



Düsseldorf
May 13, 2025



Green Steel
WORLD



Can carbon pricing make green steel more competitive?

Green Steel World
Conference 2025

Ulf Narloch

Carbon to determine the economics of steel

Global trends

>5,000

Climate laws¹⁾

▶ **Regulatory pressure**

>100

Instruments for CO₂ pricing globally²⁾

▶ **Supply chain barriers**

CO₂ is becoming a key financial factor in the steel industry changing global competitiveness dynamics

24%

Global emissions with a carbon price¹⁾

CO₂ as cost driver ▶

30-50%

EBITDA at risk without decarbonization³⁾

▶ **Competitive risks**

1) LSE Climate Change Laws of the World; 2) World Bank, Carbon Pricing Dashboard; 3) WEF, The Cost of Inaction, based on BCG estimates

Yes, but it will not be sufficient!

- I. Carbon Pricing Impacts in EU
- II. CBAM Impacts on EU Imports
- III. Carbon Pricing in Non-EU Countries
- IV. What else is needed?

Can carbon pricing make green steel more competitive?



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I.

Carbon Pricing in EU

FINANCIAL TIMES

Europe's steel industry fears abrupt end to free carbon permits

Producers seek to stave off attempt to factor in cost of emissions

ETS reform and CBAM to rise carbon prices on steel

Coming regulatory changes

Reform of EU ETS (EU 2023/959 + 2024/873)

Phase-out of free emission allowances (EUA) from **2026**



Introduction of CBAM (EU 2023/956)

Phase-in of a carbon price on imports from **2026**

Reducing the risk of carbon leakage

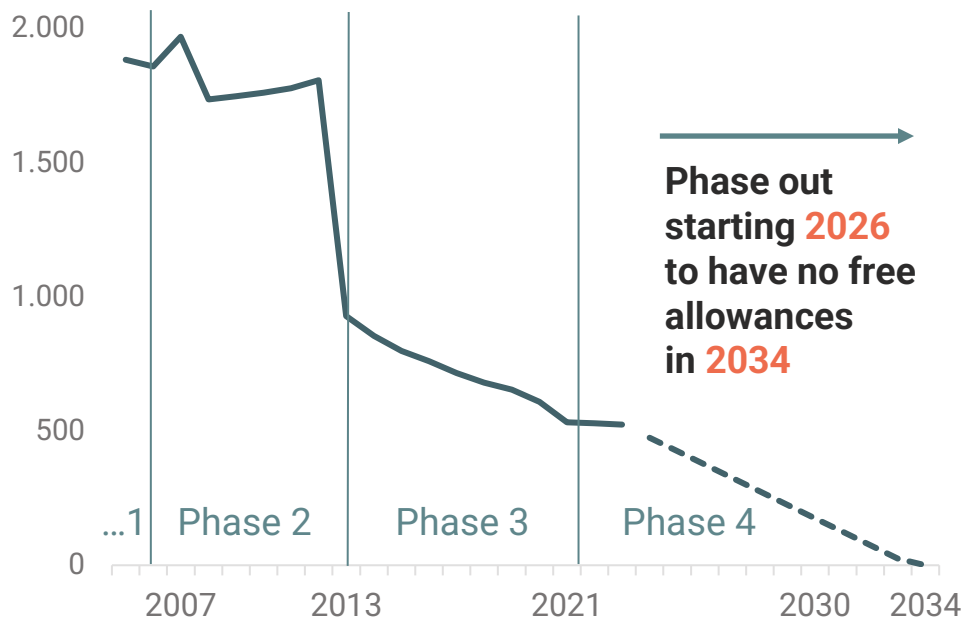
-> Same carbon price on imported goods in home markets

? Compensation for exported goods in international markets



Free emission allowances will be brought to zero

Free emission allowances over time [Mt CO₂e]¹⁾



Free allowances to be reduced via:

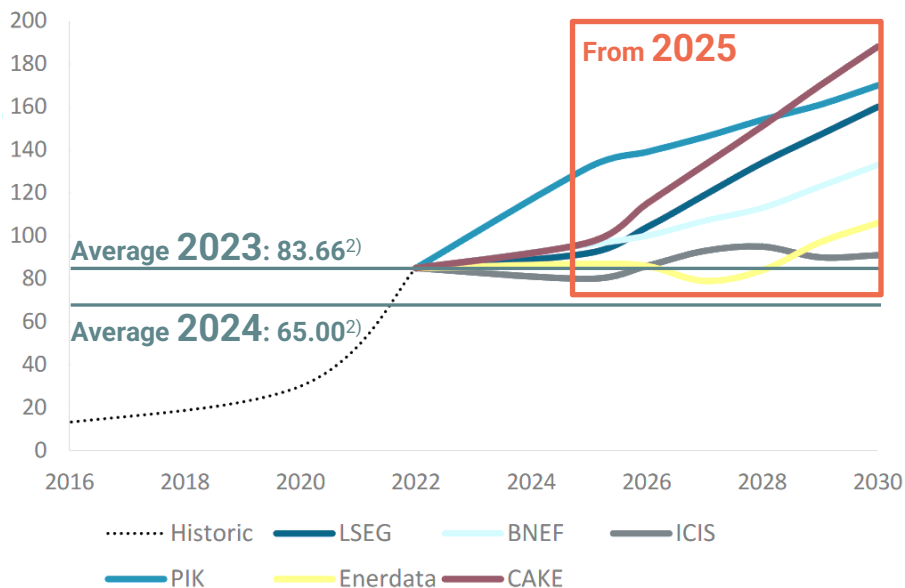
- **Benchmark** reduction
- **Correction factor** for EU target alignment
- Yearly **CBAM factor** in 2026, to be reduced to 0 in 2034



1) Source: EEA Daten; 2) Extrapolated data

Rising prices for EUA modelled – with high uncertainty

Modelled EU ETS prices to 2030 [EUR/tCO₂]¹⁾



... due to shortening of EUA supply – politically decided

Demand factors to play a role too, e.g.:

- Expansion of renewables
- Industrial productions
- Capital costs

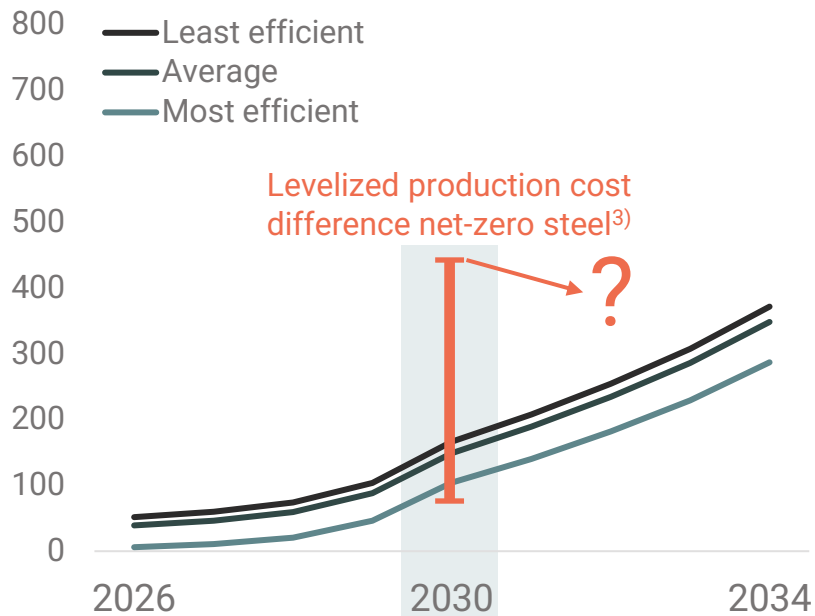


1) Source: Kopernikus-Projekt Ariadne (2023); 2) Data from UBA and EEX

I Carbon Pricing in EU

EU carbon cost cannot offset green steel costs in 2030

Added carbon costs (ETS) per unit of crude steel [EUR/t] – by EU steel mills¹⁾²⁾



Carbon cost/gap depends on:

- CBAM factor + benchmarks
- CO₂ intensity of the mills
- CO₂ price paths in EU ETS
- EUA purchase + cost transfer

AND: What is the cost path for green steel technologies



1) CO₂ IQ Carbon Costs Simulator; based on installation data from EC (2021) and emission intensity data from EU JRC (2023) and average of EU ETS price projection from 6 models in Kopernikus project Ariadne (2023); 3) Estimates from Agora Industry (2024) for 2030 technologies with intensity <0.1 tCO₂/t



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II.

CBAM for EU Imports

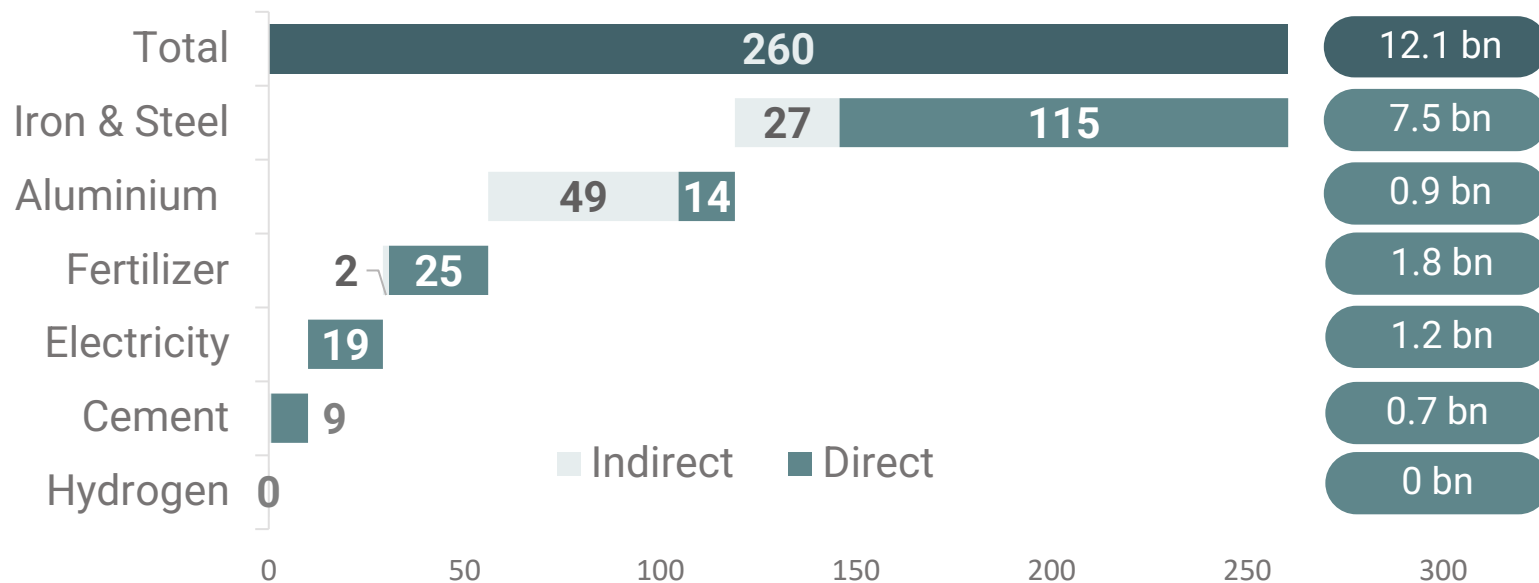
FINANCIAL TIMES

The Big Read Carbon tax [+ Add to myFT](#)

**How global trade could fragment
after the EU's tax on 'dirty' imports**

Steel as the biggest position in EU CBAM

2024 embedded emissions [Mt CO₂e]¹⁾ und costs in fully-phased in CBAM [EUR]²⁾

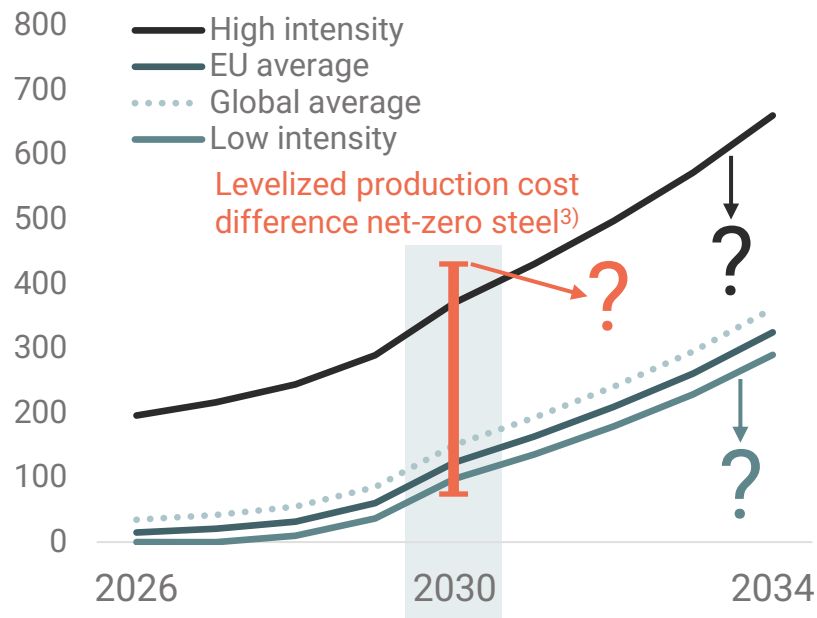


1) CO₂ IQ analysis of Eurostat COMEXT data (April 2025) based on EU CBAM global default values (2023); 2) Calculated for relevant emissions with average price for emission allowances in the EU ETS in 2024 based on UBA and EEX

bn

CBAM costs to make CO₂-intense steel hard to sell

Added carbon costs (CBAM) per unit of crude steel (7206) [EUR/t] – by intensity¹⁾²⁾



Added CBAM costs depend on

- Annual specific CBAM factor
- Goods specific benchmark
- Production-specific CO₂ intensity

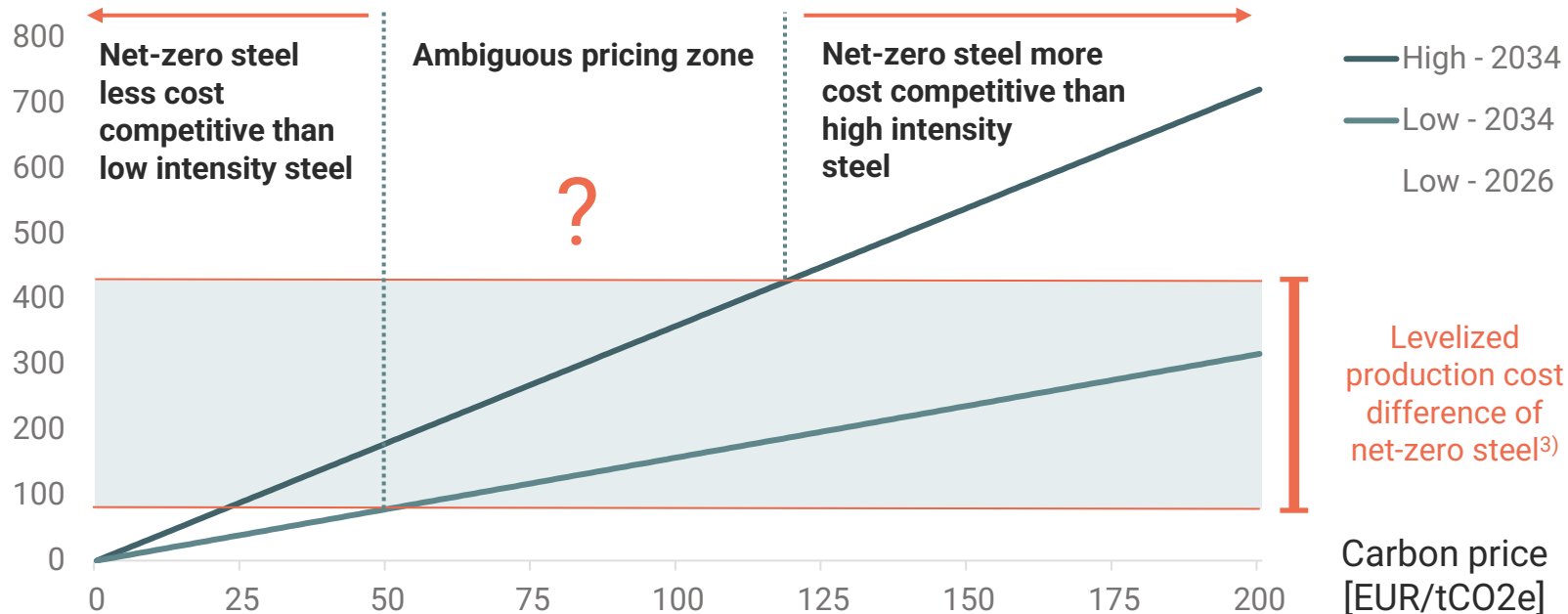
How quickly and how much will **steel supply chains be decarbonized**



1) CO₂ IQ Carbon Costs Simulator; based efficiency orientated benchmarks, emission intensity data from EU JRC (2023), and average of EU ETS price projection from 6 models in Kopernikus project Ariadne (2023); 3) Estimates from Agora Industry (2024) for 2030 technologies with intensity <0.1 tCO₂/t

High carbon prices needed to offset green steel costs

Added carbon costs per unit of crude steel (7206) [EUR/t] – by CO₂ intensity¹⁾



1) CO₂ IQ Carbon Costs Simulator; based on efficiency-orientated benchmarks, and emission intensity data from EU JRC (2023); 2) Estimates from Agora Industry (2024) for 2030 technologies with intensity <0.1 tCO₂/t EEX



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III.

Carbon Pricing in Non-EU Countries



Finance and economics | Green light

How carbon prices are taking
over the world

Carbon prices in steel making are on the rise

Countries with carbon pricing – Industrial sectors¹⁾

All Industry Energy Transport Buildings Land



16 Non-EU countries
already with carbon pricing in
steel production

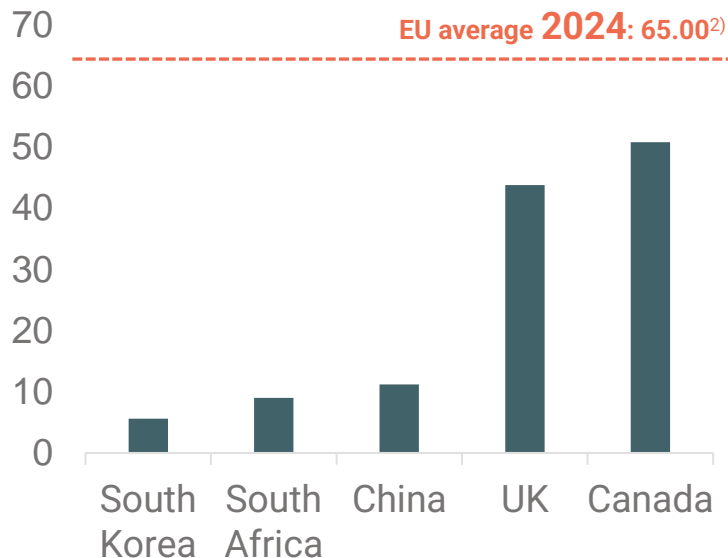
50% of imported CBAM
goods originating from these
countries

+ More countries to follow

¹⁾ Source: CO2 IQ tracking of carbon taxes/levies and emissions trading systems based on World Bank and ICAP data as well as national and subnational regulations (implemented or planned)

Effective carbon costs in non-EU countries still low

Carbon prices [EUR/tCO₂] in selected countries in 2024 – Steel¹⁾



Currently in all third countries:

- Price levels below EU ETS
- Free allocations above EU ETS level
- High benchmarks – partly above average EU efficiency



1) Source: CO₂ IQ tracking of carbon taxes/levies and emissions trading systems based on World Bank and ICAP data as well as national regulations;

2) Data from UBA and EEX

CBAM forces non-EU countries to take action

From the press

S&P Global

ELECTRIC POWER | ENERGY TRANSITION | METALS — 09 May 2023 | 06:49 UTC

China's compliance emission trading system to accelerate coverage of CBAM-eligible sectors



Carbon Pulse

South Korea weighs ETS regulatory changes for CBAM -expert

Published 06:57 on October 25, 2023 / Last updated at 07:46 on October 25, 2023 / Chia-Erh Kuo / Asia Pacific, Carbon Taxes, CBAM, South

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India wants to charge its own carbon tax on the lines of CBAM from exporters

Updated - September 24, 2023 at 07:51 PM.

S&P Global

ENERGY TRANSITION | METALS — 24 May 2024 | 03:45 UTC

Vietnam expedites domestic carbon market development to tackle CBAM, Article 6

RECESSARY

Indonesia maturing carbon tax regulation in response to EU's CBAM

Regulation
October 03, 2023

 EN / 繁 / 简



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IV.

**What else is
needed?**

Green steel transition needs carbon prices and more

Business case needs



Prepare for carbon regulation in global supply chains (carbon pricing and standards)



Identify carbon finance and de-risk investments (e.g. blended finance, CCfD)



Secure early demand and green premiums (off-take agreements, lead markets)

Fully close costs gaps of green steel



Build reliable business cases

We support you along your financial carbon journey

CO₂ IQ offering

Knowledge & Training



Practical insights and expertise on carbon markets

Strategy & Planning



Tailored solutions for green tech finance and market-to-go

Data & Analytics



Reliable quantification of carbon price business case impacts

Monitoring & Reporting



Safe compliance with CBAM, ETS, and ESG requirements

Trading



Optimized management of ETS, and CBAM certificates

CO₂ IQ: Specialized economic and regulatory advisory

CO₂ IQ Profile

Navigator and solution maker for green transitions

- **Strategic analysis** of climate regulation, carbon pricing and green markets
- **Tailor-made operational solutions** from holistic concepts to optimization tools
- **Results-focused project management** with all stakeholders for carbon management and decarbonization



Ready to act!?

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