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"Competitiveness Issues in
Climate Change Policies"

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Challenges for further research

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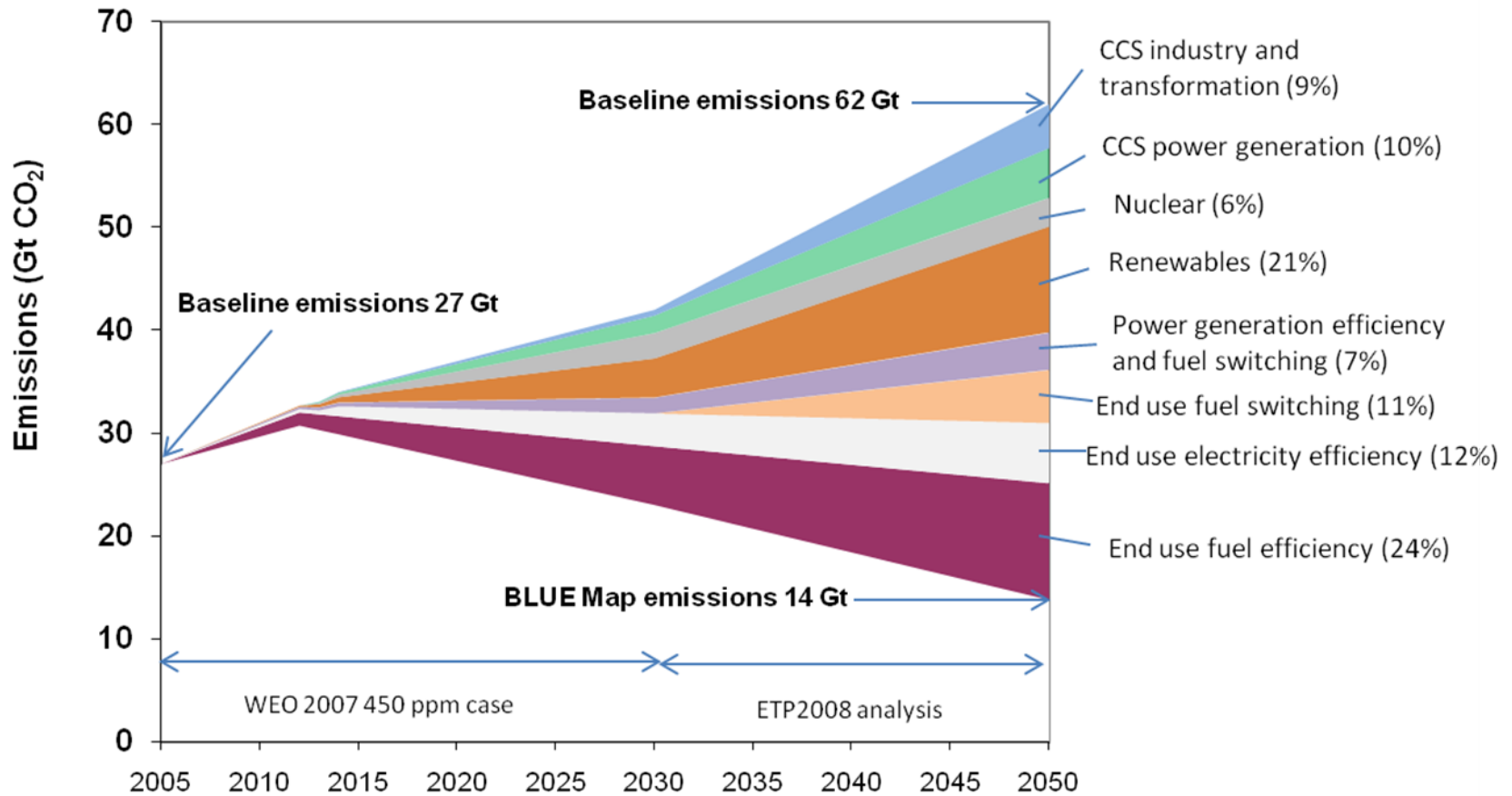
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Preamble: Cutting Energy-Related CO₂ Emissions



👉 A new energy revolution
👉 *Everything* has to change

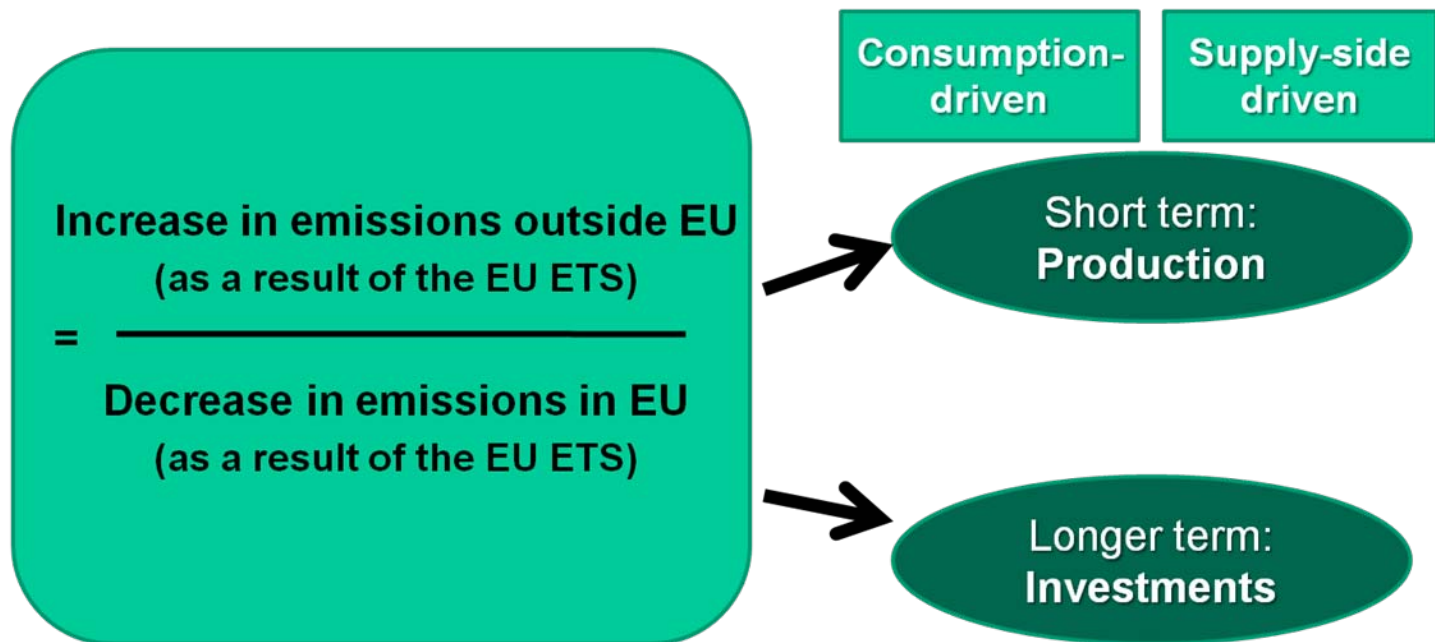


What is competitiveness?

- Krugman (1994): “dangerous obsession”
 - ◆ *‘...competitiveness is a meaningless word when applied to national economies.’*
- It’s not about countries, but about sectors
 - ◆ Producers of pollution-intensive products must adjust to new CO₂ cost
- Ambitious climate policy implies changing relative competitiveness of sectors
 - ◆ Concern: ‘carbon leakage’
 - ◆ Is system able to drive real change – not to (re)locate activities?
- ↳ Research challenge: complement work based on simulations by empirical evidence

From competitiveness to carbon leakage

- How to track carbon leakage?



↪ **Indicator: changes in trade flows**



Summary of EU-ETS Phase 1

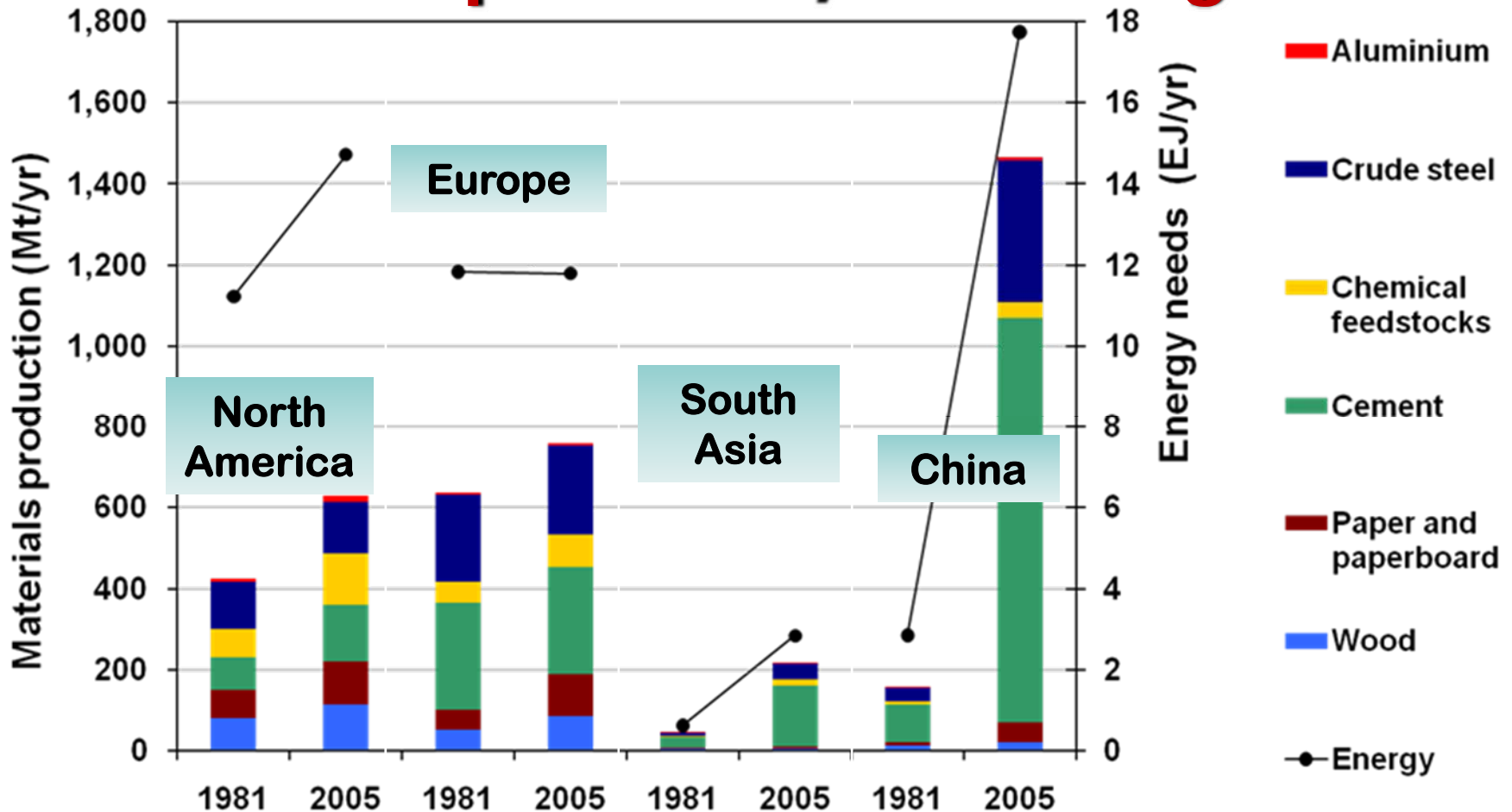
Preliminary assessment

- No statistical evidence of a change coinciding with the introduction of the EU ETS
- Great differences btw sectors ...
 - ◆ Trade intensity
 - ◆ CO₂ costs: emissions- vs. electricity-intensive sectors
 - ◆ Allocation
- ... but some common features across these activities
 - ◆ High price environment for industrial commodities
 - ◆ Recent slow-down in these activities
- Yet, Phase 1 is a poor indicator of what may come
 - ◆ End of long-term electricity contracts
 - ◆ More stringent targets (i.e. higher CO₂ prices)
 - ◆ Not enough time to see investment decisions change
 - ◆ *Can we identify CO₂ price effects on production and investments?*



Industrial output growth: 1981-2005

Main products / world regions



➔ A reality: most of the growth in energy-intensive industries has been and will be outside Europe (e.g. local infrastructure needs, cheaper energy or raw materials)



Challenges for further research

- Further work on how to track the issue
 - ◆ Simulate and monitor effects & indicators
 - Short term, e.g. trade flows, production levels,...
 - Long term, e.g. investment levels...
- Overall cost-benefit of dealing with problem
 - ◆ Specific implications of proposed policy options
 - ◆ Balance 1st mover advantage & carbon leakage
 - ◆ Proper definition of counterfactual scenario
- Allocation: free allocation ⇔ auctioning
 - ◆ Disconnect between economic rationale in theory & behavior of economic agents in reality
 - ⇒ How to capture these incentives in models?



Thanks!

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References

- Joint research initiative on an ex-post evaluation of the EU ETS, <http://www.aprec.net/>
- Baron, R., R. Lacombe, P. Quirion, J. Reinaud, R. Trotignon, and N. Walker (2008). *Competitiveness under the EU Emissions Trading Scheme*. Working paper, available at <http://www.aprec.net>
- Reinaud J. (2008) *Issues behind Competitiveness and Carbon Leakage*. OECD/IEA Information Paper; available at <http://www.iea.org>
- Reinaud, J. (2008) *Climate Policy and Carbon Leakage- Impacts of the European Emissions Trading Scheme on Aluminium* . OECD/IEA Information Paper; available at <http://www.iea.org>