



Carbon costs for the EU steel sector after 2020

Impact assessment of the EC proposal for a revised ETS post-2020

Bram Borkent & Joris de Groot

Strasbourg, November 25, 2015

Mission

Sustainable energy for everyone

Governments

ECOFYS

Private sector

NGOs

Ecofys' principles

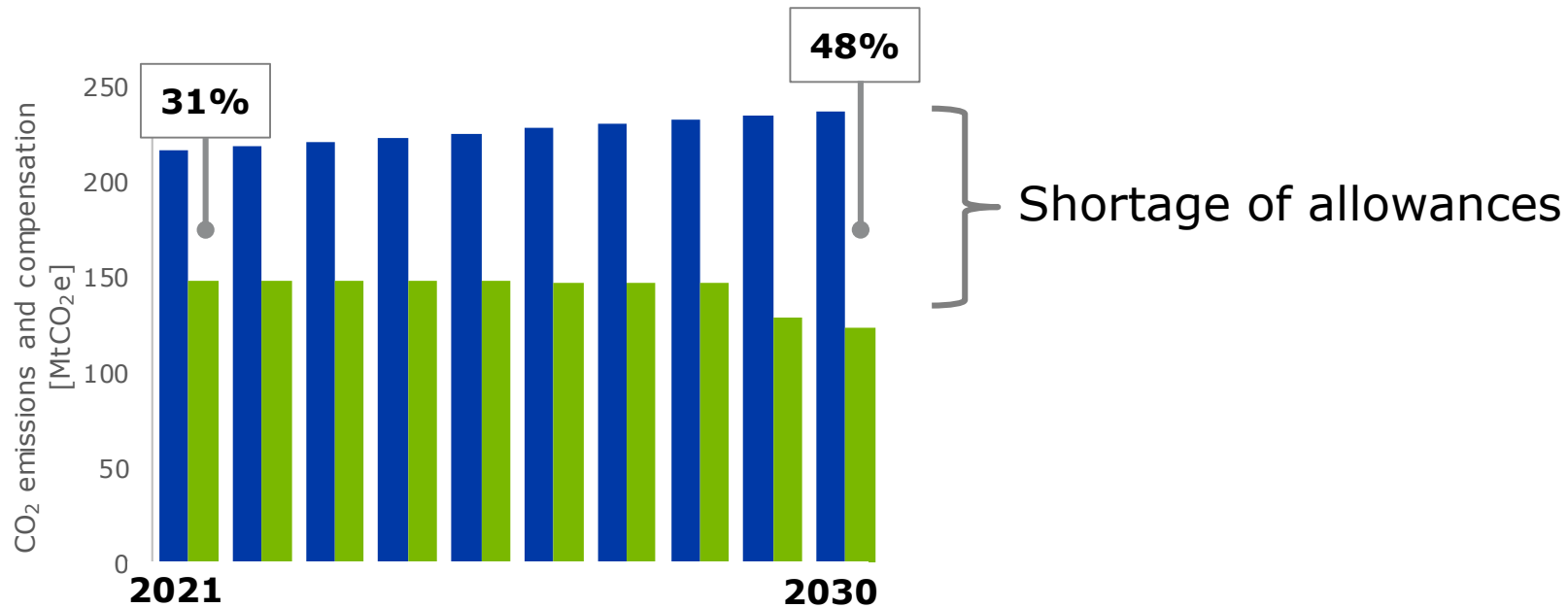
The Ecofys analysis commissioned by Eurofer adheres to the principles:

- Fact-based
- Transparent
- Independent

Main result: shortage of allowances for direct emissions grows from 31% in 2021 to 48% in 2030...

Direct

Indirect



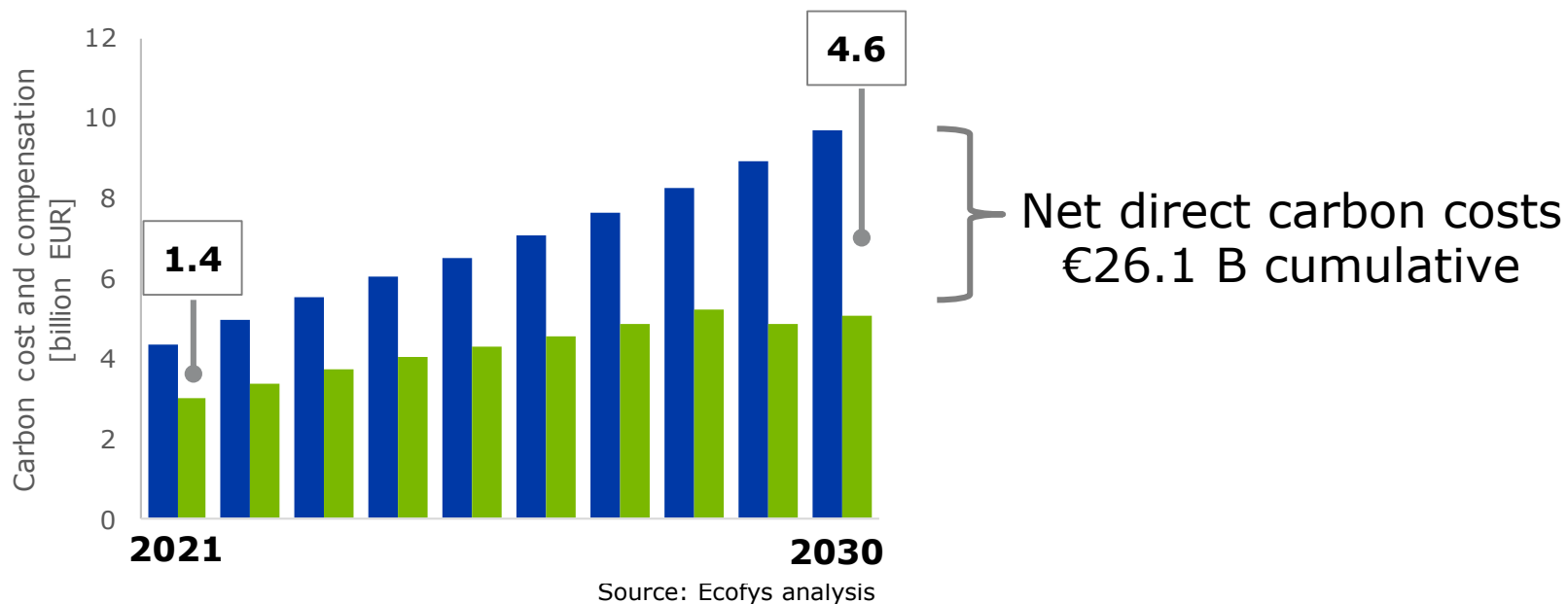
Source: Ecofys analysis

- Direct **emissions** (MtCO₂e)
- Free allowances for direct emissions (MtCO₂e)

... leading to increasing net direct carbon costs:
€26.1 billion in total for Phase 4; €4.6 billion in 2030

Direct

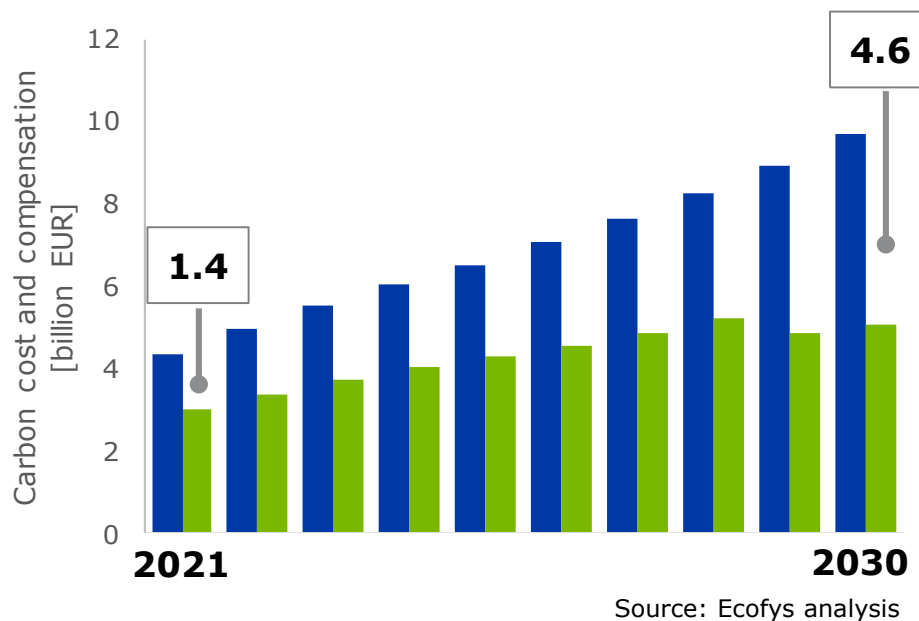
Indirect



- Direct **carbon costs** (B €)
- Value of free allowances for direct emissions (B €)

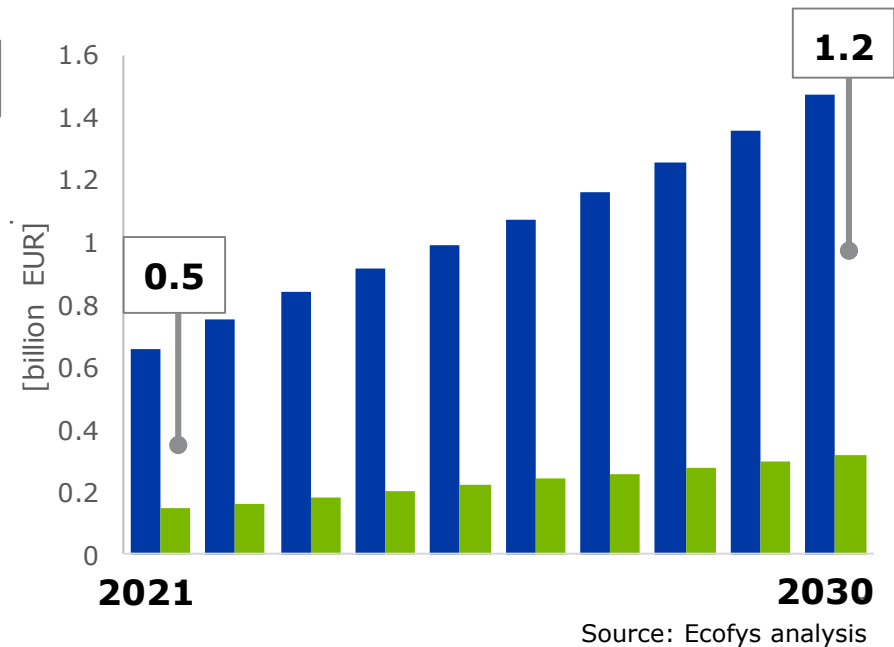
For indirect carbon costs 76% is not covered by financial compensation; €8.2 billion in total; € 1.2 billion in 2030

Direct



- **Direct** carbon costs (B €)
- Value of free allowances for direct emissions (B €)

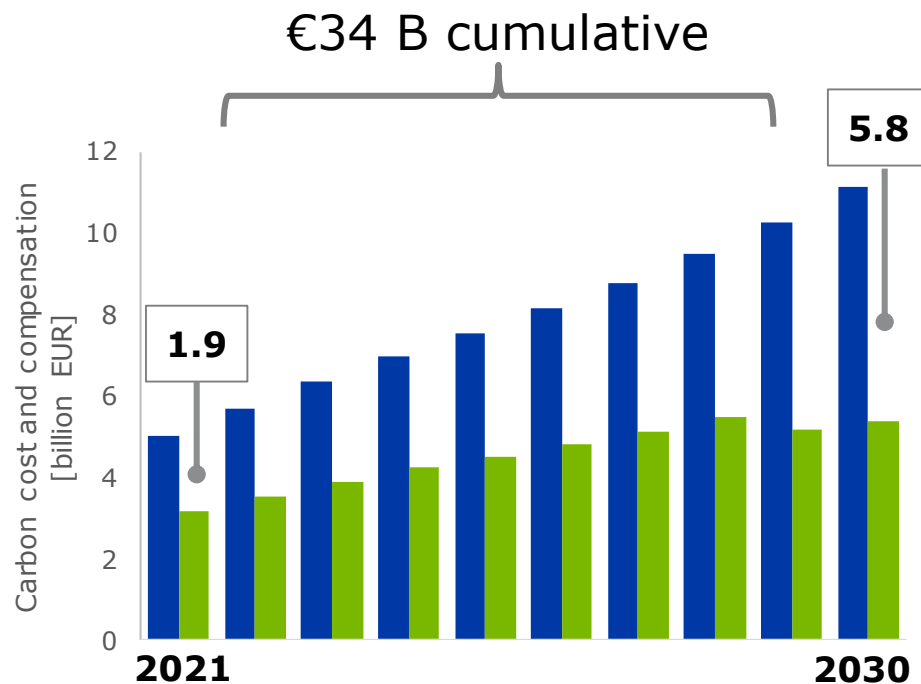
Indirect



- **Indirect** carbon costs (B €)
- Compensation for indirect carbon costs (B €)

In total, net carbon costs for steel are €34 B, and nearly triple from €10/t crude steel in 2021, to 28 €/t in 2030

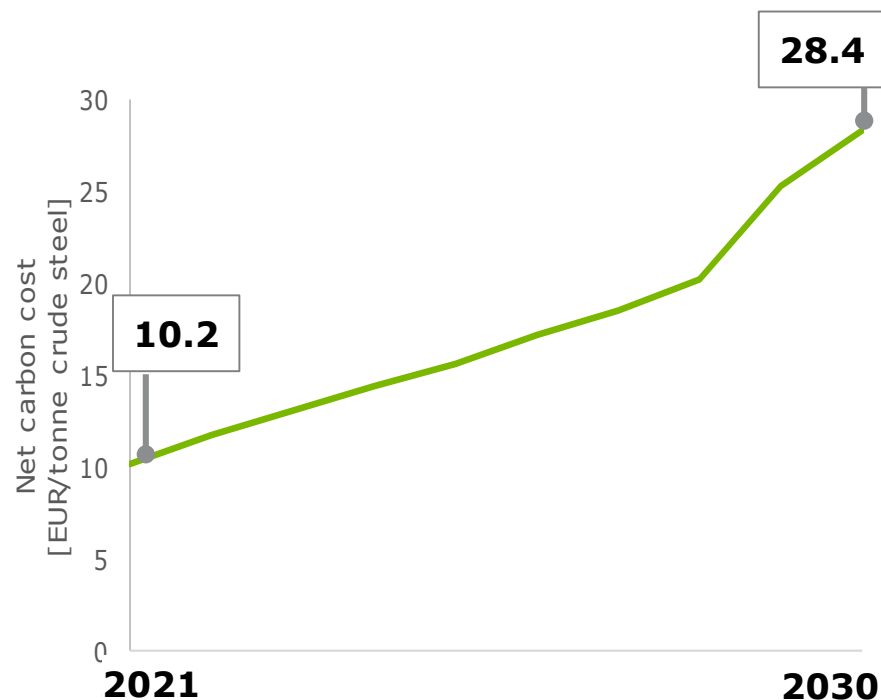
Direct + Indirect



Source: Ecofys analysis

- **Total** carbon costs (B €)
- Total value of allowances and compensation (B €)

Direct + Indirect



Source: Ecofys analysis

- Total net carbon costs per tonne crude steel (€/tonne)

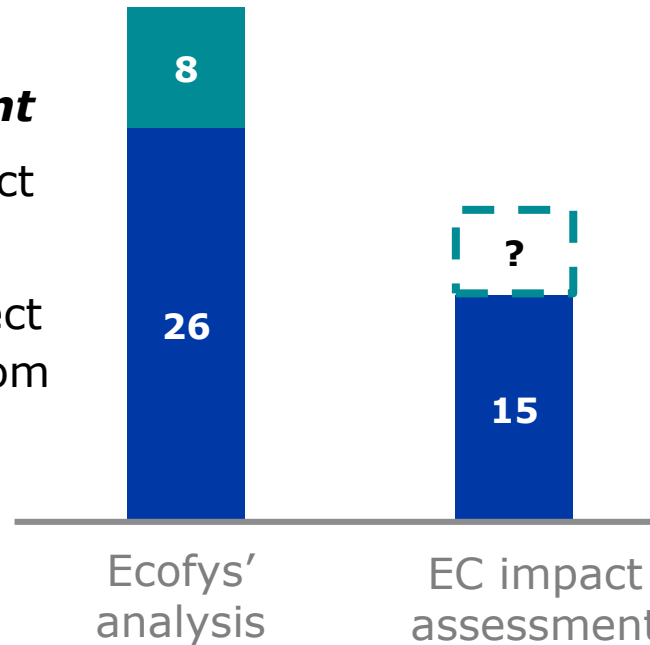
*nominal value

How does €34 billion carbon costs compare to other analyses?

Net carbon costs to the iron & steel sector in Phase 4

Ecofys assessment

- **€26 billion** direct carbon costs
- **€8 billion** indirect carbon costs (from power consumption)

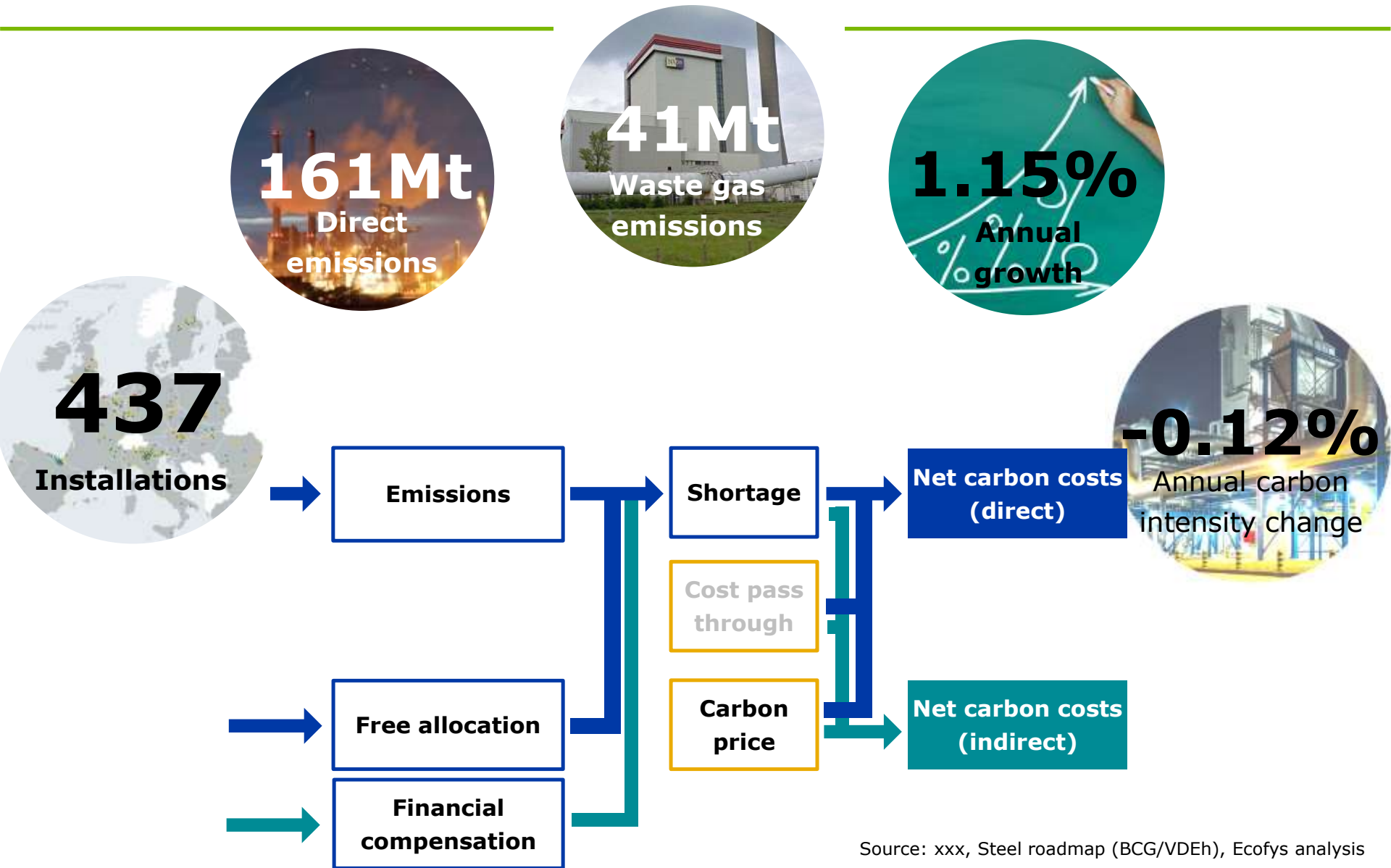


EC impact assessment

- **€15 billion** direct carbon costs
- unknown indirect carbon costs

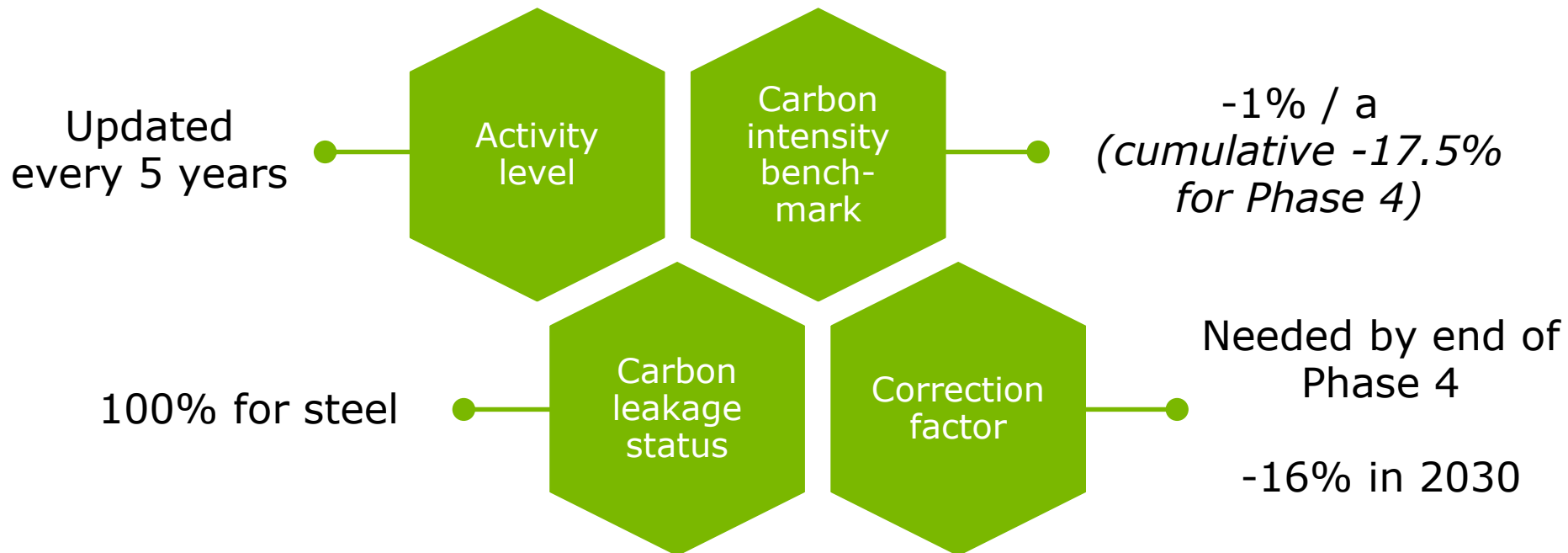
Source: Ecofys analysis

Our E3C3 model to calculate carbon costs



Source: xxx, Steel roadmap (BCG/VDEh), Ecofys analysis

The range of free allocation to be expected follows from the EC proposal



The result is robust for different settings of the benchmark update

Benchmark update	Correction factor	Cumulative net carbon costs steel
-1% / a for steel; others according to EC impact assessment	Start: 2029 -16% in 2030	€34 billion
-1% / a for all sectors <i>(cumulative -17.5% for Phase 4)</i>	Start: 2028 -16% in 2030	€34 billion
-0.5% / a for all sectors <i>(cumulative -8.75% for Phase 4)</i>	Start: 2023 -25% in 2030	€34 billion

Source: Ecofys analysis

In conclusion, EC proposal leads to €28 / t carbon costs to the steel sector by 2030

- Ecofys provides **first transparent impact assessment** of EU Commission proposal for ETS revision post-2020
- Steel sector will face a cumulative **€34 billion** carbon costs in Phase 4
- This translates to increase from €10/t crude steel in 2021 to **€28/t crude steel** in 2030

What does this mean for realizing EU policy objectives regarding climate, innovation and jobs?

Disclaimer

- > *Ecofys took great care in validating all data that are used in the model. However, data that stem from confidential Eurofer or BCG/VDEh sources could not be validated with the same rigidity as applied to the data from open sources. The validity of the confidential data remains therefore the responsibility of Eurofer.*

Thank you



Joris de Groot

j.degroot@ecofys.com



Bram Borkent

b.borkent@ecofys.com

Ecofys Netherlands B.V.

Kanaalweg 15G
3526 KL Utrecht
The Netherlands

T: +31 (0)30 662-3300

E: info@ecofys.com

I: **www.ecofys.com**