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European Refining and the EU ETS

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EUROPIA represents the majority of downstream oil companies in Europe

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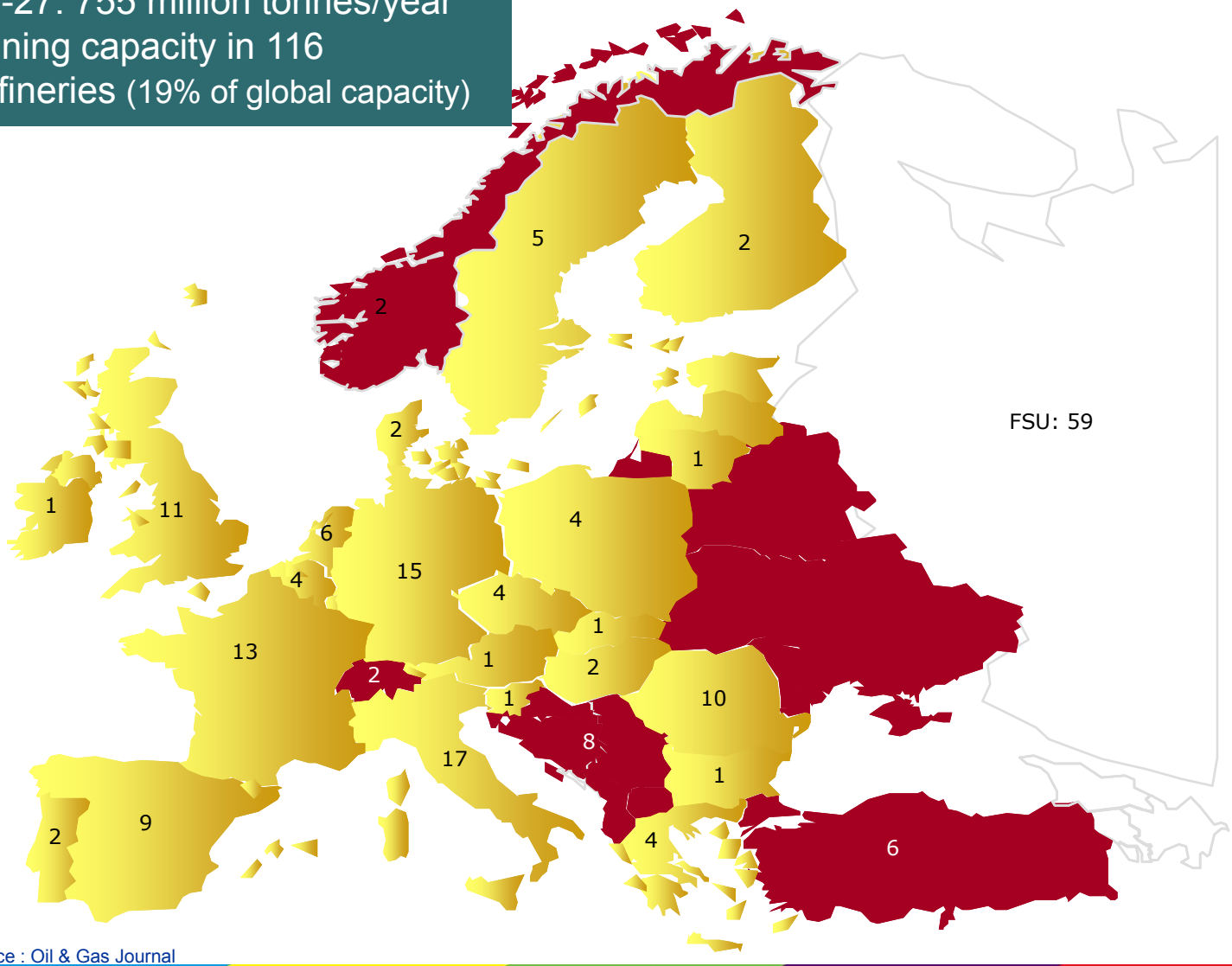
- BP
- Cepsa
- Chevron
- ConocoPhilips
- Eni
- ExxonMobil
- Hellenic Petroleum
- MOL
- Neste Oil
- OMV
- Galp Energia
- PKN Orlen
- RepsolYPF
- Saras
- Shell
- Statoil
- Total

EUROPIA members cover 80+% of the EU refining capacity

EU-27: 755 million tonnes/year refining capacity in 116 Refineries (19% of global capacity)



Source : Oil & Gas Journal

Oil industry comprises three separate businesses.

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1. **Exploration and Production**:
   1. finds and extracts crude oil.
   2. sells it to customers (Refiners, Traders).
   3. Crude oil market and prices global (e.g. Brent, Wti)

2. **Refining**:
   1. Buys crude on same global market.
   2. transforms crude oil into products, such as gasoline, aviation fuel, diesel etc.
   3. sells products at prices linked to the open wholesale product markets (e.g. Rotterdam)

3. **Distribution and Marketing:**
   1. Buy products at wholesale market prices.
   2. moves products and sells to the consumer.

Downstream- Europia >80% of EU Refining

- A few Oil Companies have all 3 businesses, many have only 1 or 2; many "non oils" operate Distribution and Marketing.
- Each business is judged on its own merits.

The fossil fuels challenge: Well to wheels CO2

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FOSSIL FUELS

Production in Europe covered by ETS

Crude Production
1 – 4 %

Refining
8 – 10 %

Distribution & retail
1%

Combustion of unit of energy
85%

Well-to-Tank 15%
(production)

Tank-to-Wheel 85%
(consumption)

EU Downstream 9-11%

Source: CONCAWE

Europia supports the ETS as the tool to control GHG emissions from industry, but is concerned at some of the elements

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- Auctioning should not be extended without a suitable international agreement:
  - It will significantly reduce competitiveness of EU industry.
  - The reducing cap and high energy costs already creates a big incentive for improvement
  - Free allowances should be granted, allocated by benchmarks.
- Criteria set for exposure to Carbon Leakage are not sufficient and should better reflect effect on future international competitiveness:
  - Effect on market share alone is not adequate measure of ability to pass on costs.
  - Criteria must also look at future competitiveness of industries to compete for investments.
  - Refining investments are big (6B€ p.a.) and long term and become less attractive with EU-only ETS.
- New entrants definition should be adapted to include upgrading of existing sites:
  - Big investments needed are to upgrade existing sites and should qualify under new entrants allowance.
- The period of uncertainty should be reduced by advancing dates for identification of sectors exposed to carbon leakage.

➔ **Europe must remain competitive - a healthy EU Refining industry is vital for efficient and secure supplies to Europe**

Refining is a "margin business“: ETS costs could be 40% of this margin

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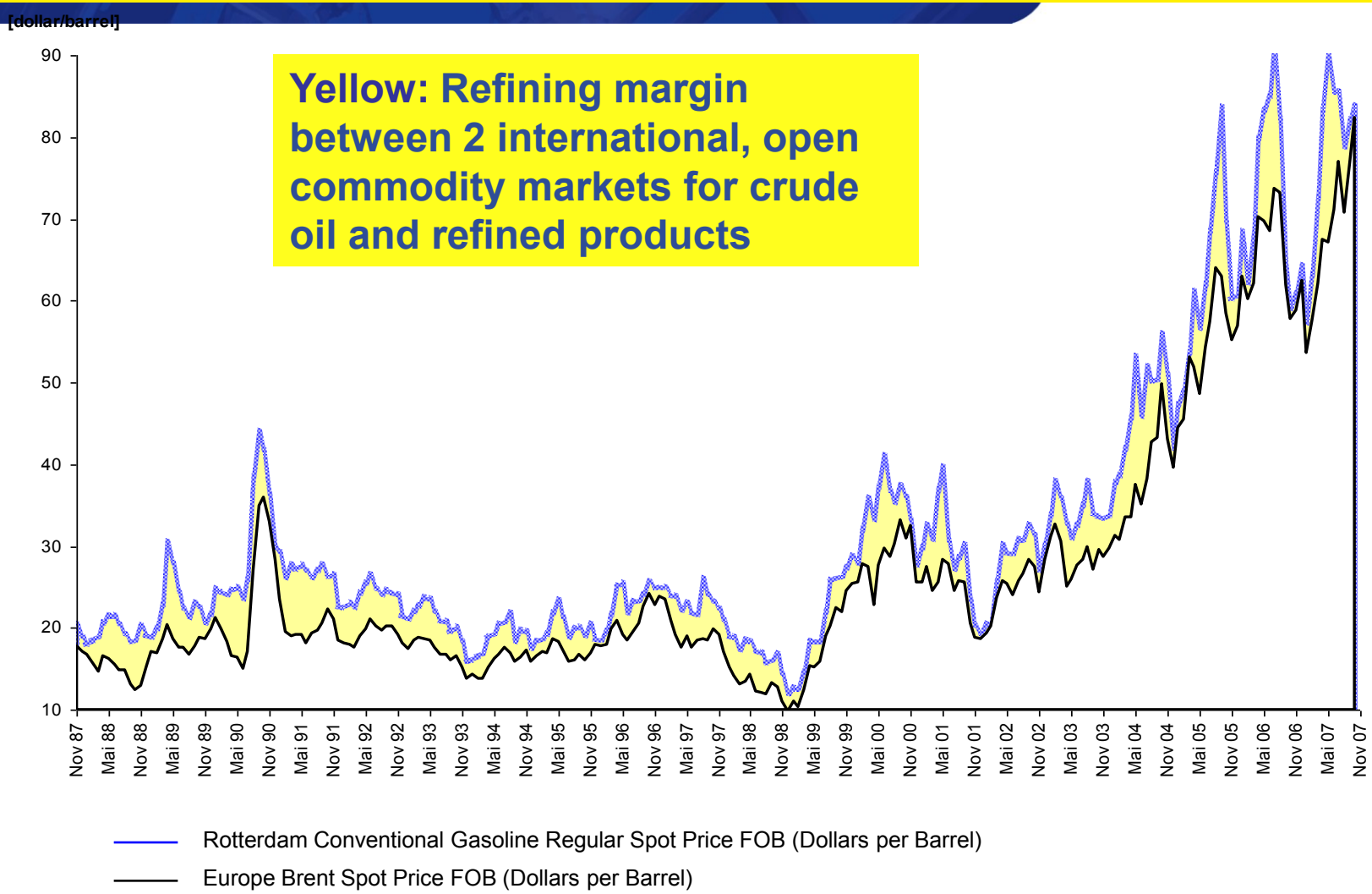

Source: EIA

Refining is an energy intensive industry: Energy is 60% of operating cost

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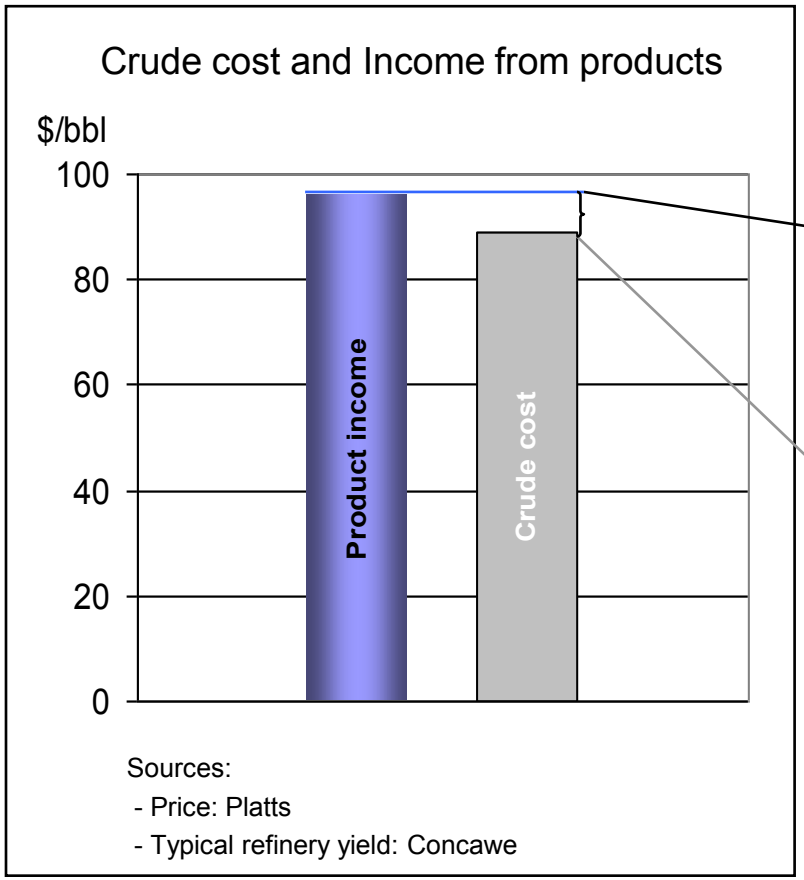

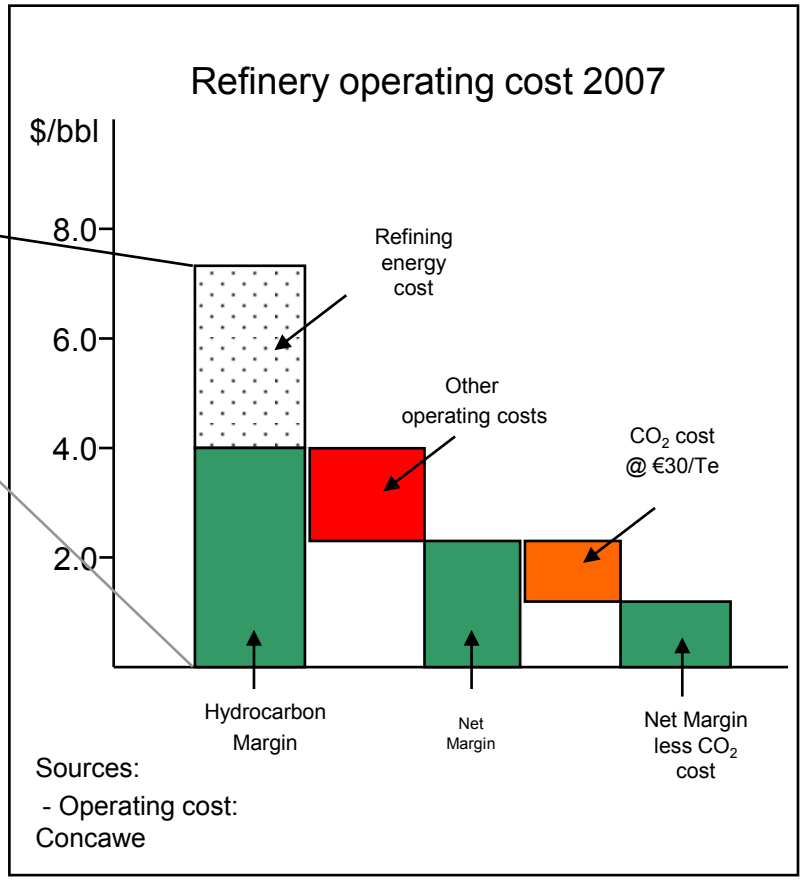

Refining is exposed to International Trade: dependent on Russia for diesel

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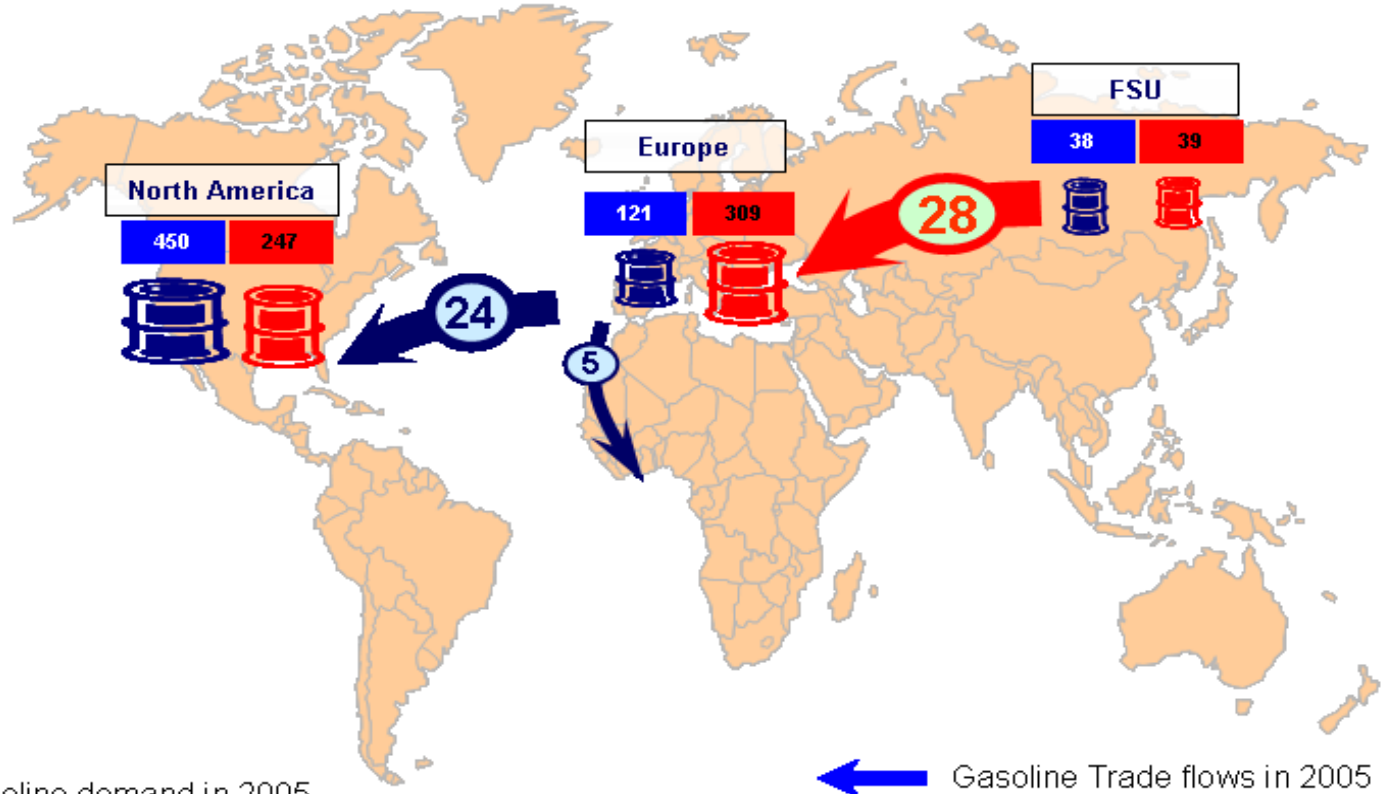
Source: International Energy Agency, Total



EU Refining Openness to Trade: at 22%, very similar to other sectors in the ETS.

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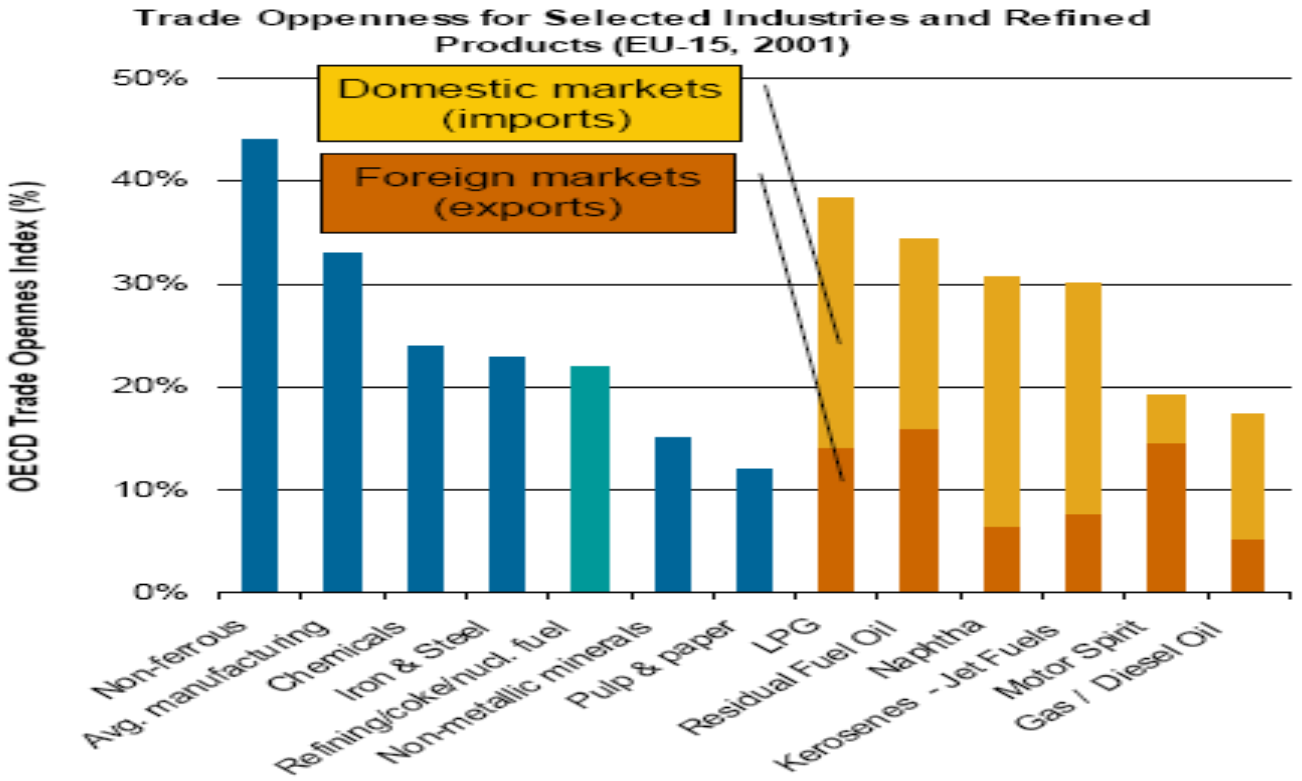

Notes: Refining data for are calculated for tonnes of product.
Sources: Non-refinery data adapted from Hourcade & Quirion (2004).
Refinery data from Eurostat.

$$\text{OECD Openness Index} = \frac{\text{Exports}}{\text{Production}} + \left(1 - \frac{\text{Exports}}{\text{Production}}\right)\frac{\text{Imports}}{\text{Demand}}$$

A strong EU Refining sector needs continued investment and provides security of supply

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- Refining investment is for long term; projects can take 5+ years.
- EU CO_2 cost (in the absence of International Agreement) would make:
  - investments in EU less attractive.
  - Increase incentives for importers to EU
  - Advantage non EU competition in export markets.
- A strong EU Refining industry provide security of supply.
  - Refineries have flexibility in making the right products for the market from many diverse crude supply sources.
  - Product imports (diesel and jet fuel)currently come from Russia and Middle East.

➔Substitution of EU refined products by imports will relocate emissions, not reduce them, and increase our dependency on one or two suppliers.

Freight costs for importing Refined products are similar to ETS costs

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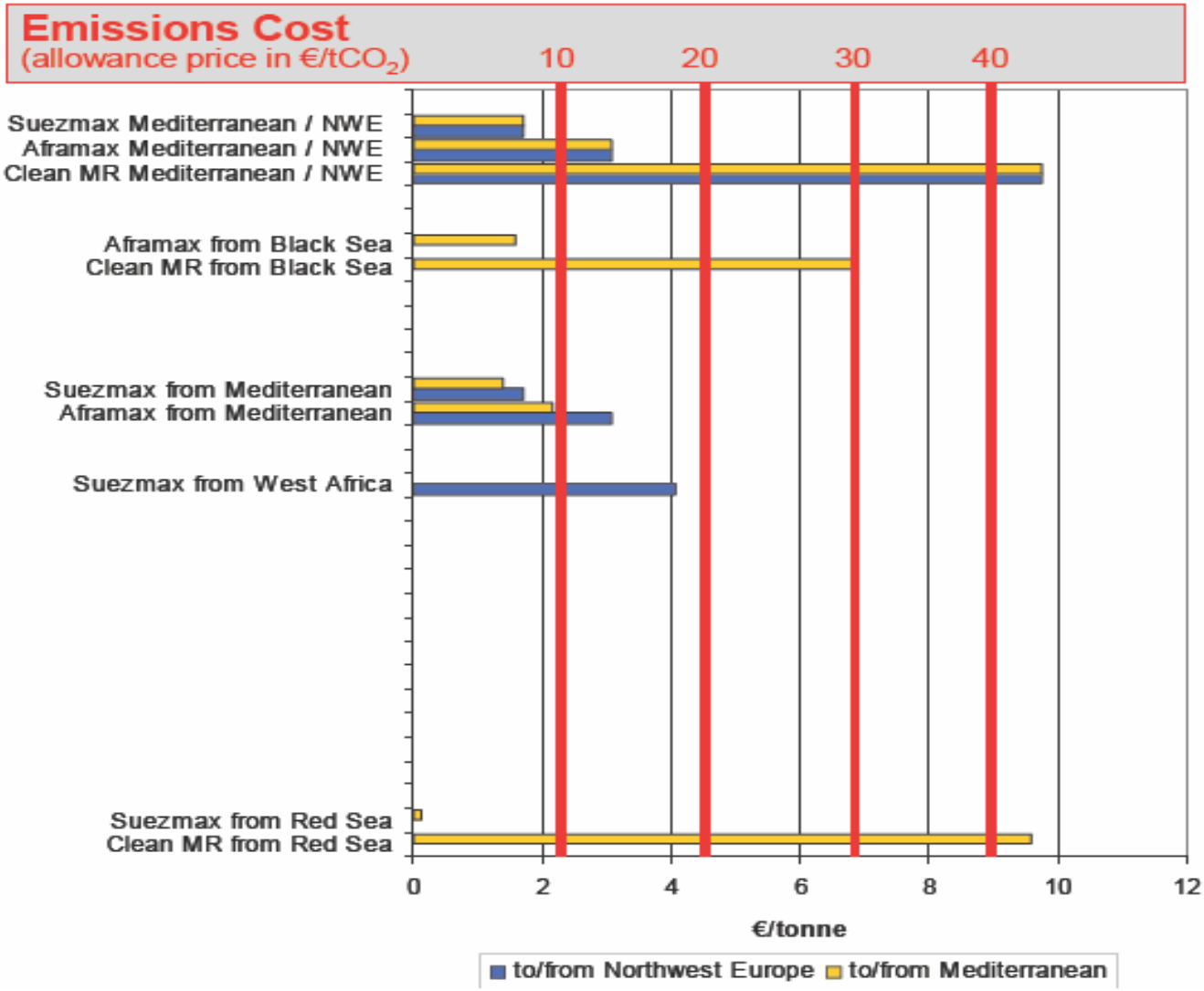

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BACK UP

At €35/Te CO2 cost for EU Refining could be close to €6B pa.

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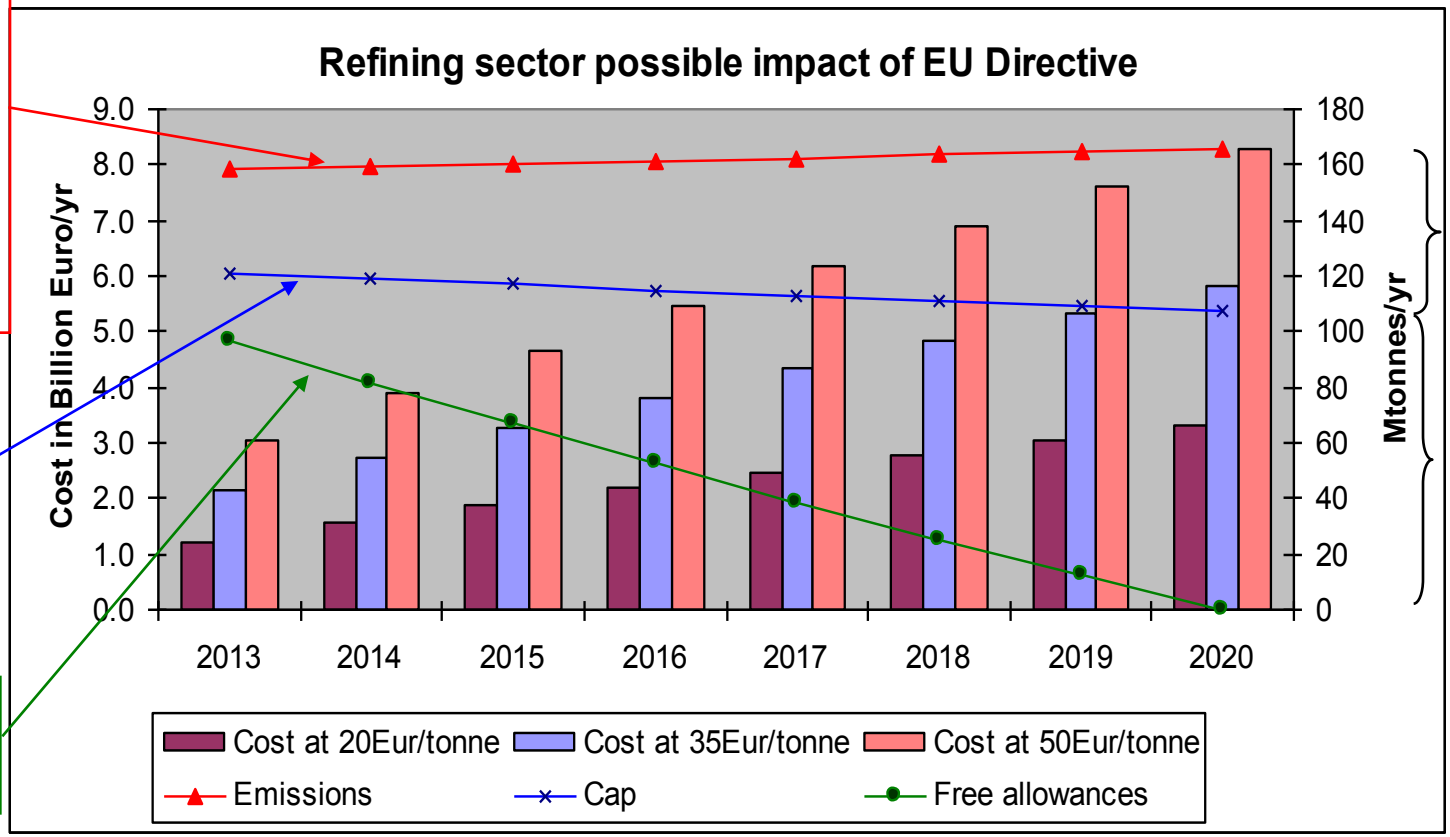
Refining emissions rising due to clean fuels/more diesel, slightly offset by energy efficiency

Refining emissions CAP, assuming same share of EU Cap as 2005

Refining free allowances if in Box 2



Incentive to reach Cap, or cost if do not

Additional cost to sector which does not increase incentive

Improvements in energy efficiency do not match the increased energy required for more complex refineries

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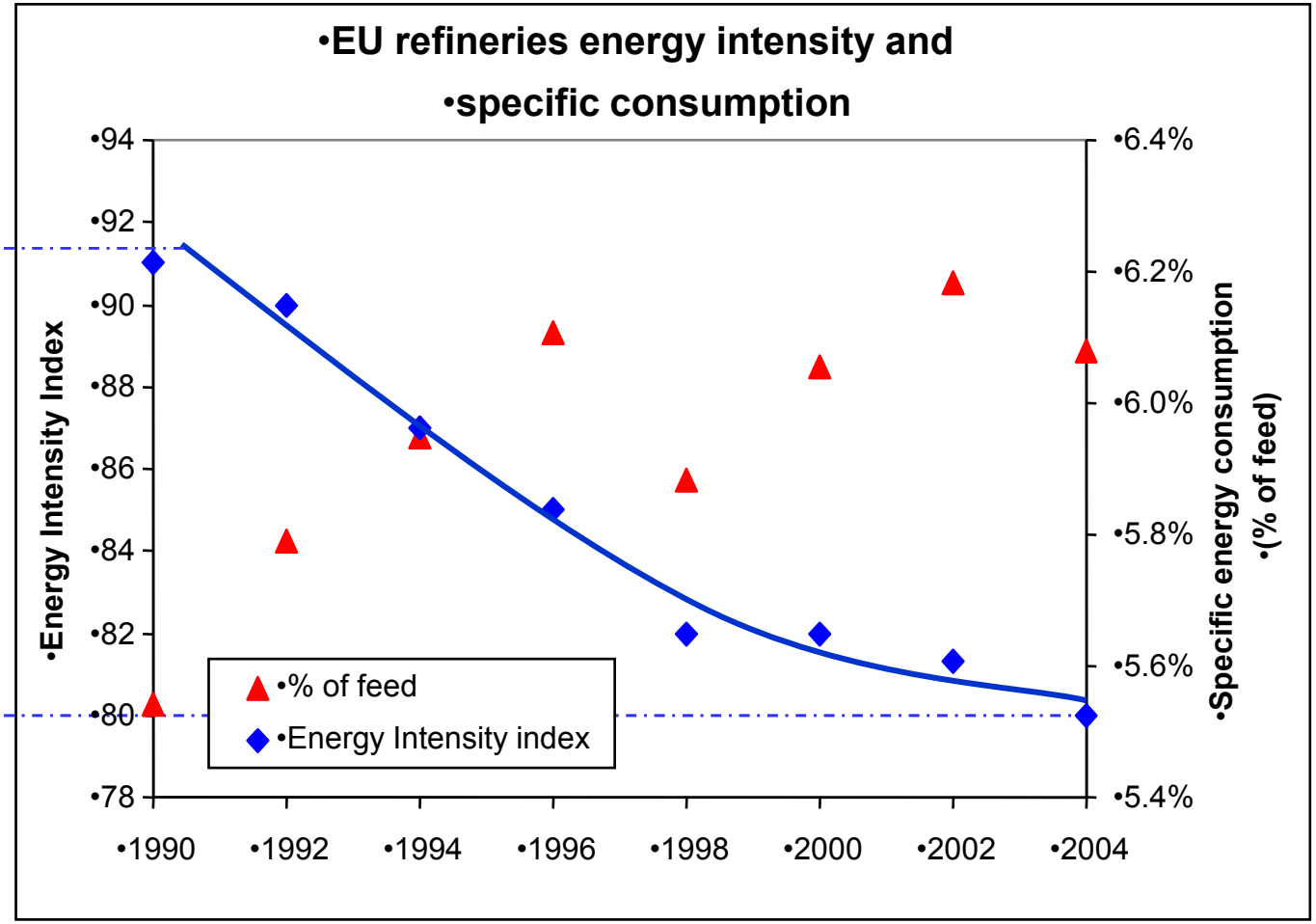
-13 %



•*Source: Solomon Associates*

More stringent product specifications and growing diesel demand lead to higher CO_2 emissions

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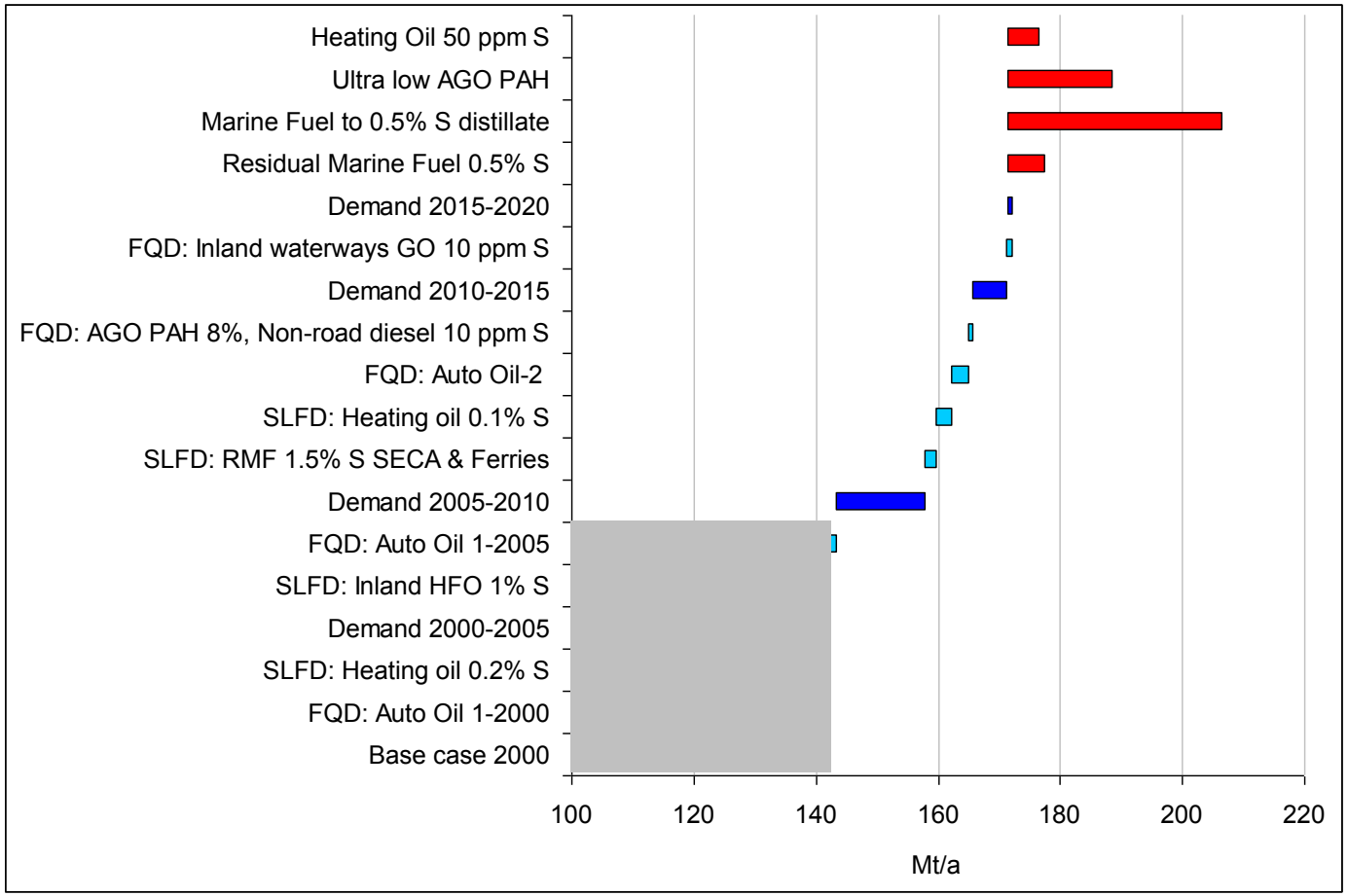

Source: CONCAWE

2000 Base Case | Demand changes | Specification changes | Potential spec. changes

Evaluation of exposure to C leakage: Studies

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- McKinsey/Ecofys – 2006:
  - Shows misunderstanding of Refining.
  - “CO2 emissions correlate strongly with refinery capacity”- incorrect.
  - “transport costs and logistics keep refining markets local” –incorrect.
  - “ we assumed that 25-75% of additional cost can be passed on to customers” - does not state how assumption made?
  - “refinery margins…..benefit from ETS if 95%...free allowances….and at least 25% cost passed through……At significantly lower levels of free allowances (ie below 80%) refinery margins might come under pressure”
- CE Delft/IEA:
  - Emphasise the impact of CO2 costs on product price – not the criterion which determines competitiveness.
  - Rely on the McKinsey pass through impact assumption – without stating how it was developed.

Competitiveness impacts in a world of unequal action are not macroeconomic, but sectoral for a few specific cases

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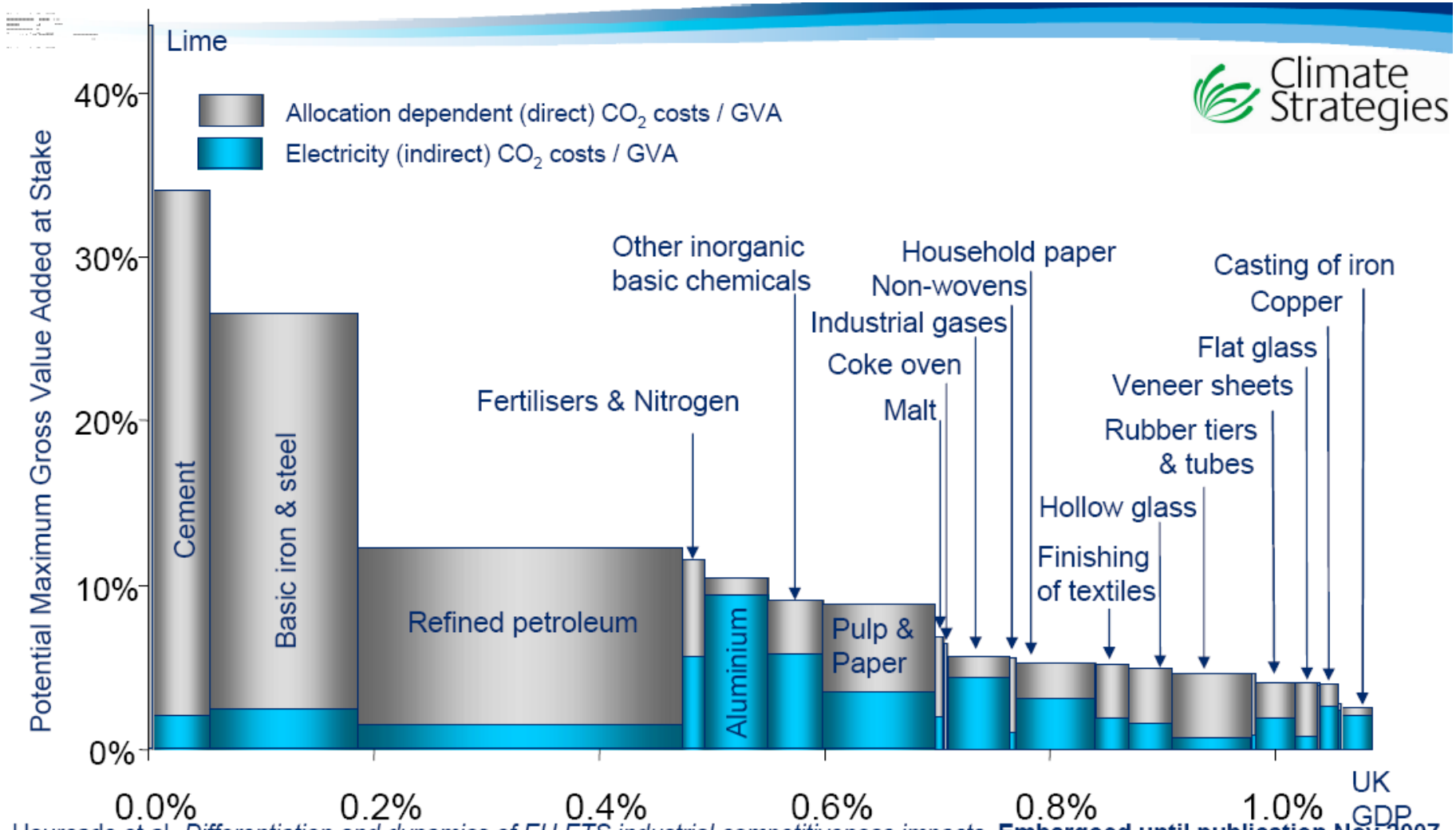

Hourcade et.al. *Differentiation and dynamics of EU ETS industrial competitiveness impacts.* **Embargoed until publication Nov 2007.**

CO_2 = €20/t CO_2; Electricity = €10/MWh

Direct and indirect cost impacts on manufacturing sub-sectors in Germany (assuming 20EUR/tCO2 carbon price, and corresponding 19EUR/Mwh electricity price increase), 2004 data. (Oko Institute)

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