



Bundesministerium
für Umwelt, Naturschutz
und Reaktorsicherheit

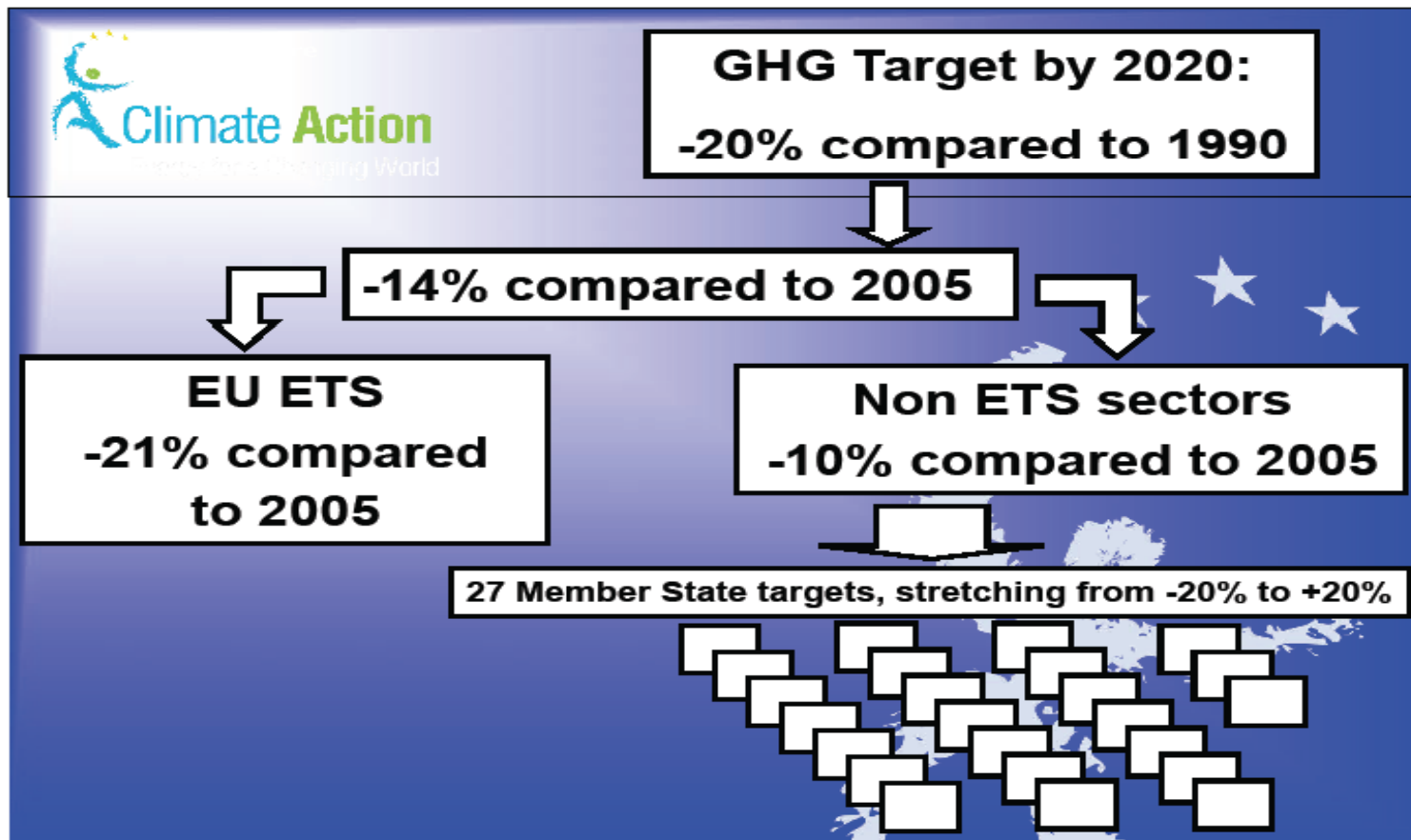
How to address carbon leakage in the EU ETS

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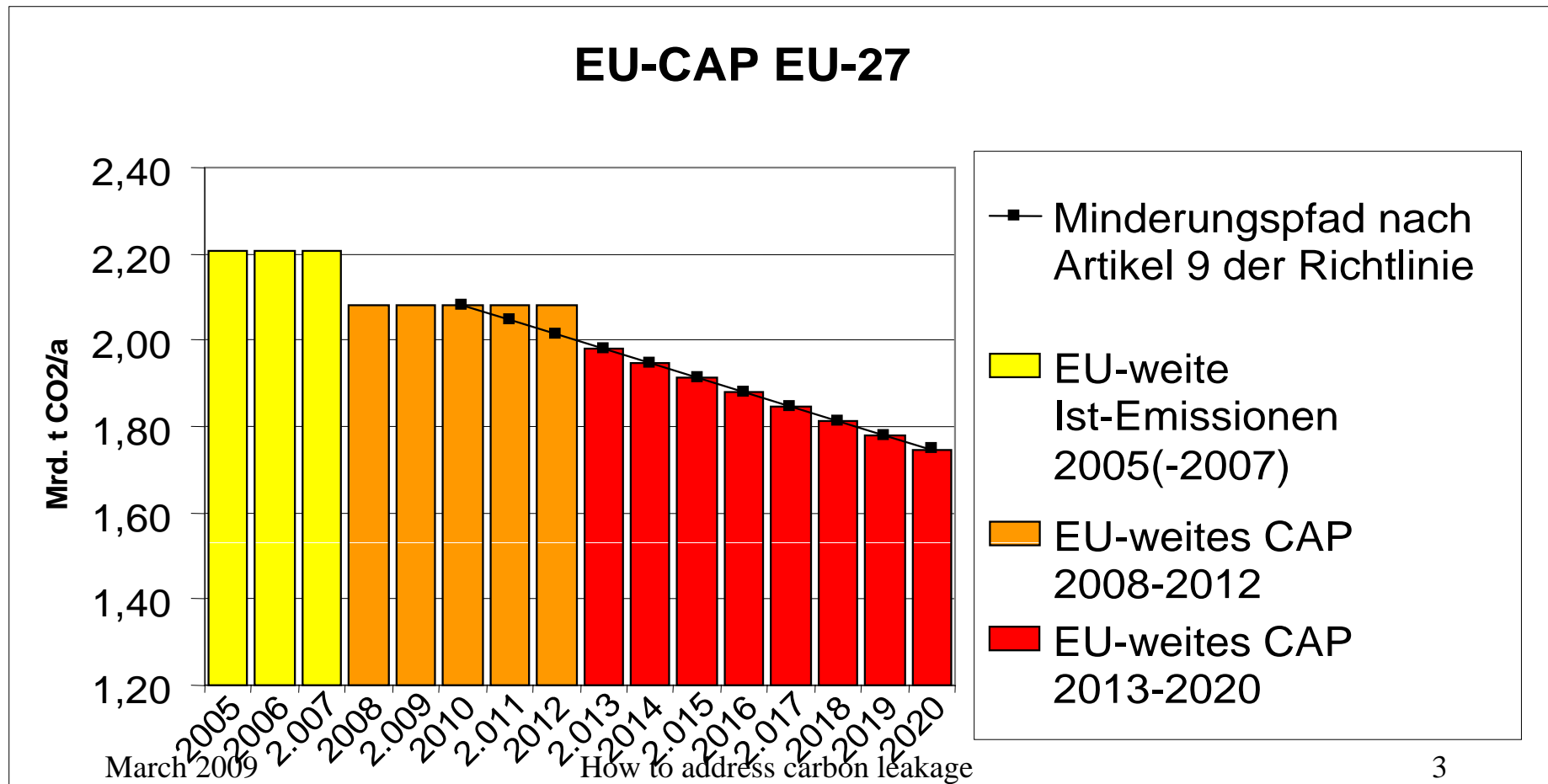


The „green package“ der EU



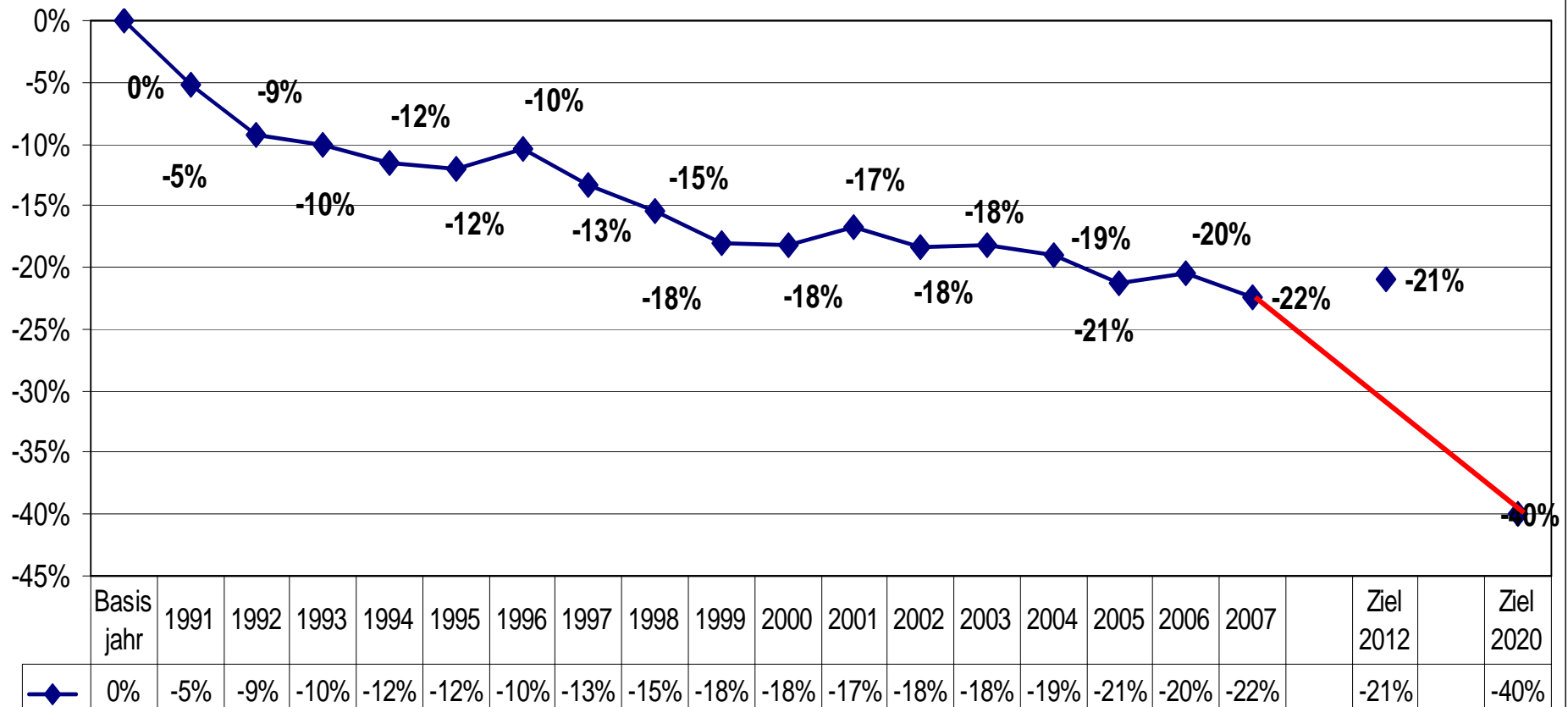


The reduction path





Entwicklung der Treibhausgasemissionen in Deutschland in %





Carbon leakage

- **Carbon leakage = EU-ETS induced relocation of production/emissions to regions outside of ETS**
- **Carbon leakage can potentially be triggered by**
 - **direct carbon costs (certificates needed for emissions caused by production)**
 - **indirect carbon costs (higher prices for power input)**



When does carbon leakage occur?

- **Carbon leakage is likely to occur**

if carbon costs are high and cannot be passed on consumers via product prices

- **as long as climate policy commitment is globally incomplete**
- **if production is exposed to international competition**

- **Carbon leakage is less likely to occur**

if carbon costs can be passed on consumers

- **if products are highly specialized**
- **if other aspects dominate location decisions (e.g. exchange rate risks, transport costs, close cooperation with EU partners)**



How to treat industries which are subject to a strong international competition?



First and Second Trading Period (2005 – 2012)

- **Industry (iron & steel, paper & pulp, cement, lime, glass, ceramics) was treated in a very moderate manner (low compliance factor)**
- **During the first trading period some industries have been overallocated**
- **In the second trading period only 280 out of 533 installation are subject to the compliance factor (1,25 % - 98,75 have been allocated free of charge)**
- **Actually the emissions trading price is very low (between 8 an 12 €)**



Allocation rules First and Second Trading Period

Trading period	Category of installations	Energy	Industry
2005 – 2007	Incumbents	grandfathering reference period 2000 – 2002	
	Newcomer	benchmarking	benchmarking
2008 - 2012	Incumbents	benchmarking and auctioning	grandfathering reference period 2000 - 2005
	Newcomer	benchmarking and auctioning	benchmarking

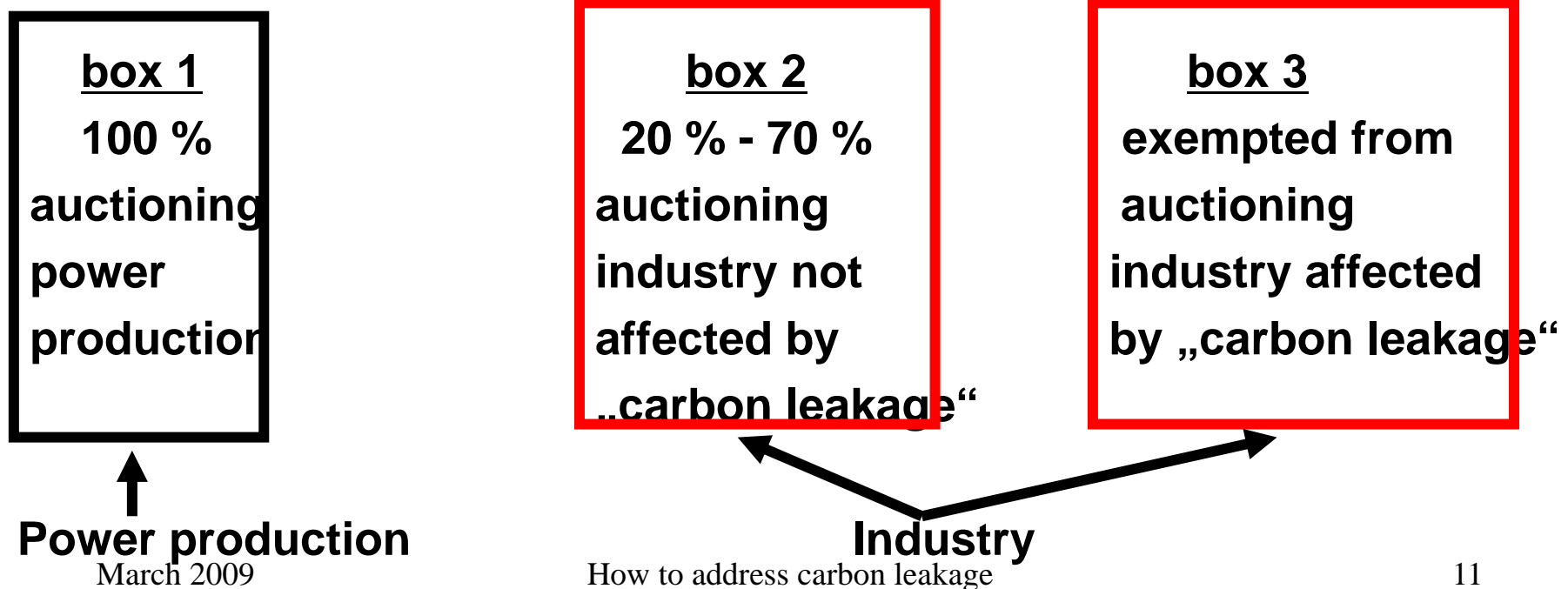


Allocation rules Third Trading Period

trading period	Power generation	Industry	
2013 - 2020	generally: 100 % auktioning	carbon leakage	no carbon leakage
	Specific rules for Accession- countries – phase in of auktioning	bench- marking	auktioning / bench- marking relation 20 : 80 (2013) up to 70 : 30 (2020)



Structure of auctioning - Third Trading Period -





Approach to identify sectors

- **Which sectors face a high exposure to direct or indirect ETS induced CO₂ costs?**
- **Which sectors face a high exposure to international competition?**
- **Potentially affected sectors in Germany**

Source: Statistisches Bundesamt/Öko-Institut

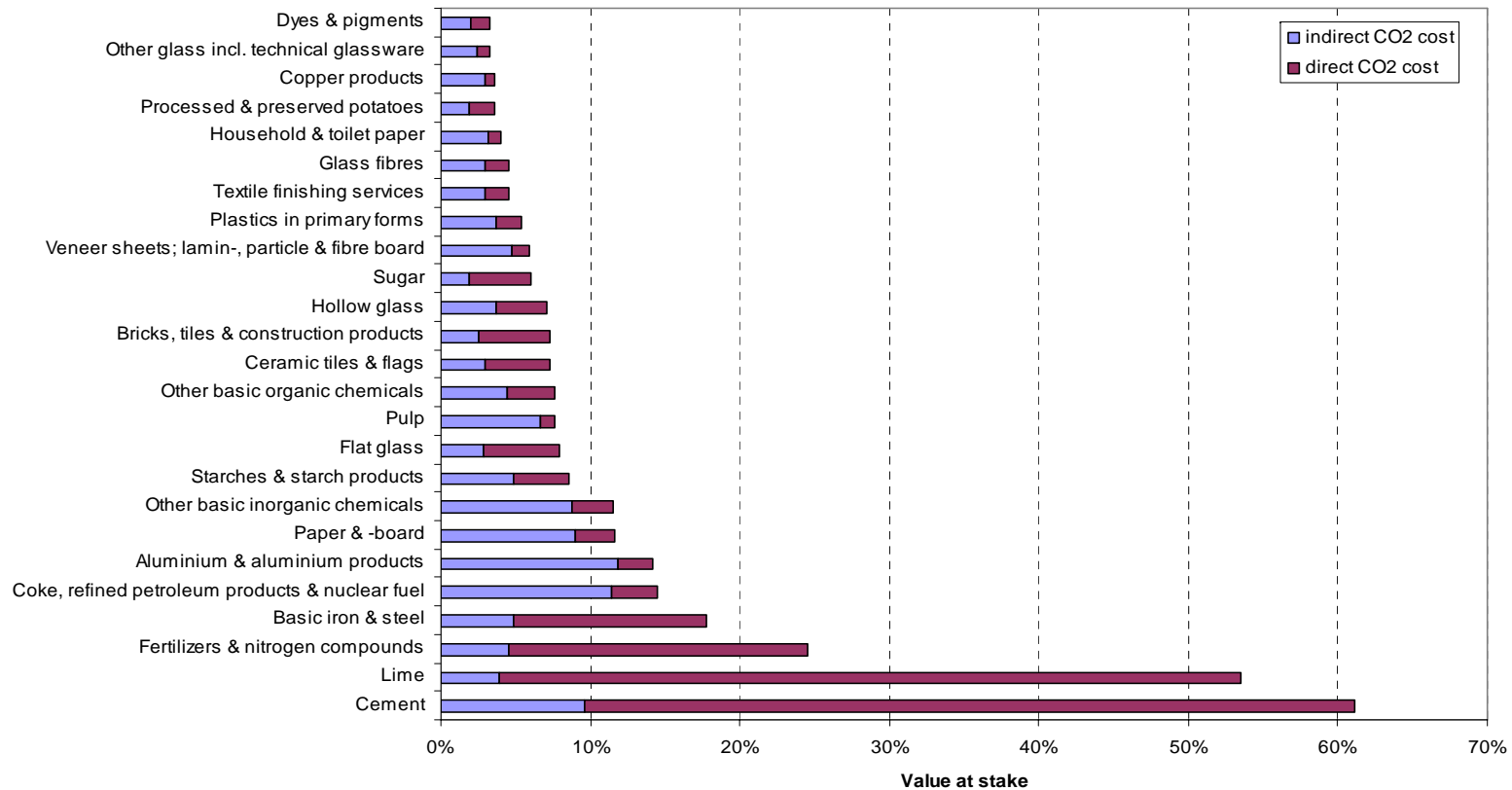


Criterion I: CO₂ induced costs

- **Concept: “value at stake”**
- **Definition:**
value at stake = $\frac{\text{(potential direct + potential indirect costs)}}{\text{gross value added (GVA) of sector}}$
- **Direct costs:**
EU allowance price of 20 €/t CO₂ assumed
- **Indirect costs:**
CO₂ costs of power plant operating at the margin
D: hard coal power plant
- **25 sectors identified with relevant CO₂ induced costs**
(2% indirect or 4% cumulated cost increase)



German sectors with high CO₂ costs (direct and indirect)





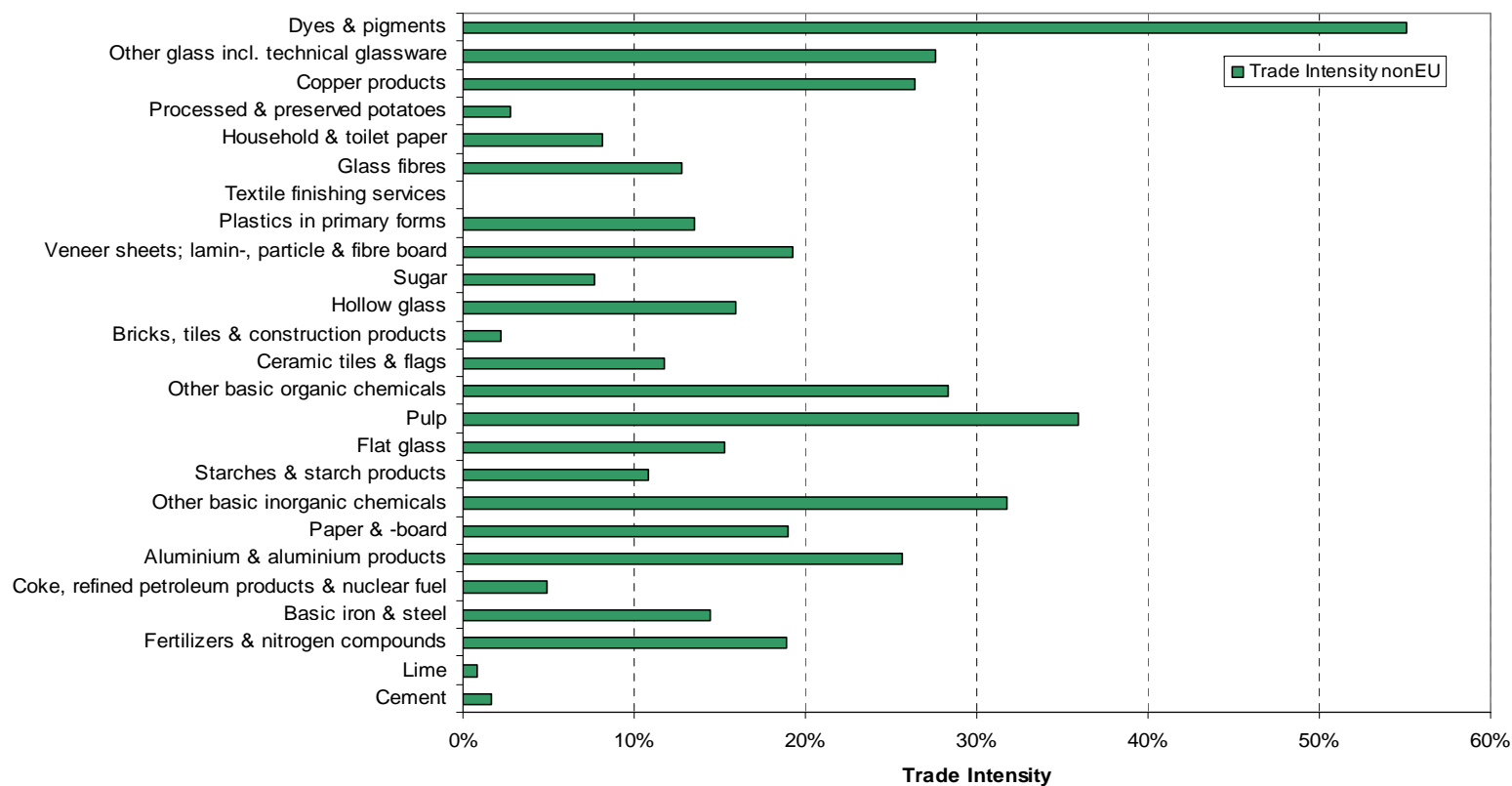
Criterion II: trade exposure

- **Risk of carbon leakage caused by potential price increase depends on possibility to pass through costs**
- **Indicator: trade intensity of German sectors with non-EU**
- **Definition:**

$$\text{trade intensity} = \frac{(\text{exports to non-EU} + \text{imports from non-EU})}{(\text{annual turnover} + \text{total imports})}$$

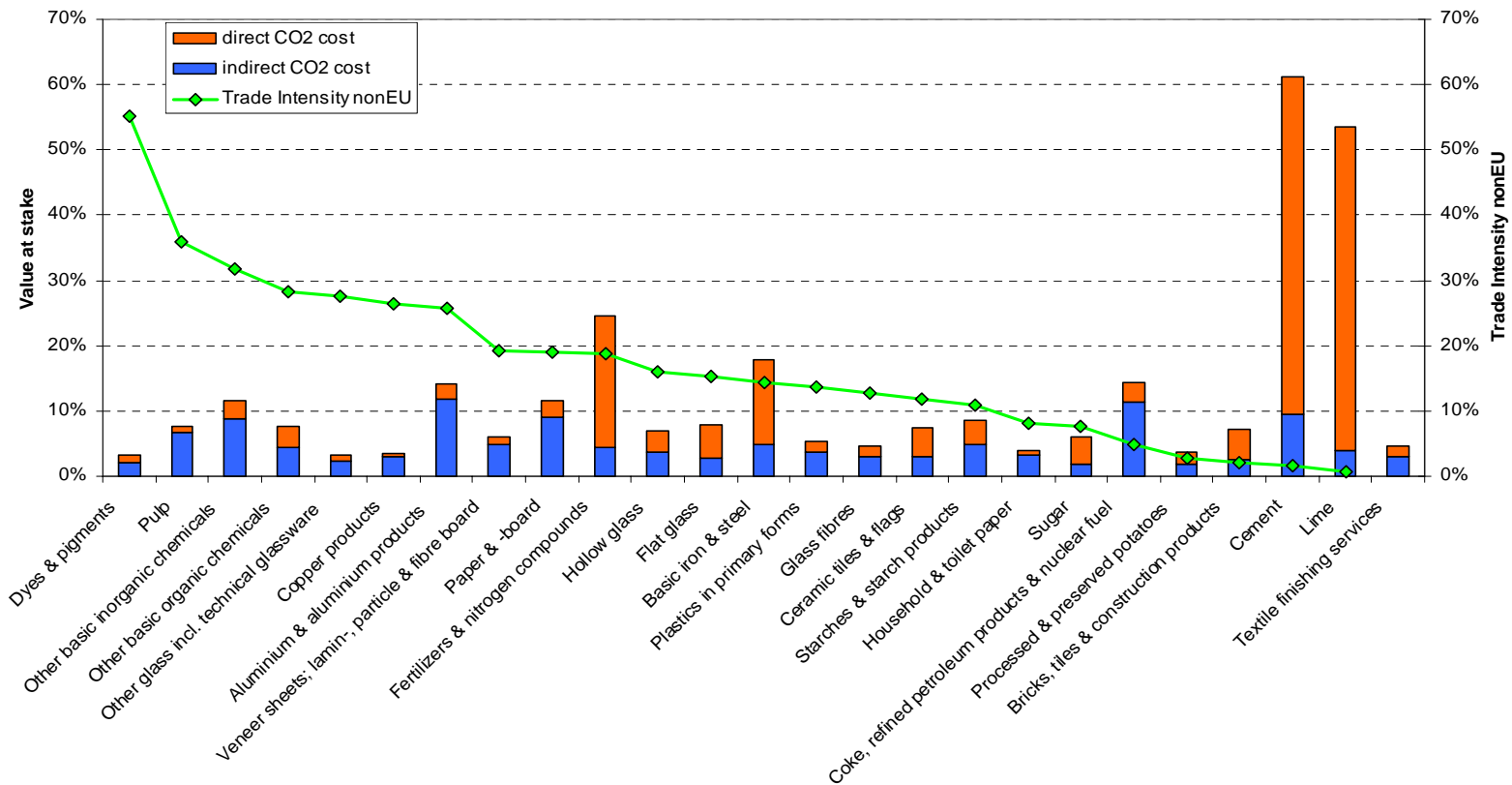


Non-EU trade intensity of German sectors with high CO₂ costs





Combining both criteria





Trade exposed sectors show differences between direct and indirect costs

- sectors with high direct costs:
 - basic iron and steel
 - fertilizers and nitrogen compounds
- sectors with high indirect costs:
 - aluminium and aluminium products
 - paper and paperboard
 - other basic inorganic chemicals



“carbon-leakage” in the EU-ETS directive

- **revised ETS directive was adopted in December 2008**
- **contains rules for ETS without international agreement**
- **criteria for “carbon-leakage”**
 - **if trade intensity > 10% and CO₂ costs / value added > 5%**
 - **or if one criterion > 30%**
- **List of sectors will be finally determined until end 2009, revision every 5 years**



planned measures to address “carbon-leakage”

- **identified sectors will not be subject to auctioning**
- **allocation will take place on ambitious benchmarks**
- **benchmarks are determined according to the specific emissions of the 10% most efficient installations in a sector in the EU-27 (“top ten benchmarks”)**
- **rest of the industry: 80% free benchmark allocation in 2013 (20 % auctioning); linearly reduced to 30% free benchmark allocation in 2020 (70 % auctioning) – 100 % auctioning in 2027**



Revision after an international agreement

- **Revision of the ETS directive planned after the signature of an international agreement**
- **first report on “carbon leakage” by EU-Commission by 30 June 2010**
- **share of free allocation to “carbon leakage” sectors can be reduced**



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Thank you for your attention!

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