



POTSDAM INSTITUTE FOR
CLIMATE IMPACT RESEARCH

Is the EU ETS cap (still) credible, and what will determine credibility going forward?

Michael Pahle

FSR Climate Annual Conference 2024

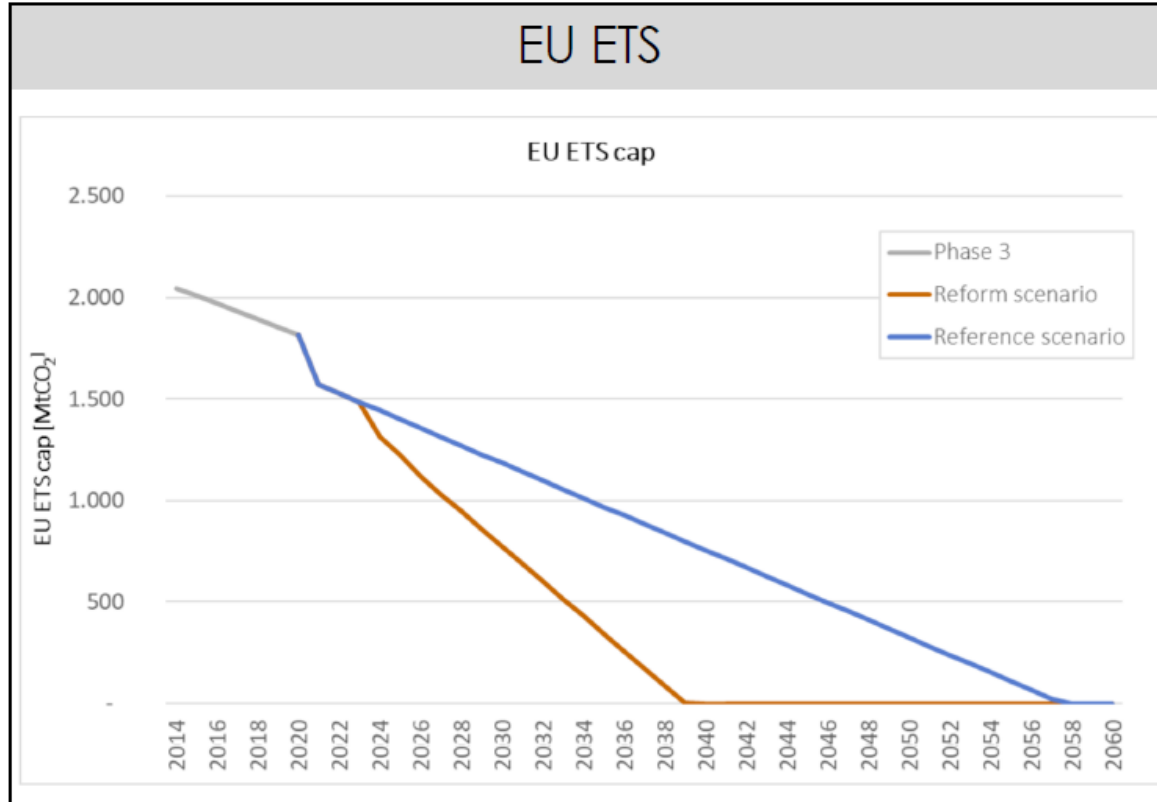
29 November 2024

Overview

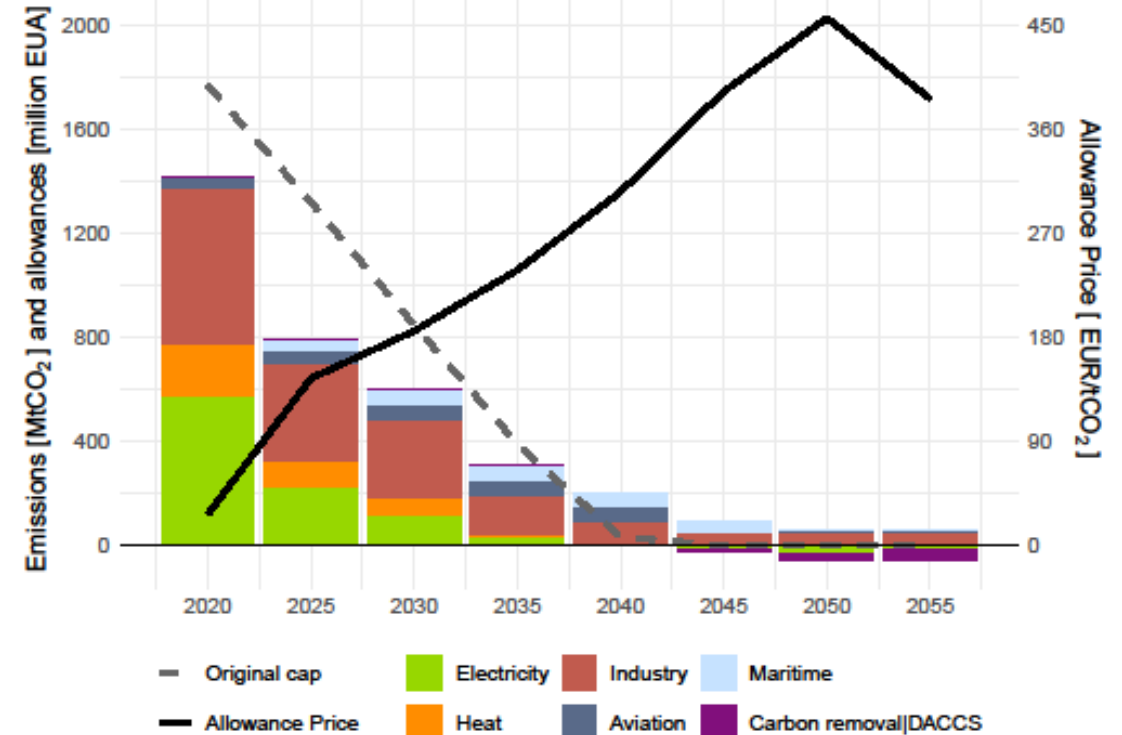
1. Why now is “credibility crunch time” for the EU ETS
2. Measuring the current credibility
3. What might help strengthening credibility going forward

1. Why now is “credibility crunch time” for the EU ETS

Much tighter cap after 2023 requires massive investments (“endgame”)



~2040 (2023 reform) 2057 (pre-reform)



Source: Pahle et al. (2024), ETS endgame

But things are not going well on investment side...

THE WALL STREET JOURNAL.

BUSINESS

ArcelorMittal Says More Time Needed For Decarbonization Decisions in Current Conditions

Hydrogen derived from renewable energy as a replacement for polluting fossil fuels in steelmaking is evolving slowly, the company said

By [Pierre Bertrand](#) [Follow](#)

Nov. 26, 2024 3:35 am ET

POLITICO

NEWS CENTRAL BANKER

Lack of growth threatens revival of eurozone debt crisis, ECB warns

Higher interest rates mean higher debt repayment costs as European Union countries stare down the barrel of a trade war.

...and also not politically: cap still credible?

EU's Green Shift Under Threat as the Hit to Consumers Gets Real

- Pushback on transport and heating policies is building
- Looming real-world impact fuels backlash as deadlines near



POLITICO

NEWS POLITICS

The hard right is mainstream in Brussels now

Italy's Giorgia Meloni and her allies are now part of a governing majority in the EU's center of power.

Risk of low credibility could leading to vicious cycle

- › Expectation of future price-reducing intervention (p^A) **reduces short term prices** (Salant 2016):

$$\frac{\dot{p}^R(t)}{p^R(t)} = r + \alpha \left(1 - \frac{p^A}{p^R(t)} \right)$$

- › More steeply rising price **make interventions later more likely** (Pahle et al. 2022)

→ Could lead to a vicious cycle that further undermines credibility

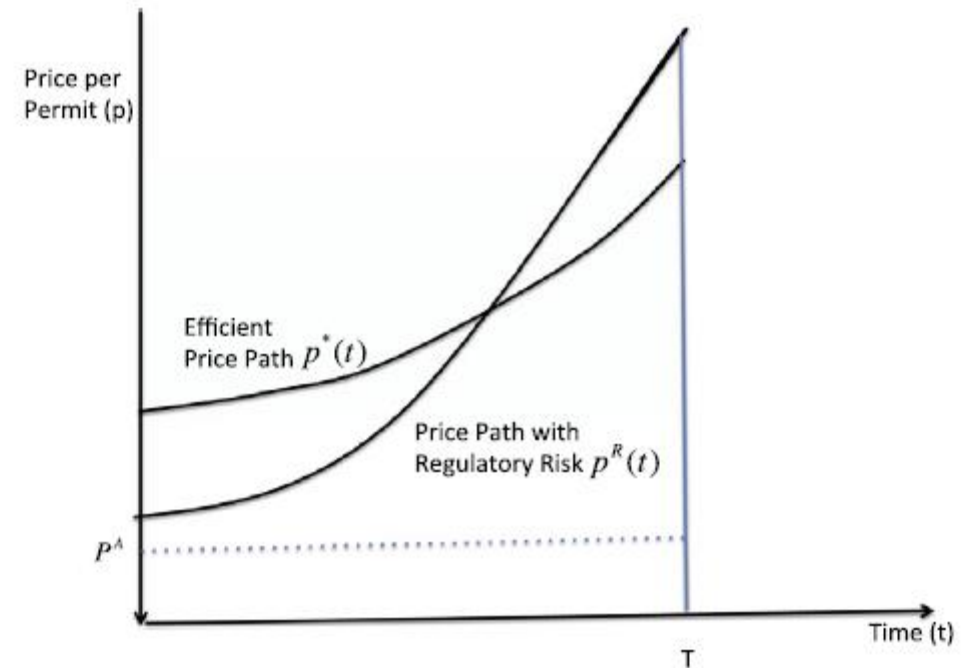


Fig. 4. Regulatory risk raises the cost of achieving a given emissions target.

2. Measuring the current credibility

Methodological considerations

- › Low credibility should be **reflected in current market prices**
- › Helpful to distinguish between **short term and long term component** of price signal
 - › Short term component: counterfactual ETS w/o banking
 - › Low credibility depresses long term component
- › **Measurement using modelled counterfactual prices p_m** with different degrees of foresight (discount rate r_m , or rolling horizon):

$$p_m(t, r_m) - p_o(t)$$

- › **Identification challenge** as other factors also reduce long term component, e.g. uncertainty combined with limited information (Quemin & Trotignon 2021)

Analysis suggests past ETS reforms have strengthened credibility

- › Prices **before 2018 reform** consistent with rolling horizon model (Quemin & Trotignon 2021)
- › Prices from **2018 onwards** increasingly consistent with **perfect foresight model** (Sitarz et al. 2024)
- › Potential explanation: high political costs of **reform strengthened credibility**

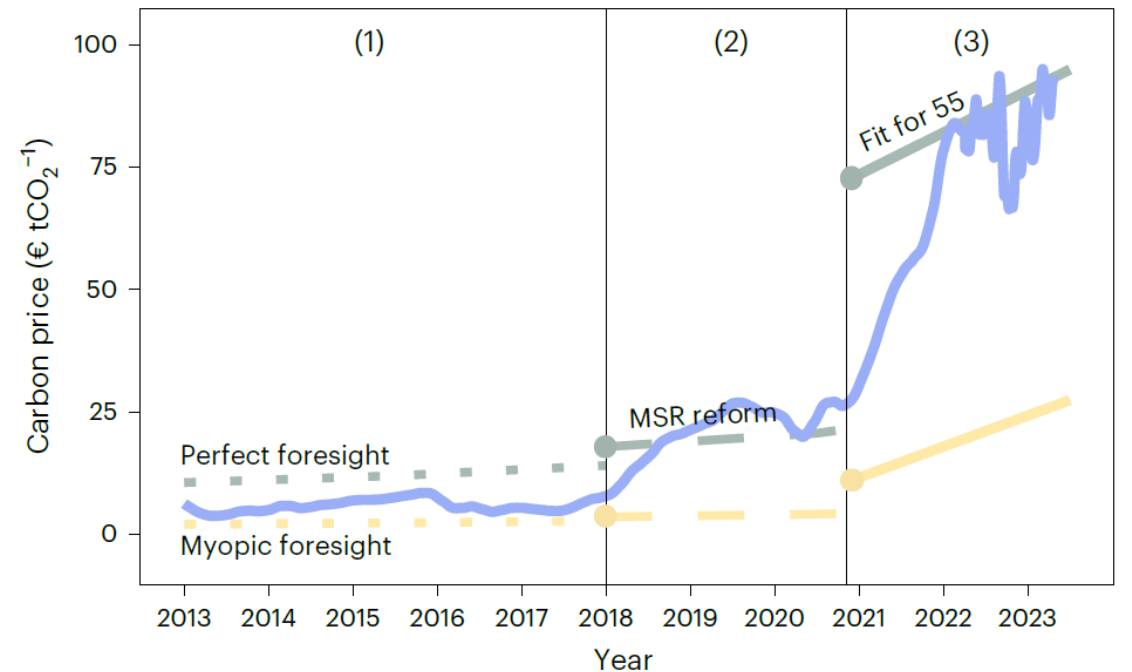
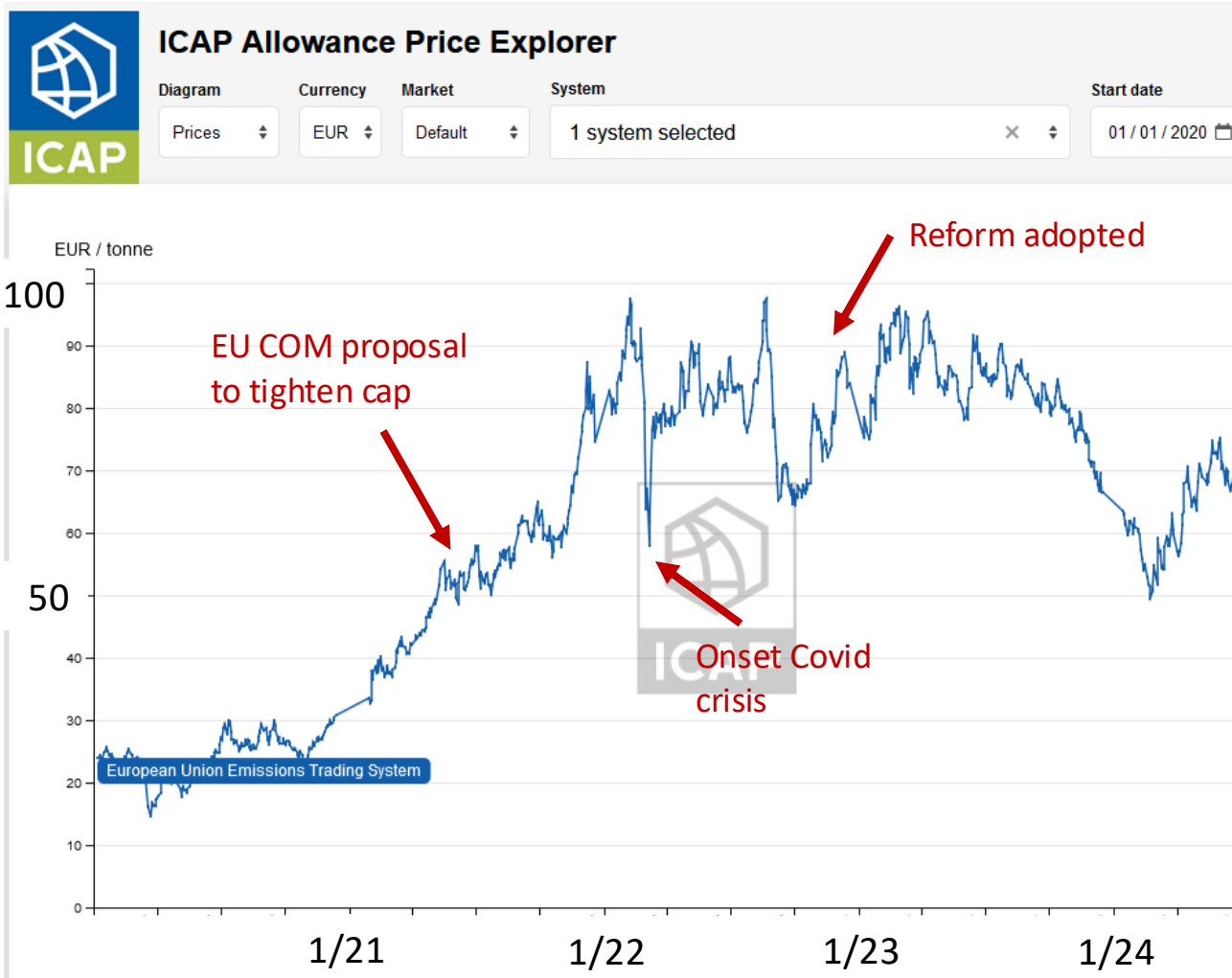


Fig. 3 | Impact of reforms and actors' foresight on carbon prices. I

But ETS back in a low credibility regime?



FINANCIAL TIMES myFT

Opinion Lex + Add to myFT

Europe's carbon price crash looks like serious market myopia

The emissions trading system is too clunky to deliver the required impetus to decarbonisation

Disclaimer: Short term fundamentals (gas price, industry production, additional REPowerEU supply) all bearish

3. What might help strengthening credibility going forward

What is happening: Current policies focus on complementary measures

- › **Accelerating decarbonization** through complementary policies & measures
 - › Subsidizing investments in clean technologies (“Clean Industrial Deal”)
 - › Removing non-market barriers, in particular red tape and veto points in planning processes
- › Related economic research on new economics of industrial policy (e.g. Juhász, Lane & Rorik 2023) and CCfDs generally endorsive, but important caveats
- › ETS rules and governance itself “untouched” ...



Economists' recommendations

- › **Credible commitment** by using rules rather than discretion (Kydland & Prescott 1977) that are sufficiently flexible to be stable over time (e.g. Brunner et al. 2012, Dolphin et al. 2024)
- › Recommendations to **ensure stability**
 - › Carbon central bank very prominent idea among economists
 - › But questionable if politicians would delegate (e.g. Doda 2016) and if such an institution would outperform market (Oman et al. 2024), depends on rule
- › Recommendations to **ensure flexibility**
 - › Recent proposals for flexible cap (e.g. Benmir et al. 2024, Karp & Traeger 2024)
 - › But with increasingly tighter supply, “upward” flexibility (increasing supply) more and more limited → main credibility challenge
 - › Main options to increase supply: (1) linking to other carbon markets and (2) integration of carbon dioxide removal technologies

It all breaks down to...

- › **Linking paradox** (Burtraw et al., in preparation): the higher the value of linking, the more difficult it is to implement
 - › Substantial **distributional concerns** of linking (very) high price systems with low price system
 - › Substantial **environmental integrity** concerns when linking to ETS with low standards or CDR
- › **Implementing linking a problem for credibility, NOT linking also a problem for credibility!**
- › Basically two options to strengthen credibility:
 - › Solve the linking paradox (quickly)
 - › Cap rule that ensures more temporal flexibility

Additional material



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Way forward: Draghi Report & Clean Industrial Deal



FIGURE 10

SUMMARY TABLE – ENERGY-INTENSIVE INDUSTRIES (EII) PROPOSALS		TIME HORIZON ²³
1	Increase the level of coordination across the multiple policies impacting the EU's (e.g. energy, climate, environment, trade, circularity, and growth).	ST
2	Ensure access to a competitive supply of natural gas during the transition, and sufficient and competitive decarbonised electricity and clean hydrogen resources [as detailed in the chapter on energy].	ST/MT
3	Simplify and accelerate permitting, and reduce compliance costs, red tape and regulatory burden.	ST
4	Further develop financial solutions (such as financial guarantees) for the EU's EIIs to improve market financing conditions.	ST
5	Reinforce relevant funding to support the decarbonisation of EIIs, starting by earmarking ETS revenues.	ST/MT
6	Simplify, accelerate and harmonise subsidy allocation mechanisms. Adopt common instruments across Member States, such as the European Hydrogen Bank and Carbon Contracts for Difference.	ST/MT
7	Closely monitor and improve the design of CBAM during the transition phase. Evaluate whether to postpone the reduction of free ETS allowances if CBAM's implementation is ineffective.	ST/MT
8	Stimulate demand for green products by promoting transparency and by introducing standardised low-carbon criteria for public procurement.	ST
9	Improve the circularity of raw materials (recycling rates, Single Market for circularity, stimulate demand where needed).	ST
10	Ensure the effective design of global trade arrangements and the ability to react, where justified.	ST/MT
11	Coordinate the establishment of green regional industrial clusters around the EU's EIIs.	ST/MT

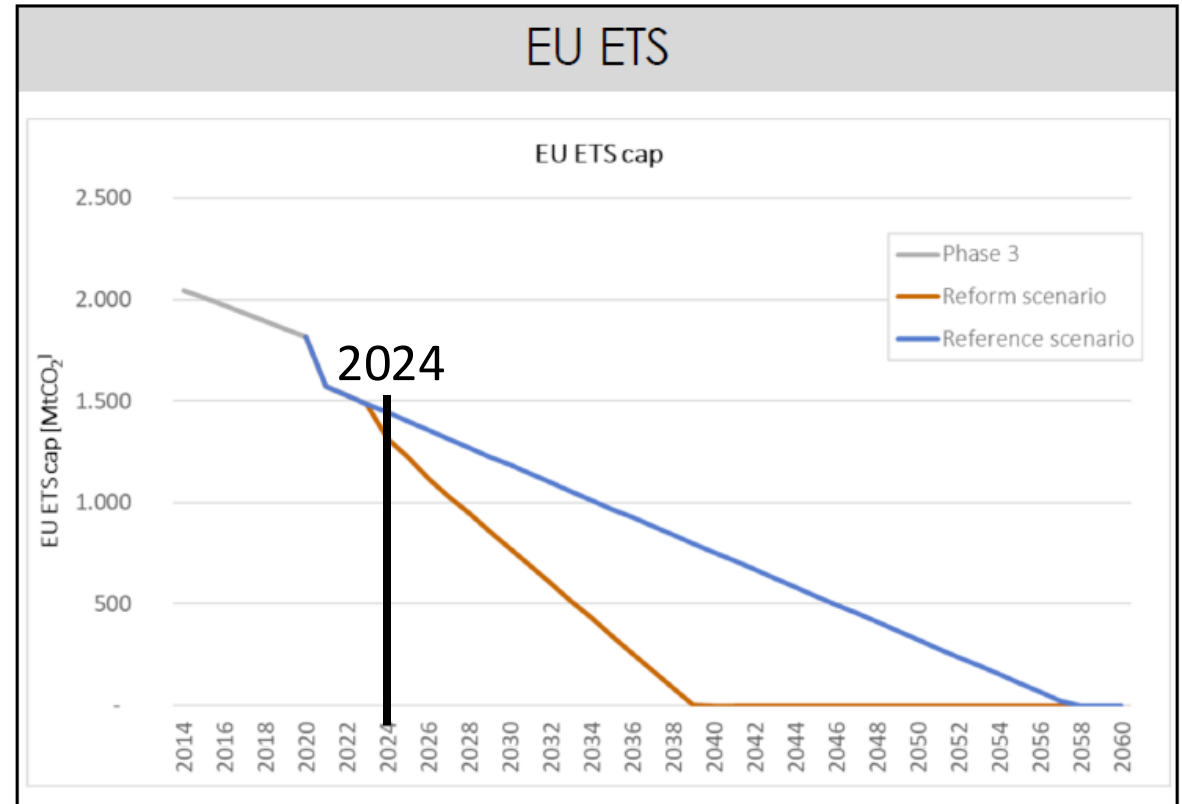
ETS reform 2023 ushered in “endgame”

Home / Opinions / Energy & Environment / Energy / Emissions trading scheme / Europe needs to urgently prepare for carbon market ‘endgame’

Europe needs to urgently prepare for carbon market ‘endgame’

DISCLAIMER: All opinions in this column reflect the views of the author(s), not of EURACTIV Media network.

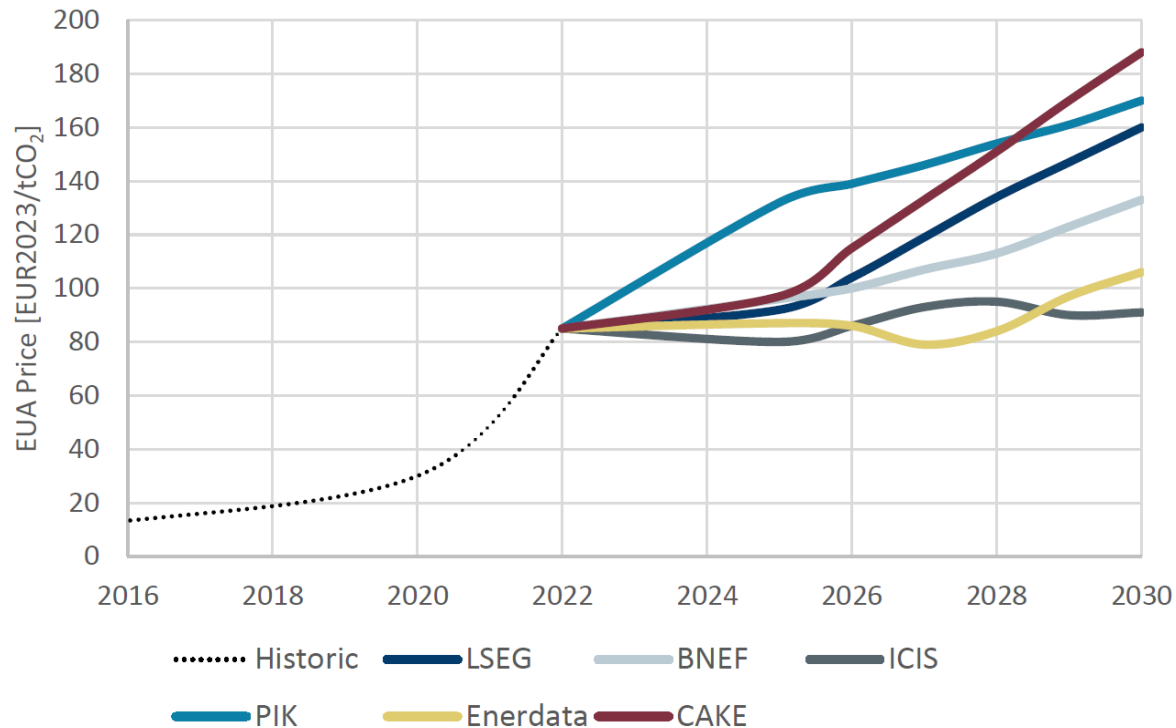
By Claudia Günther, Michael Pahle, Sebastian Osorio and Simon Quemin



~2040
(FF55 reform)

2057
(pre-reform)

Possible price paths through 2030



Source: Ariadne Projekt (2023)

	Q2-24	H2-24	2024	2025	2026	2027	2028	2029	2030	2021-30
CAKE/KOBiZE	65.00	75.00	69.17	98.00	N/A	N/A	N/A	N/A	188.00	N/A
Capital Economics	50.00	56.00	55.92	58.00	68.00	90.00	115.00	125.00	145.00	87.00
Carlton Carbon	62.00	70.00	65.92	85.00	115.00	125.00	135.00	140.00	150.00	104.00
Commerzbank*	55.00	67.50	62.92	82.50	N/A	N/A	N/A	N/A	N/A	N/A
Enerdata	N/A	N/A	N/A	73.00	N/A	N/A	N/A	N/A	90.00	79.00
Energy Aspects	60.50	58.40	59.74	64.00	84.00	105.00	108.00	111.00	115.00	87.00
Engie EnergyScan	62.95	66.16	64.24	70.53	84.29	98.16	104.83	107.85	110.90	86.06
Macquarie	58.00	67.50	63.67	72.50	90.00	120.00	130.00	137.00	140.00	97.00
Morgan Stanley*	N/A	65.00	N/A	68.00	97.00	120.00	130.00	135.00	135.00	98.26
Pact Capital	64.00	67.76	65.30	74.81	107.80	112.70	117.60	123.50	131.89	96.89
LSEG/Refinitiv	68.00	75.00	69.92	80.00	96.00	117.00	138.00	145.00	147.00	102.55
Vertis	54.70	50.60	54.39	62.70	94.20	95.80	110.30	117.90	126.70	88.70
Veyt	N/A	N/A	67.00	95.00	134.00	162.00	150.00	142.00	147.00	113.00
Value Insight	55.00	57.00	57.67	70.00	77.00	N/A	N/A	N/A	N/A	N/A
AVERAGE	59.55	64.65	63.00	75.30	91.35	109.30	123.85	128.45	134.85	94.50
Median	60.50	66.83	63.95	72.75	94.20	114.85	123.80	130.00	137.50	101.50
High-Low Range	18.00	24.40	12.61	40.00	66.00	72.00	45.17	37.15	98.00	34.00
<i>Previous poll</i>	70.40	73.90	70.55	80.00	97.60	113.15	122.20	130.10	140.65	99.65
<i>% change</i>	-15.4%	-12.5%	-10.7%	-5.9%	-6.4%	-3.4%	1.4%	-1.3%	-4.1%	-5.2%

Source: Carbon Pulse POLL April 2024



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