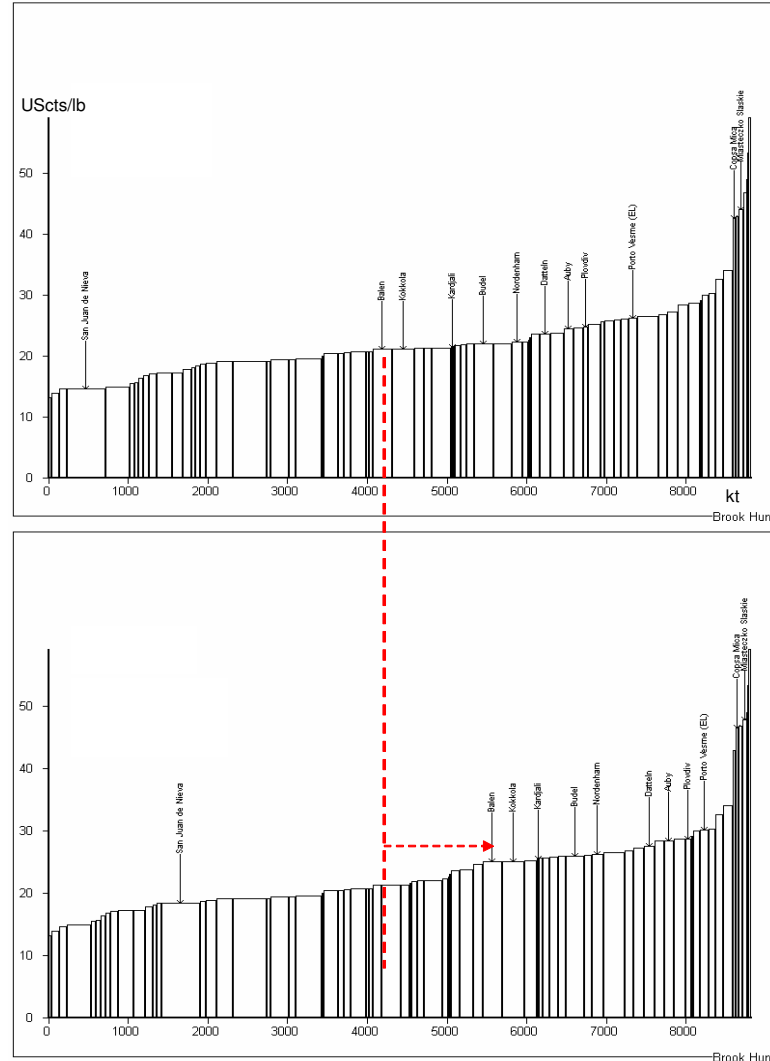


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Zinc's global cost curve is relatively flat. Small increase in input costs will create a significant shift in competitiveness of the EU zinc industry

- Zinc industry is capital intensive, investment decisions are made on long-time horizons
- Once such an industry has moved it is not likely to return quickly

Figure 1: Cost curve of zinc smelters before and after a CO2 cost of 40€/tCO2





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Measures are needed

- Unless an equal CO₂ burden is put on our main non-EU competitors measures are needed
- Free allocation of CO₂ permits to off-set the price increase in electricity due to ETS