CARBON BORDER ADJUSTMENTS: THE POTENTIAL EFFECTS OF THE EU CBAM ALONG THE SUPPLY CHAIN

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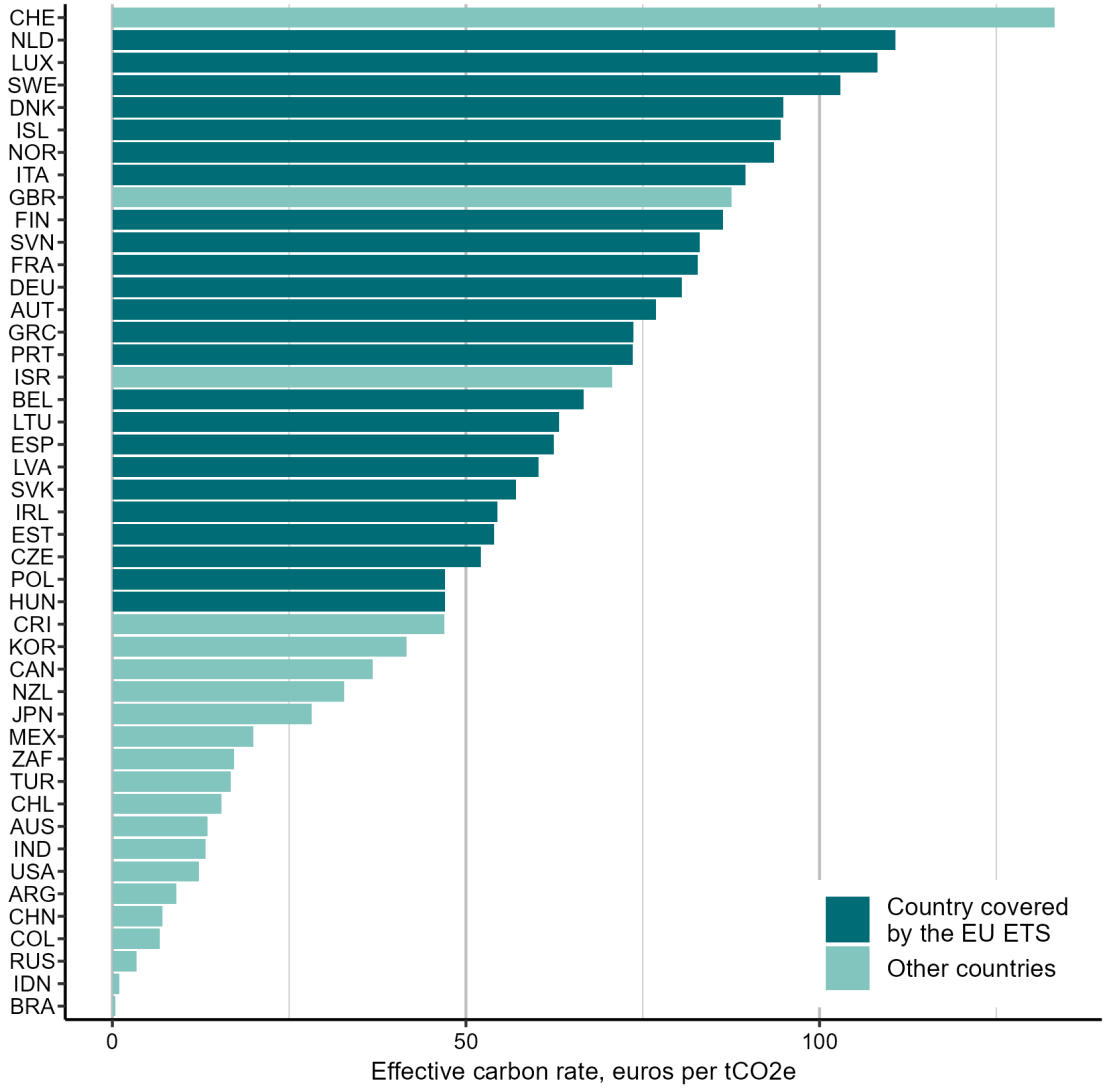
OCDE
DES POLITIQUES MEILLEURES POUR UNE VIE MEILLEURE

Diverging climate policies and carbon leakage



Source: OECD Effective Carbon Rates (OECD, 2021)

- While most governments have announced long-term decarbonisation commitments, **climate policy measures strongly differ** across countries
  - The Fit for 55 legislation will broaden this gap
- This raises the risk of **carbon leakage** (shift of production to countries with more lenient regulations)
- In the EU, until now, dealt with **Free Allowances** within the EU ETS (esp. EITE industries)
  - **Theory:** preserve firms' competitiveness while maintaining incentives to reduce emissions

The EU Fit for 55 policy package

EU ETS Reforms

- A **lower emission cap** that will decrease the number of available quotas.
- A **phasing out of free emission quotas** between 2026 and 2034 that will strongly impact the most emitting sectors.

➔ **Large increase in the emission costs in the EU**

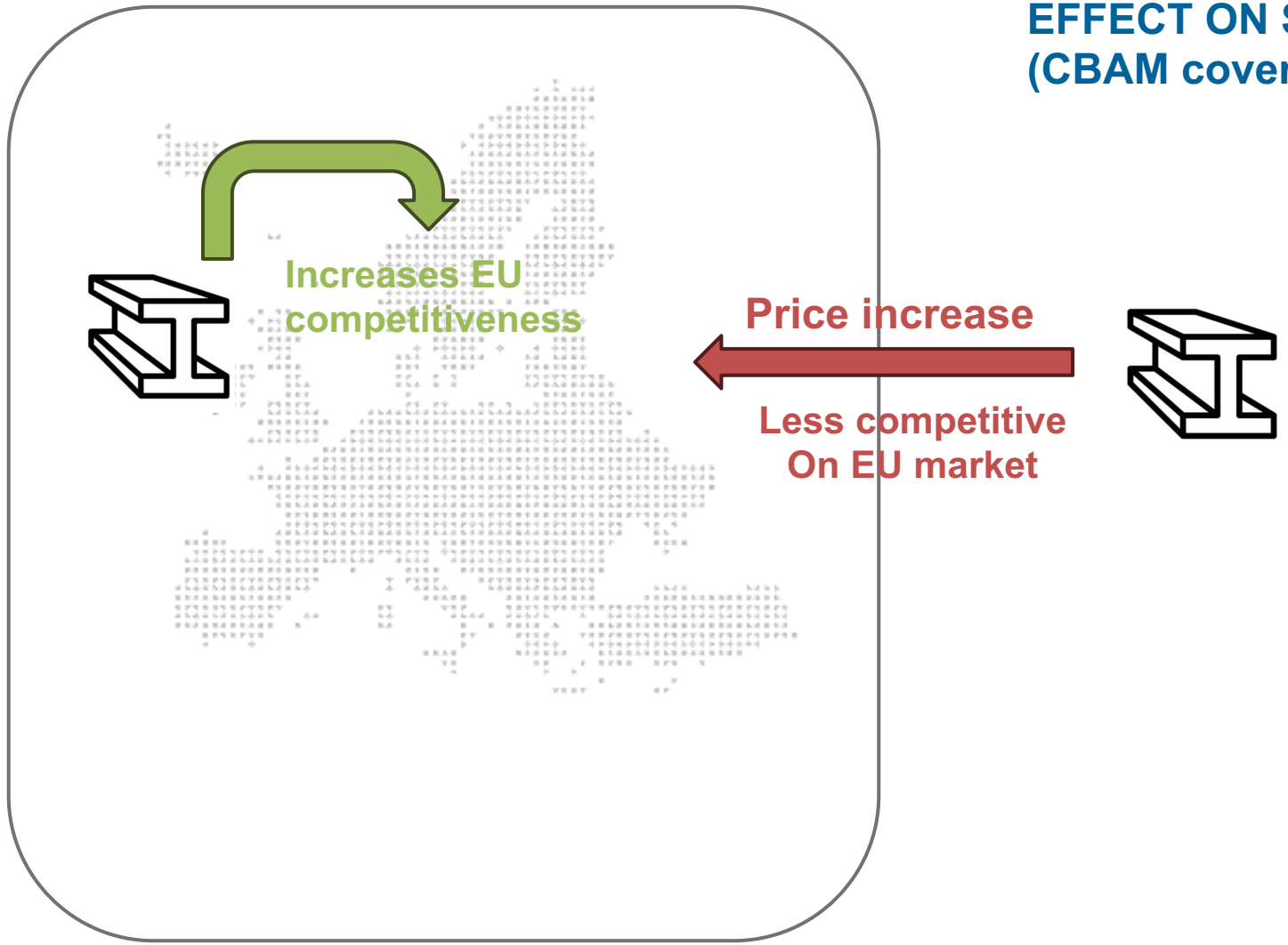
EU CBAM

- A **carbon levy** on imports to the EU based on embedded greenhouse gas emissions
- 303 emission-intensive goods covered including steel, cement, aluminium, fertilizers, electricity, and hydrogen
- Aims to **level the playing field** by aligning emissions costs between EU and non-EU producers in the EU market

The Fit for 55 policy package

How does CBAM affect competitiveness across the value chain?

EFFECT ON STEEL PRODUCERS (CBAM covered)



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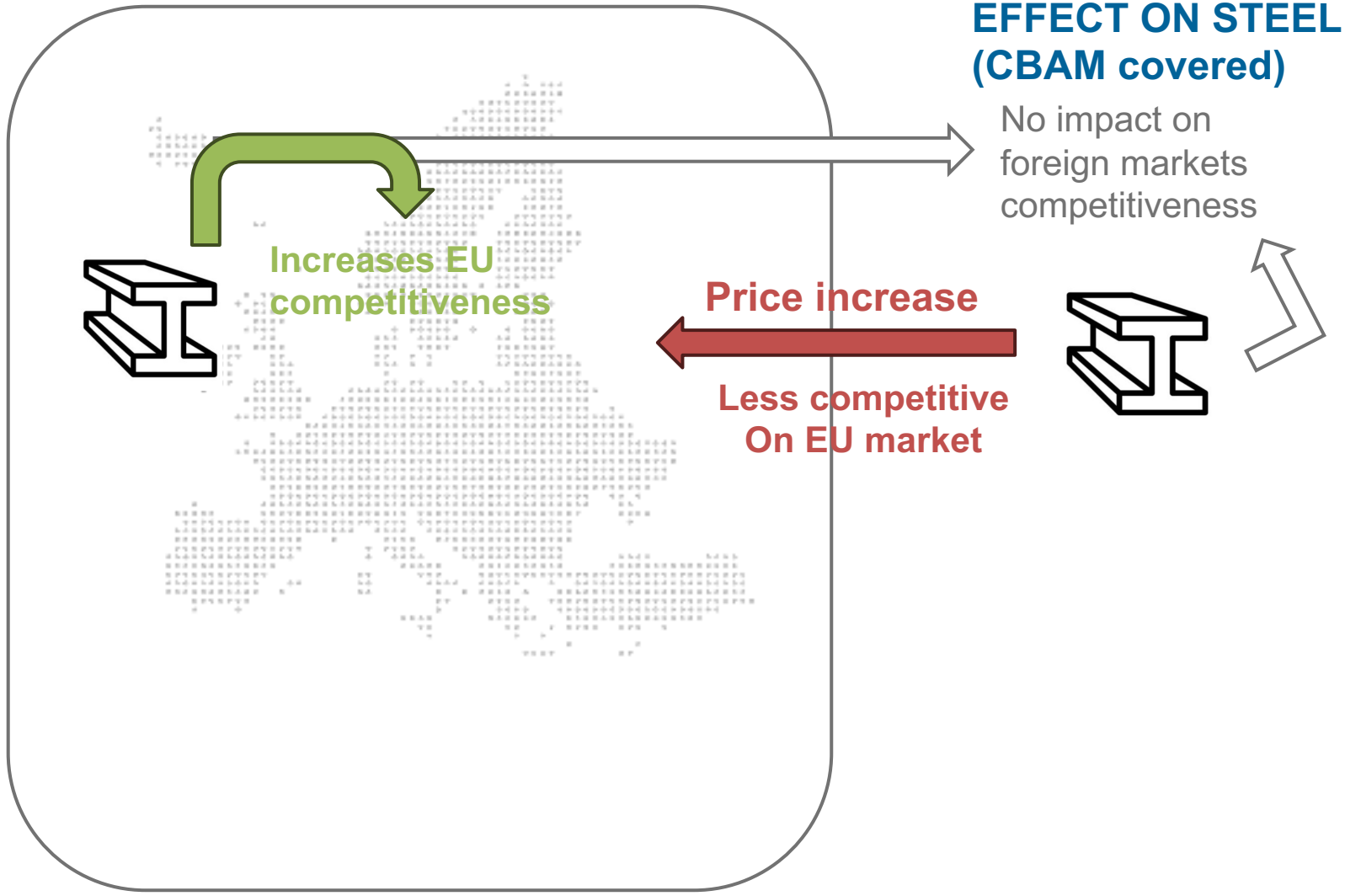

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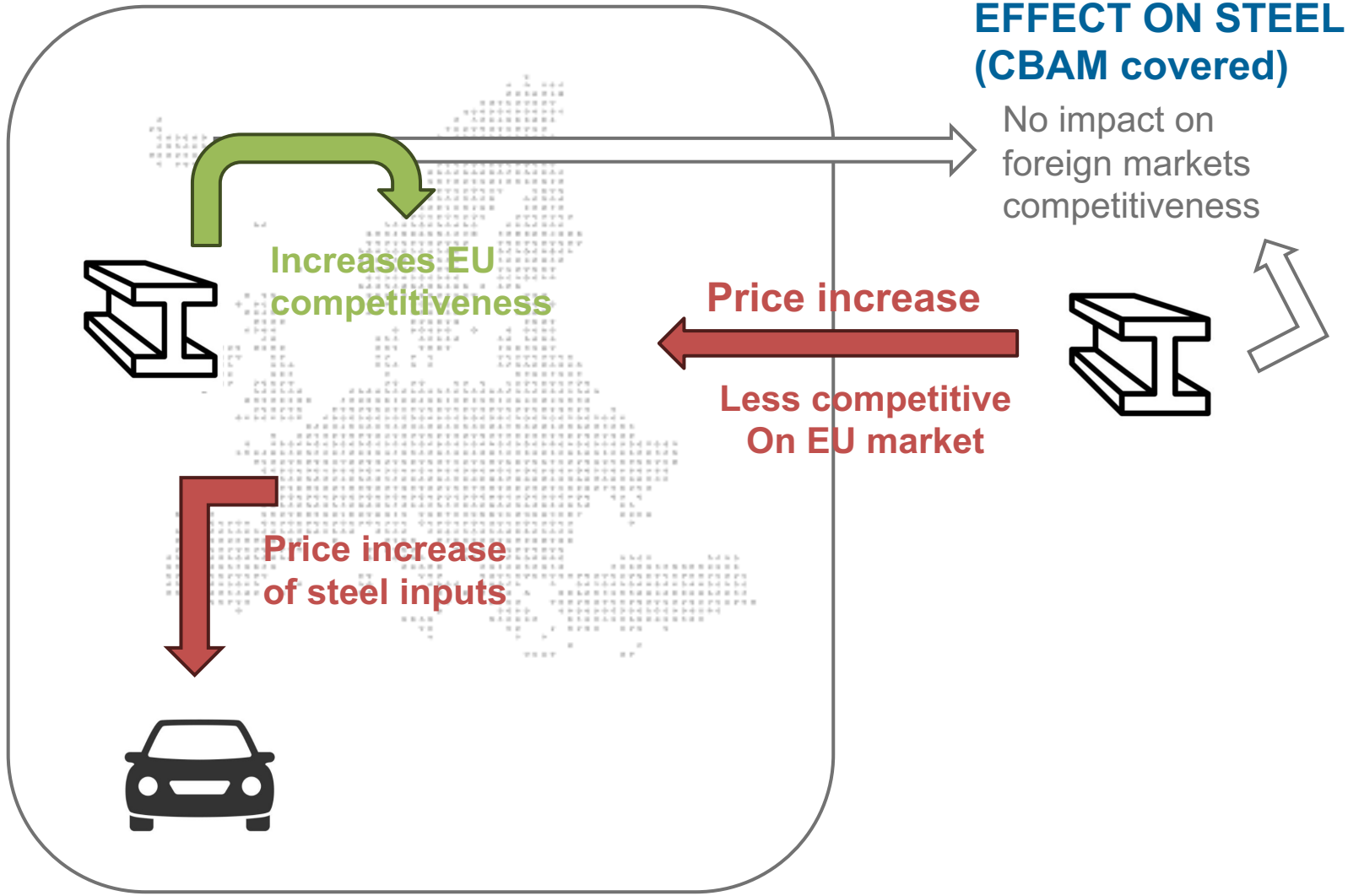

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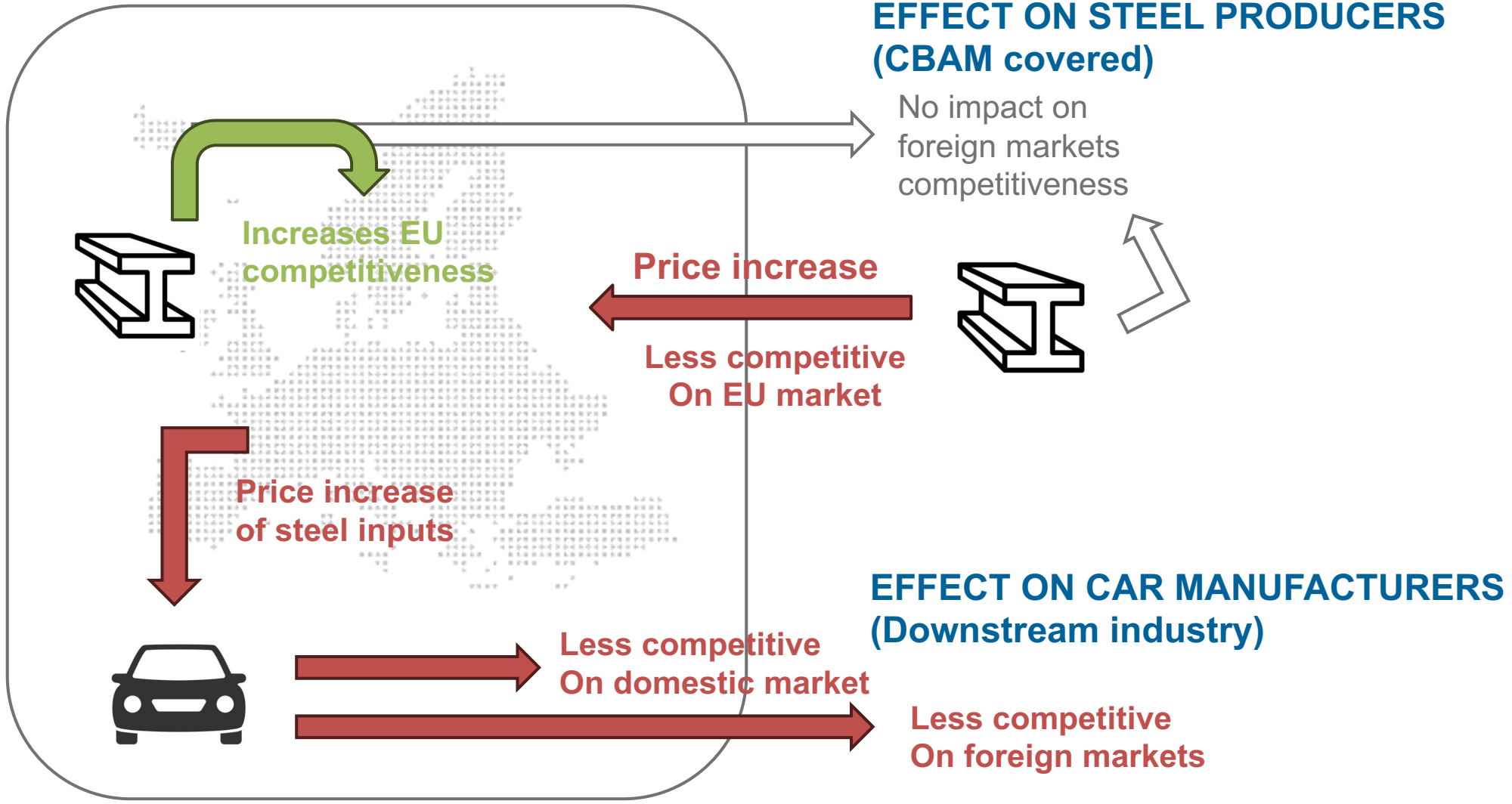
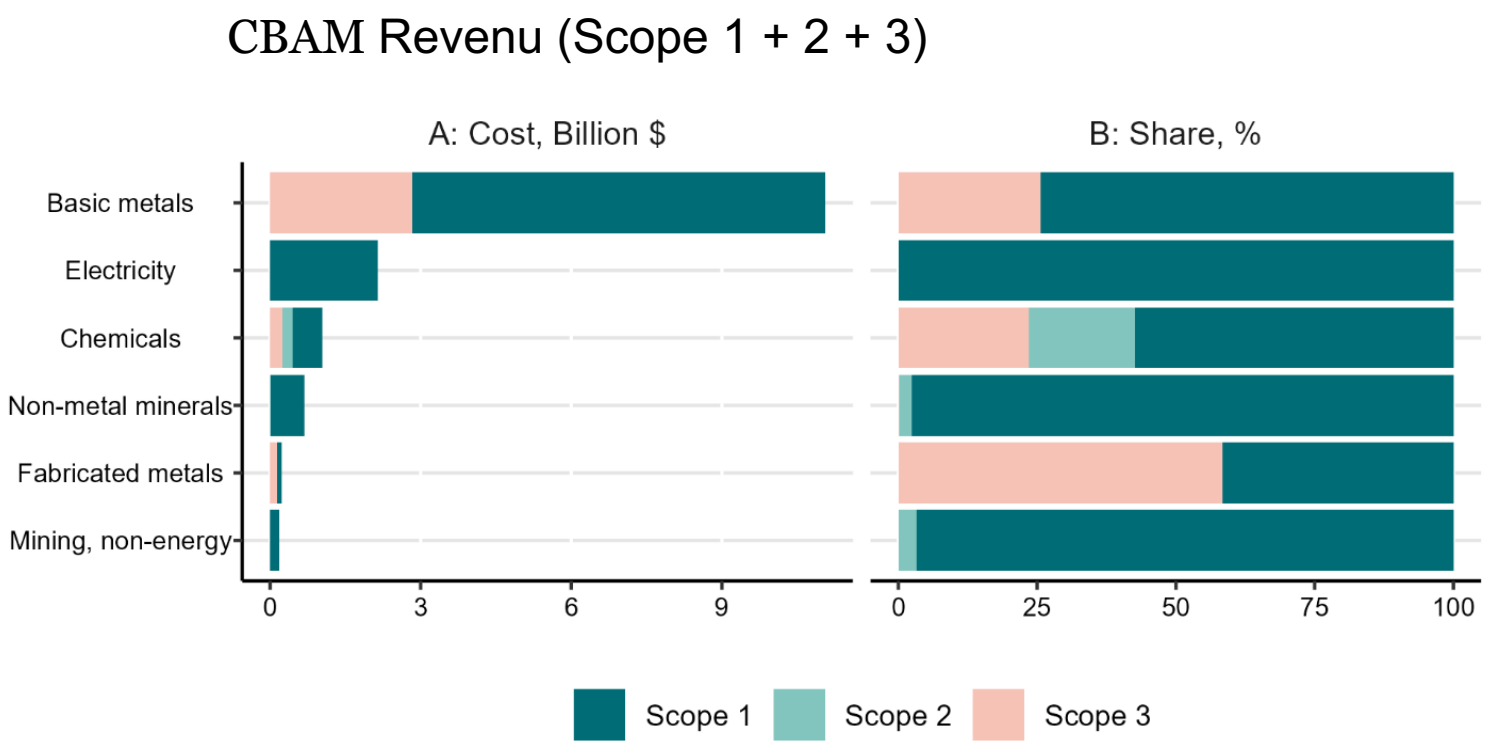


SIMULATING THE IMPACT OF THE CBAM

CBAM Revenue – Scope 1, 2 & 3



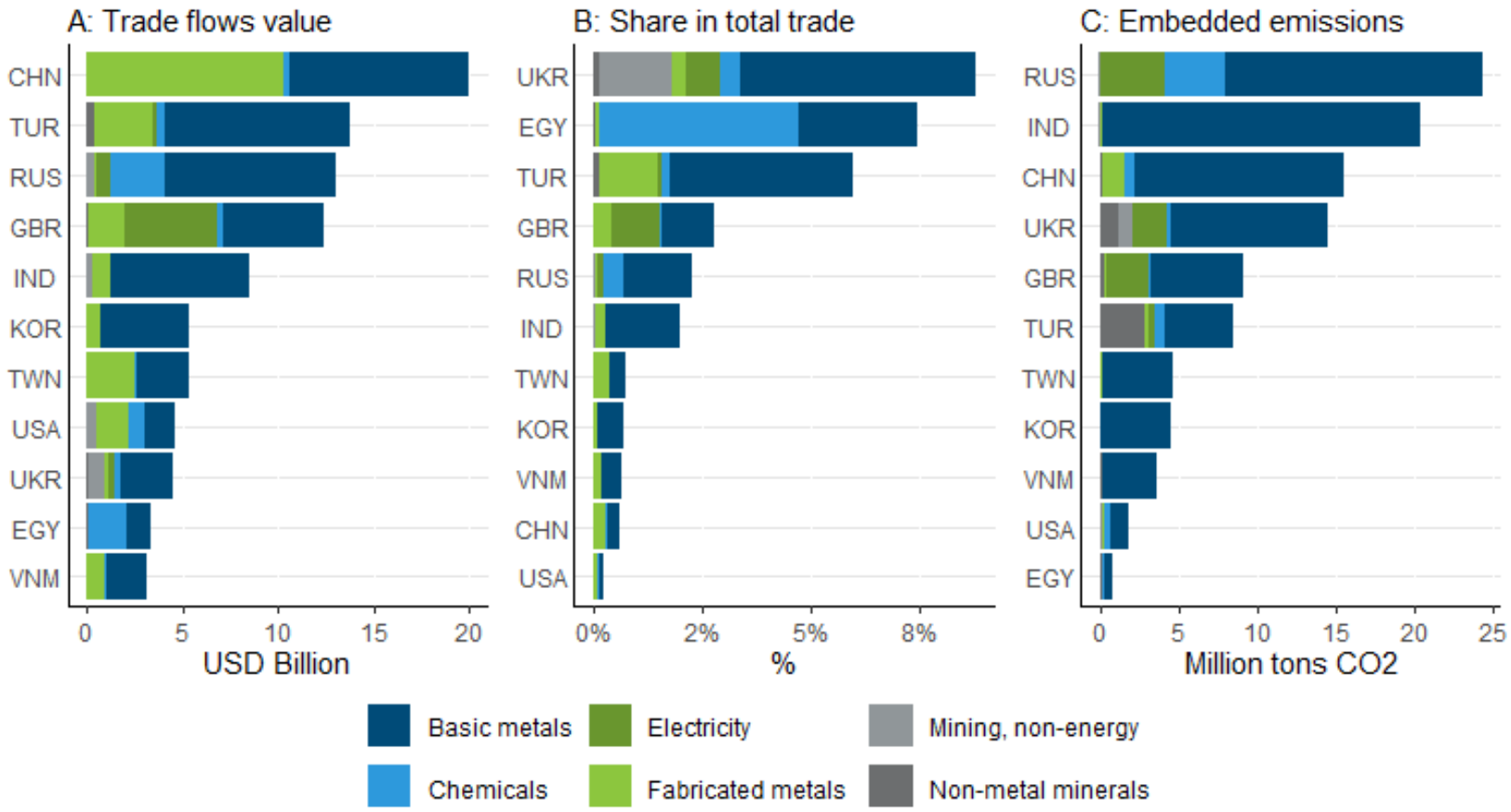
Covered emissions represent **0.31%** of global energy and process-related emissions

The CBAM would generate 15 billion euros of revenue yearly

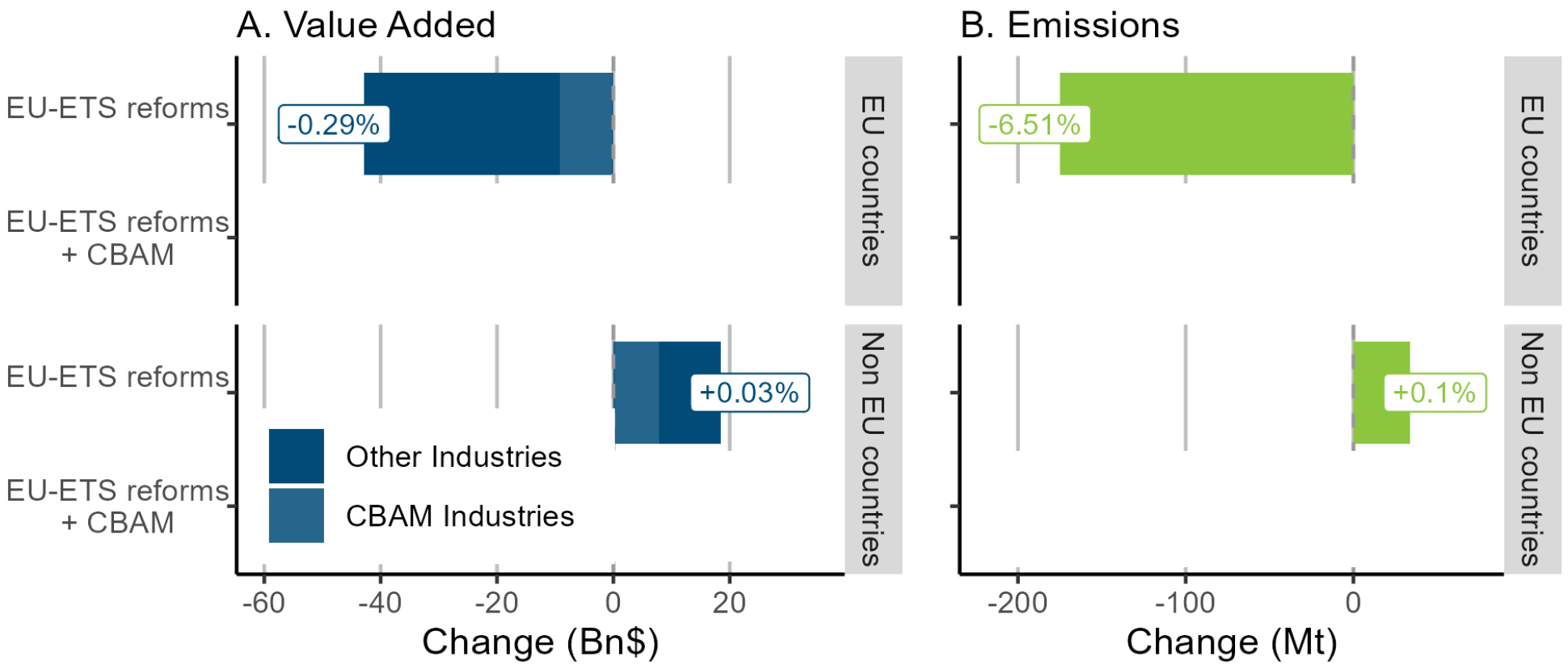
Source: Comtrade, TeCO2, ICIO, USEEIO

CBAM covers embedded emissions

CBAM coverage, top 10 countries, 2022

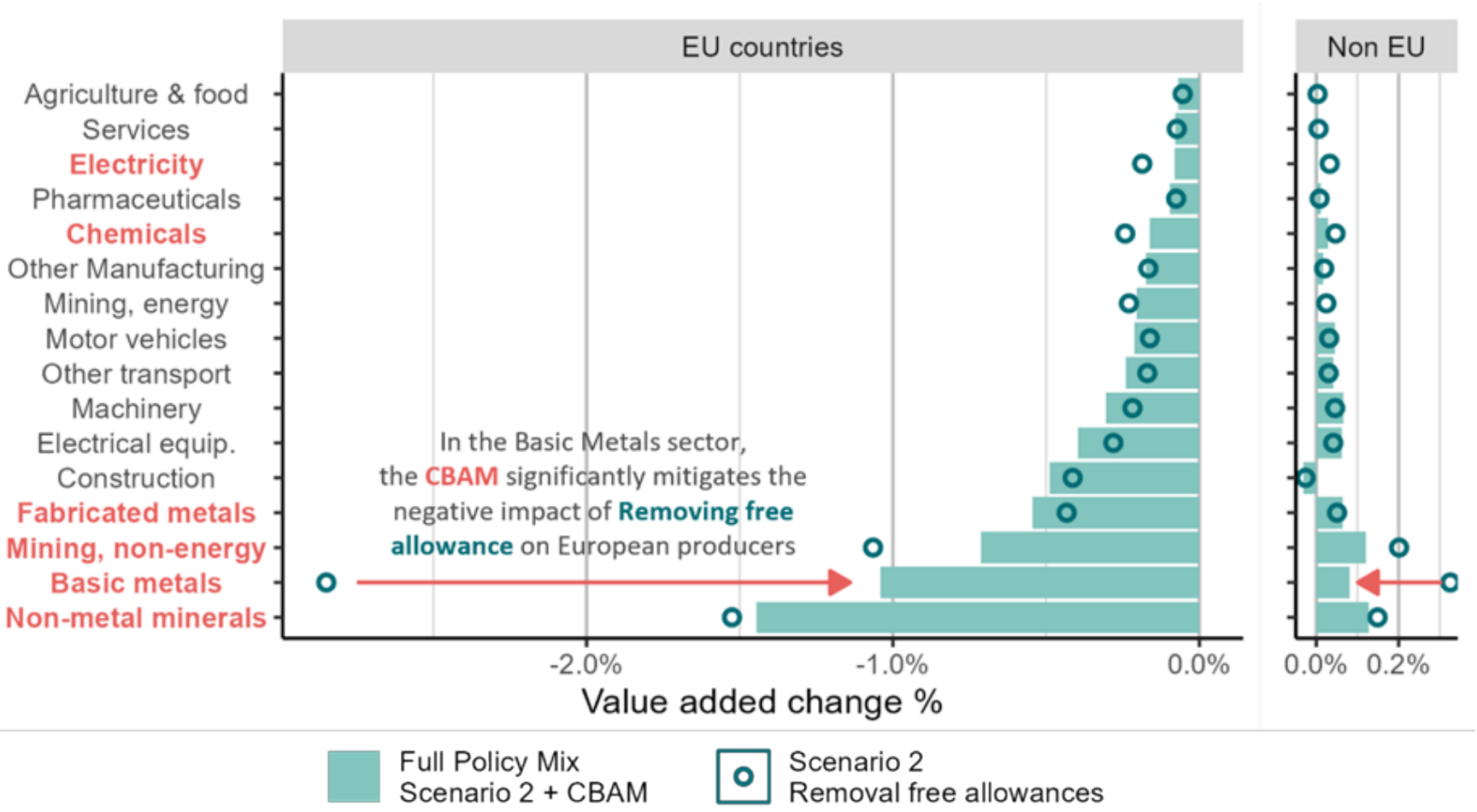


Simulated impact of the CBAM



CBAM does not fully compensate for the removal of free allowances

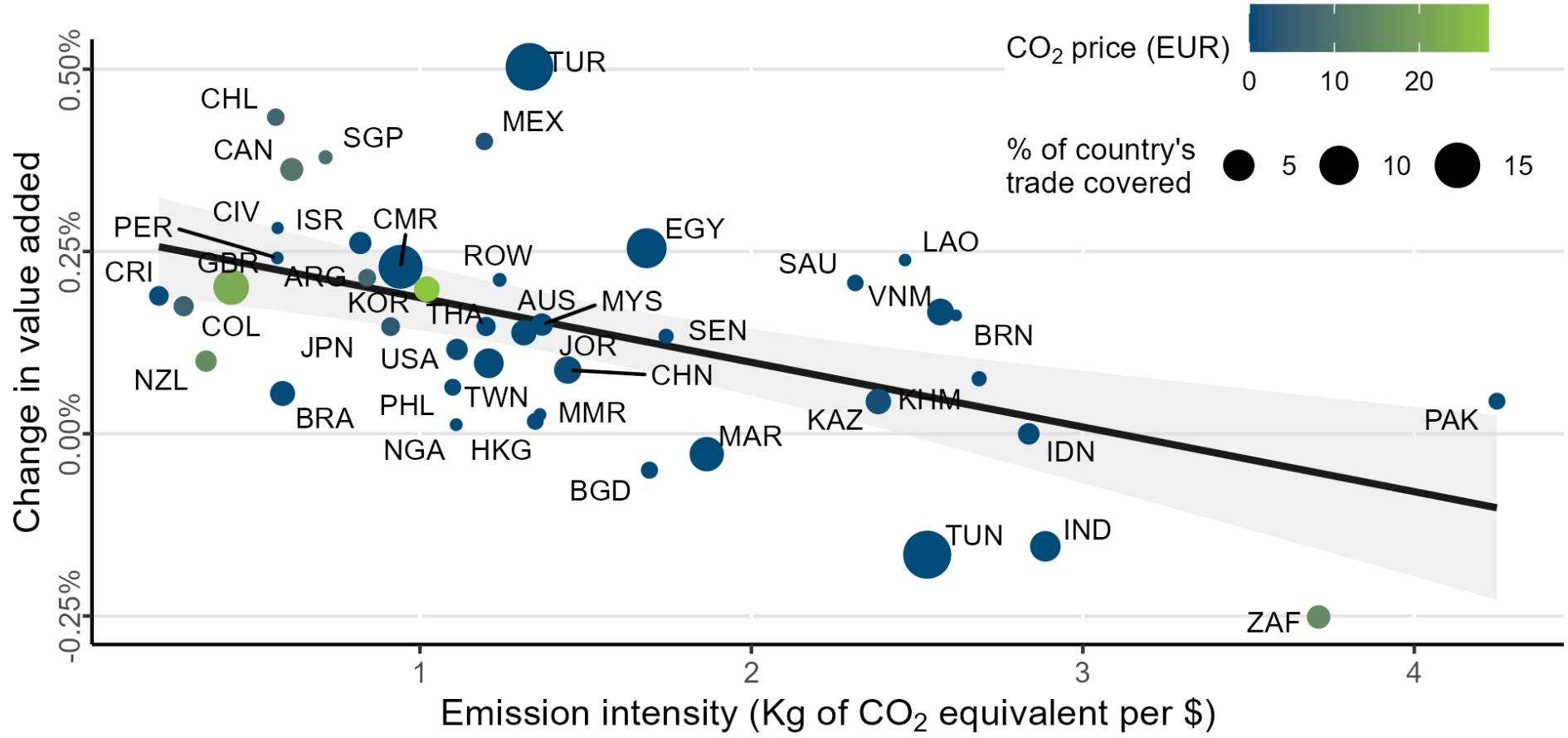
Effect on value added of the removal of free allowance and CBAM



Source: Dechezleprêtre, A. et al. (2025)

Country that have the cleanest production

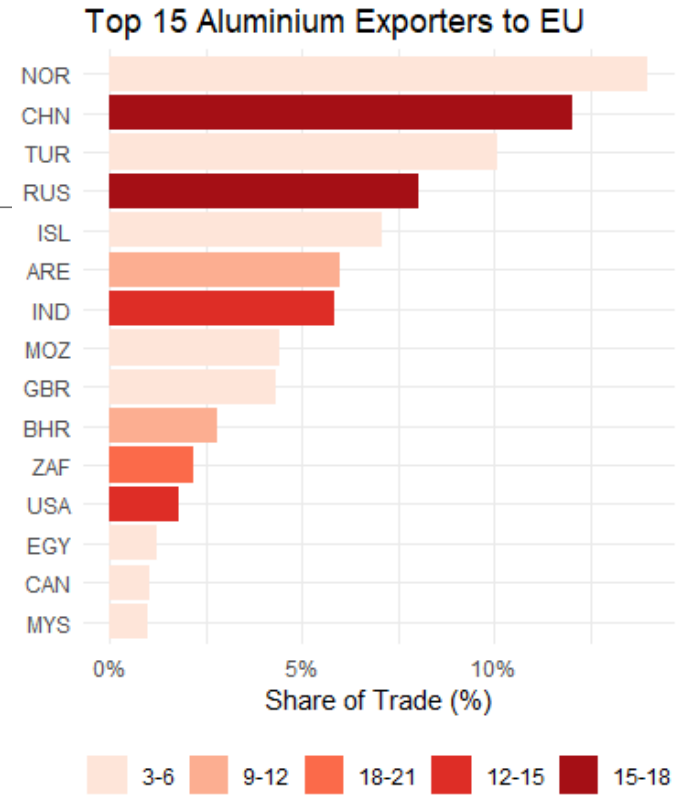
Impact of the CBAM on covered industries

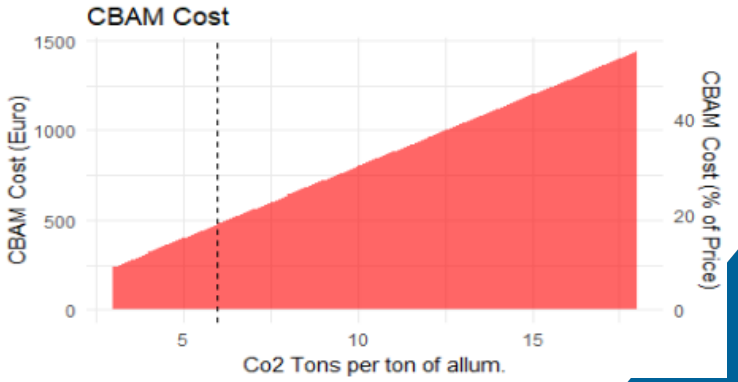


A FOCUS ON ALUMINIUM AND COPPER

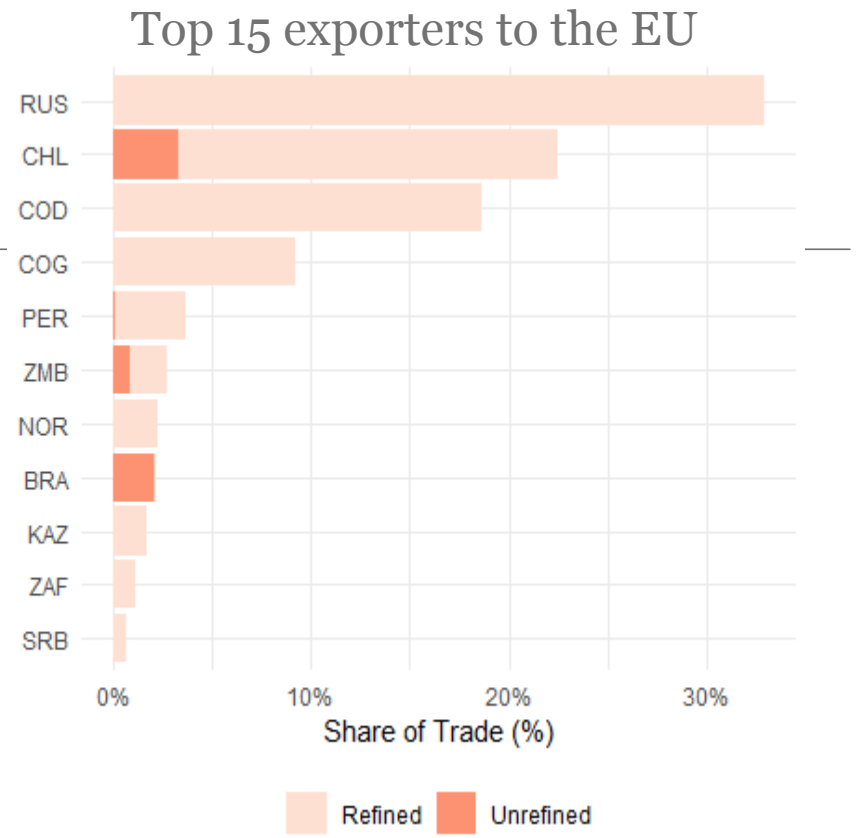
Focus on Aluminum

- 270 Mt of direct CO_2 emissions in 2022 (about 3% of the world's direct industrial CO_2 emissions) (IEA)
- Emission intensity of production is mainly explained by the type of energy used in the smelting process + a bit of process emissions
  - Great variability: 3 to 16 tons of CO2 per ton of aluminum (EU 6)
- Aluminum price per the ton - 2655 euros
  - For an EU ETS Carbon price of 80 euros => 18% increase in price
- Clear level playing field role for CBAM
  - Will advantage clean EU and non-EU producers
- Unknown :
  - Potential impact of the price of aluminum in the EU
  - Computation of embedded emission and Within-country Resources reshuffling
  - Downstream impact ?





Focus on copper



- Responsible for 0.2 to 0.3% of global emissions
- Emission concentrated upstream
  - Mining & Concentrating (65-80% of total emissions)
    - The EU is quite dependent on imported copper ores
    - Emission harder to verify
  - Smelting & Refining (20-35% of total emissions)
- ~4 tons of Co2 per tons of copper
  - Variability – less clear data
- Price of a ton of copper: 9250 euros
- A price of 80 euros per ton of CO2 would represent 3% of the price (if focus only on the smelting step, this is closer to 1% of the price)
- Conclusion :
  - emission reduction, low potential
  - Level playing field impact on smelter?
  - Extension to the downstream value chain
  - Administrative cost / Vs benefit

AND NOW ?

And now ?

Policy developments to watch:

1) Final definition of the CBAM coverage (products and scopes) and design (export rebate,)

2) The European Metal Action Plan :
   - Scrap export restriction
   - Anti circumventing strategy

3) Border Carbon Adjustment policy adoption in other countries (e.g. Australia, Japan, UK)

ADDITIONAL SLIDES

The EU CBAM : 303 CBAM covered products belong to 6 SIC-ICIO sectors

- Importers of **certain energy-intensive goods** required to pay a **levy on embedded emissions** equal to price of EU ETS allowances

- Start **October 1, 2023**; 3 years transition period (reporting only), then gradual phase-in at the same pace that free allowances in CBAM sectors are phased out, until **2034**

CBAM covered products

CBAM goods	ICIO Sector		# HS Codes	Scope
Cement	D07T08 D23	Mining, non-energy Non-metal minerals	1 5	1, 2, 3
Fertilizer	D20	Chemicals	21	1, 2, 3
Aluminium	D24	Basic metals	22	1, 3
Iron and Steel	D07T08 D24 D25	Mining, non-energy Basic metals Fabricated metals	1 214 37	1, 3
Electricity	D35	Electricity	1	1
Hydrogen	D20	Chemicals	1	1, 3