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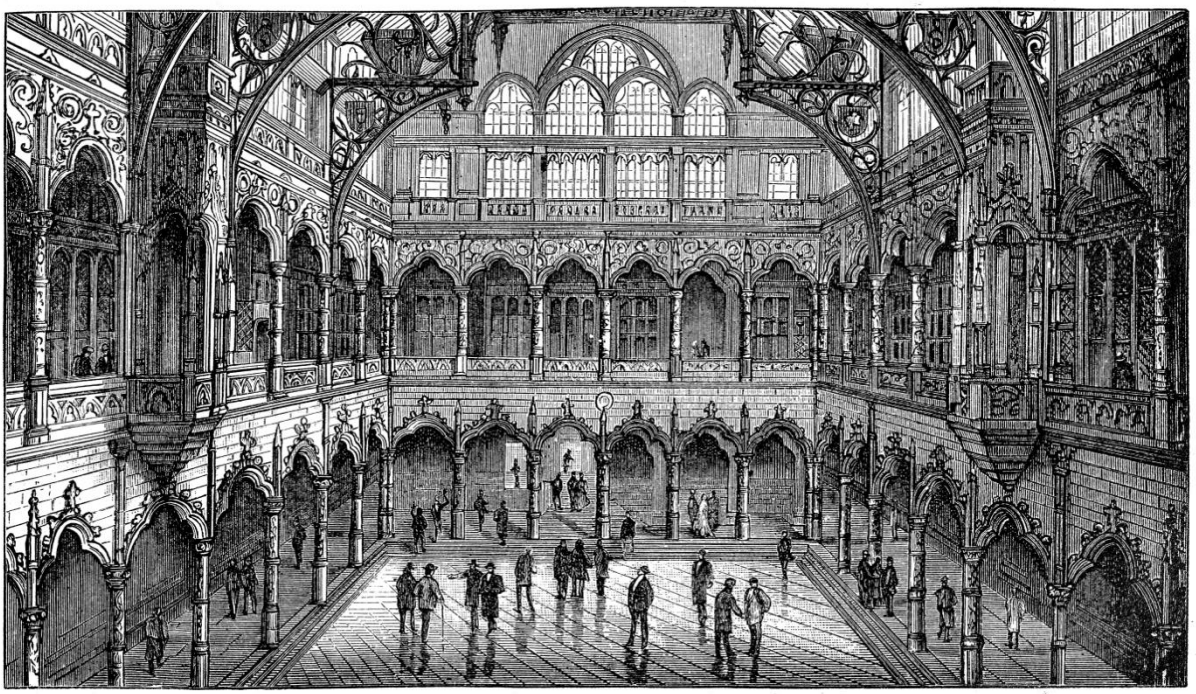
2026 State of the EU ETS Report



Antwerp Stock Exchange (1898)

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2026 State of the EU ETS Report

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List of abbreviations

CBAM	Carbon Border Adjustment Mechanism
CCfDs	Carbon contracts for difference
CCU	Carbon capture and utilisation
CCS	Carbon capture and storage
Commission	European Commission
COP29	The 29th United Nations Climate Change Conference of the Parties
CRCF	Carbon Removal Certification Framework

EEA	European Economic Area
EED	Energy Efficiency Directive
ESMA	European Securities and Markets Authority
ETS	Emissions Trading System
EUA	EU emission allowances
EUTL	European Union Transaction Log
GHG	Greenhouse Gas
IMO	International Maritime Organisation
KPI	Key Performance Indicator
LRF	Linear reduction factor
MRV	Monitoring, Reporting and Verification
MSR	Market Stability Reserve
NDC	Nationally Determined Contributions
RCF	Recycled Carbon Fuels
RED	Renewable Energy Directive
RFNBO	Renewable Fuels of Non-Biological Origin
RRF	Recovery and Resilience Facility
TNAC	Total number of allowances in circulation
UKA	UK emission allowances

2026 State of the EU ETS Report

Takeaways

Overview

The 2026 State of the EU ETS Report assesses whether the European Union Emissions Trading System (EU ETS) remains "fit for purpose" in delivering emissions reductions, supporting industrial competitiveness, and maintaining effective market functioning. The report concludes that the EU ETS continues to meet its core environmental objectives, but is entering a more complex phase shaped by geopolitical uncertainty, industrial competitiveness concerns, evolving climate policy, and increasing pressure to support long-term industrial transformation.

Key Findings

1. Environmental Delivery Remains Strong

The EU ETS continues to reduce emissions effectively, with verified emissions remaining below the cap and more than half of the system's 2030 target already achieved. EU ETS emissions declined by approximately 1.3% in 2025 following stronger reductions in prior years. While the pace of reduction has slowed, this appears linked primarily to energy system dynamics — particularly higher reliance on gas generation to balance increasing renewable penetration — rather than a failure of the ETS framework itself.

The power sector remains the main driver of emissions reductions, accounting for roughly 75% of total stationary installation reductions since 2008, supported by rapid renewable deployment and coal-to-gas switching. Industrial sectors are now beginning to show more measurable decarbonisation progress, although reductions are still gradual and uneven across sectors. While difficult to quantify, anecdotal evidence suggests that a percentage of the absolute emission reductions are due to closure of facilities.

2. Competitiveness Has Become Central

Competitiveness concerns now sit at the core of EU climate policy discussions. The EU has a very difficult balancing act, of continuing on its decarbonization path while ensuring that it maintains a viable industry. "Industrial crisis" is not a hyperbole, if we look at key EU industrial sector performance. Rising EUA prices, tightening free allocation rules, and the gradual phase-out of free allowances under CBAM are increasing compliance costs for energy-intensive industries.

The report finds:

- The power sector now faces very high exposure to auctioning, with less than 10% of emissions effectively covered by free allocation.
- Energy-intensive industries have shifted from historical allowance surpluses to structural deficits.
- Average annual compliance costs in Phase IV exceeded €35 billion for the power sector and €7.6 billion for energy-intensive industries.

Although ETS-related costs remain materially smaller than energy costs in most sectors, industrial production trends show increasing pressure from high energy prices, global competition, and carbon costs combined.

Importantly, the report stresses that carbon leakage and competitiveness cannot be separated. While CBAM is intended to replace free allocation and protect EU industry from unfair competition, the report warns that free allocation phase-out alone does not yet create a sufficient business case for large-scale industrial

decarbonisation without substantial public support, technological cost reductions, or additional policy measures.

3. Carbon Prices Remain Globally High

The EU ETS continues to operate at substantially higher carbon prices than other global carbon markets. In 2025, EU ETS prices averaged approximately USD 85/tCO_2e, significantly above systems in China, California, Korea, and New Zealand.

The report argues that comparisons should focus not only on visible carbon prices but also on the effective carbon costs borne by industry after free allocation and compensation mechanisms. Even after adjustment, the EU remains among the highest-cost jurisdictions for covered entities.

4. Market Functioning Remains Robust

Despite major reforms and market shocks, the EU ETS market continues to function effectively. Liquidity, price discovery, auction participation, and supply-demand balancing mechanisms remain broadly stable.

The Market Stability Reserve (MSR) continues to play a central role in tightening supply and supporting market stability. The report also notes that international developments — including efforts to link the EU ETS and UK ETS, Swiss linkage arrangements, and broader Article 6 carbon market discussions — will increasingly shape future market evolution.

5. Complex and Intertwined Policy Architecture

2026 is a year that see a number of important pieces of legislation under review, which are clearly impacting the operation and impact of the EU ETS. These include a revision to CBAM Directive as well as the post 2030 climate change framework and the Energy Union Governance. The timing of this legislative agenda is not necessarily synchronized.

Strategic Conclusion

The report concludes that the EU ETS remains one of the world's most effective carbon markets and continues to deliver on its environmental mandate. However, the system is transitioning from being primarily a power-sector decarbonisation tool into a central pillar of Europe's industrial transformation strategy.

Future reforms will need to balance three objectives simultaneously:

1. Maintaining environmental integrity and emissions reductions;
2. Preserving industrial competitiveness and limiting carbon leakage;
3. Providing long-term regulatory predictability to support investment in low-carbon technologies.

1. Background

The State of the EU ETS Report is an independent effort which focuses on assessing the performance of the EU ETS at the time when the report is produced. Itnis not intended to duplicate or replace mandated work undertaken by the European Commission.

This report is intended as a "snapshot", providing policymakers and stakeholders with an overview of the EU ETS's status by May each year, using data from the previous year. The 2026 State of the EU ETS Report relies on 2025 data. Despite the limitations imposed by the availability of publicly accessible data, the report endeavours to address whether the EU ETS is "fit for purpose" by looking at its environmental, competitiveness and socioeconomic, and market functioning delivery.

To address data limitations the members of this consortium have undertaken a categorization of all EU ETS covered installations to specific sectors, a complex process, but one that allows this initiative to undertake complex analysis. All ~17,000 installations in the Commission's EUTL verified emissions dataset have been categorized by sector. This classification is based on a combination of official EUTL main activity codes, industry data and sector-specific information from the Commission's 2015 and 2020 carbon leakage lists. This exercise has enabled the sectoral disaggregation of EUTL "combustion" installations, yielding a more granular representation of both energy-intensive industries and the power sector. This new approach distinguishes this year's report from past editions.

Overall, the 2026 State of the EU ETS Report assesses a system that is entering an increasingly complex political, economic, and international context. For many years now, the EU ETS is no longer only a decarbonisation instrument for the power sector, but it is increasingly expected to support industrial transformation and interact coherently with a wider set of climate and industrial policy instruments.

The policy context has also evolved significantly since our last report. Competitiveness has become central to the discussion on the future of EU climate policy, especially that now that it is not only prices that are increasing, but also the EU ETS costs. The challenge is no longer just to decarbonise, but to do so while maintaining industrial capacity and stable investments. Industry has become extremely vocal in its asks with regard to the EU ETS. In this context, the interaction between the EU ETS, the Carbon Border Adjustment Mechanism (CBAM) and their industrial development is crucial. Regulatory stability is emerging as a key condition for the credibility of the system, as companies make long-term investment decisions under continued uncertainty about carbon costs and the future design of both the The EU's 2040 climate target will need to align with the next phase of reform of EU's climate policy, including the 90% reduction target. Questions are being raised, such as whether and how carbon dioxide removals (CDRs) could be integrated into the EU ETS architecture, what role international credits might play in the future, and whether linkages with other carbon pricing systems can be realistically part of the EU's longer-term planning.

The international context has also an important impact on the evolution of the EU ETS. The outcome of COP30, which did not result in any significant movement, the changing stance of the US in international climate policy and its impact on UNFCCC, IMO and UNEP, and the broader state of international climate cooperation in general. Other developments including failed efforts to reach an agreement in the International Maritime Organization (IMO), are increasingly setting the tone, which will also affect discussions on the EU ETS.

Against this backdrop, the debate on the future of the EU ETS continues to grow in importance. While the review will start mid-year 2026, it will be heavily influenced by many of the (new) realities that we outlined above.

2. An EU ETS "fit for purpose"

To assess whether the EU ETS is "fit for purpose", it is necessary to identify the parameters measuring its success. Simply put, "What do we expect the EU ETS to deliver?" and "Are these deliverables being achieved?". It should be noted that certain metrics or KPIs may entail a degree of subjectivity and political judgment. In this context, it is worth recalling Article 1 of the EU ETS Directive[1], outlining EU ETS's objectives:

> *"This Directive establishes a system for greenhouse gas emission allowance trading within the Union (hereinafter referred to as the 'EU ETS') in order to promote* ***reductions of greenhouse gas emissions*** *in a* ***cost-effective*** *and* ***economically efficient*** *manner.*
>
> *This Directive also provides for the reductions of greenhouse gas emissions to be increased so as to contribute to the levels of reductions that are considered scientifically necessary to avoid dangerous climate change. It contributes to the achievement of the* ***Union's climate-neutrality objective*** *and its climate targets as laid down in Regulation (EU) 2021/1119 of the European Parliament and of the Council and thereby to the objectives of the Paris Agreement."*

Some objectives are clearly enunciated and identified, while other objectives may be regarded as more implicit. The direct deliverables assessed by this Report include:

1. **Environmental delivery**. Does the EU ETS deliver against absolute environmental targets? (Chapter 4).
2. **Competitiveness and socio-economic delivery.** Does compliance with the EU ETS deliver macroeconomic efficiency and cost-effectiveness? Is it a driver for change without damaging EU industrial competitiveness? Is the ETS allowed to provide a price signal? (Chapter 5).
3. **Market functioning**. The EU ETS is a regulatory market, which is a complex set-up. Is it worth having a market only if it functions well and leads to good price discovery? (Chapter 6).

Over time, other deliverables or indicators have come to be "expected" or "understood". Some stakeholders, wrongfully in our view, equate the proper functioning of the EU ETS with the delivery of a "right price", incentivising specific technologies or approaches. However, the EU ETS is by definition a technologically-neutral approach[2]. It should not be misused as an instrument to promote certain approaches or technologies or serve as a source of revenues

A number of other dimensions should be examined in analysing the state of the EU ETS.

2.1. Long-term competitiveness

The achievement of emission reductions should be achieved in a cost-efficient and economically efficient manner. This means, that when aiming for emission reductions, competitiveness should not be abandoned, rather it should be a core consideration.

The EU has placed greater emphasis on competitiveness in the past year. Thus, it is not surprising that some stakeholders view the EU ETS not only as a key climate policy to achieve environmental delivery, but also

[1] Directive (EU) 2003/87.

[2] In this line, Innovation Fund "projects shall be selected by means of a transparent selection procedure, in a technology-neutral manner". Article 10a(8) of the EU ETS Directive.

as a tool for economic competitiveness to accelerate the transition to a low-carbon economy. The EU ETS can achieve its objectives by:

- Providing a price signal to accelerate the economic transition, as well as promoting societal values, behaviour, and systems;
- Addressing the socio-economic impacts associated with the transition to a low-GHG economy;
- Contributing to the creation of a market for low-carbon products.
- Ensuring the survival of entities covered by EU ETS and strengthening their competitiveness.

The EU ETS Directive outlines specific instruments to achieve long-term competitiveness. For instance, it encourages investments in low-carbon technologies through the Innovation Fund, it addresses socio-economic impacts by facilitating a "Just Transition" through the Modernisation Fund, and it allows Member States to compensate sectors exposed to carbon leakage due to significant indirect costs incurred from GHG emissions passed on in electricity prices. While not directly explicit, we can also consider these instruments as measures to address the competitiveness of covered installations.

The progress towards these objectives can be quantitatively assessed by developing KPIs. Other long-term objectives lack maturity and clarity in policy discussions, making it harder to define specific KPIs for them currently.

2.2. Promote carbon pricing

The EU implemented the EU ETS in 2005. Since then, the EU has established itself as a leader in promoting carbon markets as a tool to address climate change and to push for effective climate action, with many other jurisdictions now following suite. Research, including the ICAP Status Report 2025[3] and the Word Bank's State and Trends of Carbon Pricing 2024[4] show that carbon pricing is spreading across the world at an increasing pace with 38 ETSs in operation and a further 20 under consideration. Notable examples include Turkey and Brazil announcing their own carbon pricing policies.

The EU ETS and its accompanying instruments (i.e. CBAM) have been successful in extending the carbon pricing approach worldwide through internationalisation and linkage of national carbon markets (i.e. Switzerland). The EU follows different strategies to promote the introduction of carbon markets worldwide:

- Firstly, by "leading by example" and persuasive climate diplomacy hinged on multiple bilateralisms, the Union incentivises other jurisdictions to take inspiration from the EU ETS. An example is the Commission task force to support the creation of carbon markets globally fostering international trade of CO_2 emissions[5], or the Council's adoption of Green Diplomacy calling for foreign countries to develop carbon pricing policies[6].
- Secondly, it leverages its market power to include climate ambition clauses in free trade agreements, thereby indirectly promoting carbon abatement abroad.
- Lastly, the EU employs measures like the Carbon Border Adjustment Mechanism (CBAM) to ensure that the EU ETS ambition leads to worldwide decarbonisation.

[3] ICAP (2025): "Emissions Trading Worldwide: 2025 ICAP Status Report". Available at: https://icapcarbonaction.com/en/publications/emissions-trading-worldwide-icap-status-report-2025

[4] World Bank (2023). "State and Trends of Carbon Pricing 2023". 23rd May. Available at: https://openknowledge.worldbank.org/handle/10986/39796 (Accessed on 20 March 2024)

[5] Abnett, K. (2024): "EU to step up efforts for more carbon markets worldwide". Reuters. February 13th.

[6] Council of the EU (2024). Council Conclusions on EU Green Diplomacy. EU diplomacy promoting the just and inclusive green transition and supporting the implementation of global commitments. 18 March.

Short and long-term predictability

Predictability in the EU ETS regulation is key to guaranteeing long-term investments and a credible policy signal for decarbonisation. The EU ETS Directive provides short to mid-term emissions reduction targets until 2030 (Phase IV).

Additionally, the adoption of a carbon neutrality objective by 2050 under the European Climate Law has provided clarity on the direction of travel.

The 2040 target of 90% net GHG emissions reduction vs a 1990 baseline for the EU[7], brings longer-term clarity. Less desirable examples include the front loading of auctions to fill the Modernisation Fund, and the treatment of fertilizers under the CBAM, which is a companion to the EU ETS.

3. Regulatory developments

The last major revision of the EU ETS Directive was completed in 2023. The substantial legislative changes introduced at that time made it necessary to update most of the secondary legislation related to the EU ETS — including delegated and implementing acts — to ensure the mandate of the Directive is properly implemented. This secondary legislation has continued to evolve since then, and this review reflects the most recent developments through 2025.

Beyond secondary legislation, the EU ETS operates within a broader and increasingly interconnected policy landscape. Since the adoption of the European Green Deal, the interplay between carbon pricing and other climate and energy instruments has grown substantially stronger — a trend that has only deepened in the intervening years. Complementary instruments at EU level can, among other effects, influence the carbon price signal or affect the actual carbon cost faced by regulated entities.

At the same time, national-level legislative and regulatory developments have gained increasing relevance for how the EU ETS functions in practice across Member States. This report therefore also captures some of the significant national measures adopted or entering into force through 2025, where these interact with, or complement the EU ETS framework.

Against this background, the following section first tracks recent legislative developments in the secondary legislation complementing the EU ETS Directive — updated to reflect changes through 2025 — followed by an analysis of other EU and national policies that interact with the functioning of the EU ETS.

3.1. Secondary legislation

Table 1 below details legislative developments adopted or published for consultation through 2025, capturing both the measures anticipated in the 2023 review, as well as any additional acts that have since materialized.

While the precise impacts are subject to a degree of uncertainty and are not exhaustively detailed here, Table 1 below maps the potential effects that adopted secondary legislation may have on the EU ETS. These effects are evaluated across environmental, competitiveness, and market functioning dimensions.

[7] Communication Securing our future Europe's 2040 climate target and path to climate neutrality by 2050 building a sustainable, just and prosperous society. COM/2024/63 final.

Table 1: Legislative developments in 2025.

Legislation	Revised elements	Relevance to EU ETS	Adoption date
Commission Implementing Regulation (EU) 2025/1192	Regulation (EU) 2018/2067 is modified as regards certain aspects on the verification of data and on the accreditation of verifiers. • It adds harmonization in what verifiers must check for climate-neutrality reports (the progress report some installations must have), conditional to getting free allocations, and calls for more verification requirements. • Airlines must now report also non-carbon effects, and stricter checks for fuels. • It calls for more evidence checks around "zero-rated" biomass fuels and CO2/N2O transfers/subtractions (Verifiers must check operators' evidence that zero-rated biomass fuels meet the applicable sustainability and greenhouse-gas-savings criteria, and they must carry out specific checks where CO_2 is transferred or subtracted, including where zero-rated carbon is involved.)	Despite not being relevant for emitters (besides for airlines that now must report also non-CO2 aviation effects), this implementing regulation has direct effects on how reporting is conducted by checkers, tightening some of the rules and putting some conditionality in getting free allocations.	18 June 2025
Commission Implementing Decision (EU) 2025/1162	Commission Decision 2025/381/EC is modified as regards the questionnaire for reporting on the application of Directive 2003/87/EC of the European Parliament and of the Council. The questionnaire is now aligned with post 2023 ETS reforms and it cuts duplicated paperwork.	An updated questionnaire that is in line with the post 2023 ETS reform helps streamlining the process and extends the scope (maritime) and cuts duplicated paperwork making it more efficient.	5 June 2025
Commission Delegated Regulation (EU) 2025/1253	Regulation (EU) 2019/1122 supplementing Directive 2003/87/EC of the European Parliament and of the Council is changed: It updates Union Registry rules to reflect the revised ETS scope, including maritime and the exclusion of certain biomass-heavy installations It prepares the registry for ETS2 It strengthens compliance controls, including account blocking where the required allowances have still not been surrendered by 1 October.	Relevance for reporters stems from having new changes on the Union Registry, while also tightening reporting rules.	11 February 2025
• **Commission Implementing Regulation (EU) 2025/772**	Regulation (EU) 2019/1842 is modified laying down rules for the application of Directive 2003/87/EC of the European Parliament and of the Council: • It changes how FA is adjusted when there is a change in the activity level, and it adds "average of the expected activity level" and a common method for certain sub-installations • It simplifies the annual reporting as it removes the need for a preliminary activity level report • It adds and clarify rules on conditionality.	This change has a notable impact on FA, and it set steps in calculating how they are allocated. The "average of the expected activity level" can lead to having a more straightforward access to FA for industries that are facing oscillations in their production.	16 April 2025

3.2. Other policies impacting the EU ETS

3.2.1. CISAF

The Clean Industrial State Aid Framework (CISAF) was adopted in June 2025 as a central component of the Clean Industrial Deal. It establishes the rules under which Member States may grant state aid to companies undertaking projects that contribute to decarbonisation, competitiveness, and clean technology development. In doing so, CISAF represents a significant recalibration of the relationship between public funding and industrial transformation within the EU's broader climate policy architecture. Its relevance for the EU ETS is twofold. First, it directly affects the financial envelope available to Member States for indirect carbon cost (ICC) compensation, since the conditions and constraints governing state aid inevitably shape how Member States allocate resources to ETS-covered industries.

Second, by enabling and structuring public support for decarbonisation investments in ETS-covered sectors, CISAF may influence the pace and scale at which regulated installations reduce their emissions — with potential knock-on effects on allowance demand and the overall carbon price signal.

The interaction between CISAF and the EU ETS is therefore not merely procedural but has substantive implications for how the carbon market functions and how industrial decarbonisation unfolds in practice.

3.2.2. 2040 Climate Target

In December 2025, the EU Council reached agreement on the 2040 Climate Target, establishing a 90% net domestic greenhouse gas emissions reduction target by 2040, compared to 1990 levels. Several elements of the agreed framework are of relevance to the functioning of the ETS, including a provision allowing for the use of up to 5% international credits from 2036 onwards, which introduces a degree of flexibility that could affect EUA prices. It also includes a provision for domestic permanent carbon removals under the EU ETS, to compensate for residual emissions from hard-to-abate sectors. In addition, the start date of ETS2, covering buildings and road transport, has been postponed to 2028. Taken together, these elements signal an evolution of the EU ETS, but the details of how it will be operationalized matter.

3.2.3. CBAM — Omnibus I Simplification

The Carbon Border Adjustment Mechanism (CBAM) has undergone significant legislative development during 2025, with two distinct sets of measures shaping its near-term evolution. In February 2025, as part of the broader Omnibus I simplification package, the European Commission tabled a proposal to simplify and strengthen the CBAM Regulation which include a proposal for a new de minimis threshold, alongside a range of simplification measures covering reporting requirements, authorisation procedures, and anti-abuse provisions. Following negotiations between the co-legislators, an agreement was reached in September 2025. These changes are relevant to the EU ETS insofar as CBAM is explicitly designed to address carbon leakage risks for sectors covered by the ETS.

3.2.4. CBAM — December 2025 Legislative Package

In December 2025, ahead of the start of CBAM's definitive phase on 1 January 2026, the European Commission presented a further legislative package aimed at amending and complementing the Regulation to ensure it is fit for full operationalisation. This package comprised two principal components. The first was a proposal to amend the CBAM Regulation to extend its scope to downstream goods and to introduce additional anti-circumvention measures, reflecting concerns that the mechanism's original product scope left certain carbon-intensive value chains partially exposed to leakage risks. The second component was a proposal establishing a Temporary Decarbonisation Fund, designed to support third-country producers in transitioning towards lower-carbon production methods — a mechanism intended to address the international dimension of carbon pricing and soften potential trade frictions arising from CBAM's full implementation.

3.2.5. Omnibus I Package— CSRD

The Omnibus Regulation introduced significant amendments to the Corporate Sustainability Reporting Directive (CSRD), substantially narrowing its scope and adjusting the timeline for its phased application. For ETS-covered installations, the CSRD continues to create a complementary framework of disclosure and accountability around emissions and decarbonisation strategies, even as the overall scope of companies covered has been reduced.

3.2.6. Omnibus I Package— CSDDD

The Omnibus Regulation also introduced substantial amendments to the Corporate Sustainability Due Diligence Directive (CSDDD), significantly raising the thresholds for applicability and relaxing certain enforcement provisions. For ETS-covered sectors, this has practical implications: incentives for large industrial operators to demonstrate credible decarbonisation pathways are driven more directly through the CSRD and the ETS itself, rather than through the supply chain due diligence framework, through the CSDDD.

3.2.7. Amendment to the ETS State Aid Guidelines

On 23 December 2025, the European Commission adopted an amendment to the ETS State Aid Guidelines, introducing a set of changes that materially expand both the scope and generosity of the compensation framework available to Member States for indirect carbon costs. The amendment extends the list of industrial sectors eligible for ICC compensation by adding 20 new sectors and two new subsectors, reflecting an updated assessment of carbon leakage risk and the competitive pressures facing energy-intensive industries subject to rising carbon prices. For sectors already included in the eligible list prior to the amendment, the aid intensity has been increased from 75% to 80%, acknowledging that these sectors face a heightened and ongoing risk of carbon leakage as the EU ETS cap tightens and allowance prices remain elevated. The amendment also introduces greater flexibility by allowing Member States to notify the Commission of sectors or subsectors not included in the amended eligible list, provided they can demonstrate that these are at genuine risk of carbon leakage — creating a bespoke pathway for sectors that fall outside the harmonised list but face comparable competitive pressures. Finally, the amendment introduces a green transition conditionality requirement for large beneficiaries: companies receiving significant ICC compensation are required to channel a share of the aid into projects that contribute to reducing the costs of the electricity system, linking the receipt of state support to a measurable contribution to the energy transition. These changes collectively strengthen the ICC framework while embedding decarbonisation expectations into the conditions of public support.

3.2.8. Member State Policies

While the EU ETS has played a role in decarbonisation, it is important to also map national policies on climate and energy that impact on the functioning of the EU.

Table 2: Member States policies.

Member State	Name of the domestic policy	Description	Adoption date
Italy	DL Bollette	DL Bollette: article 3 specifics that the Indirect Cost Compensation for companies is now 600.000.000 EUR, compared to the 300.000.000 EUR in 2025.	28 February 2025

Member State	Name of the domestic policy	Description	Adoption date
France	Indirect Carbon Cost Compensation	Advance payment for 2025 is set at 10%: “advance” quote for the mechanism for ICCC is fixed at 10% of the aid. Administrative rules update: the previous implementing order of Dec 20th 2022 is updated, with new management and information-publication procedure for the scheme.	

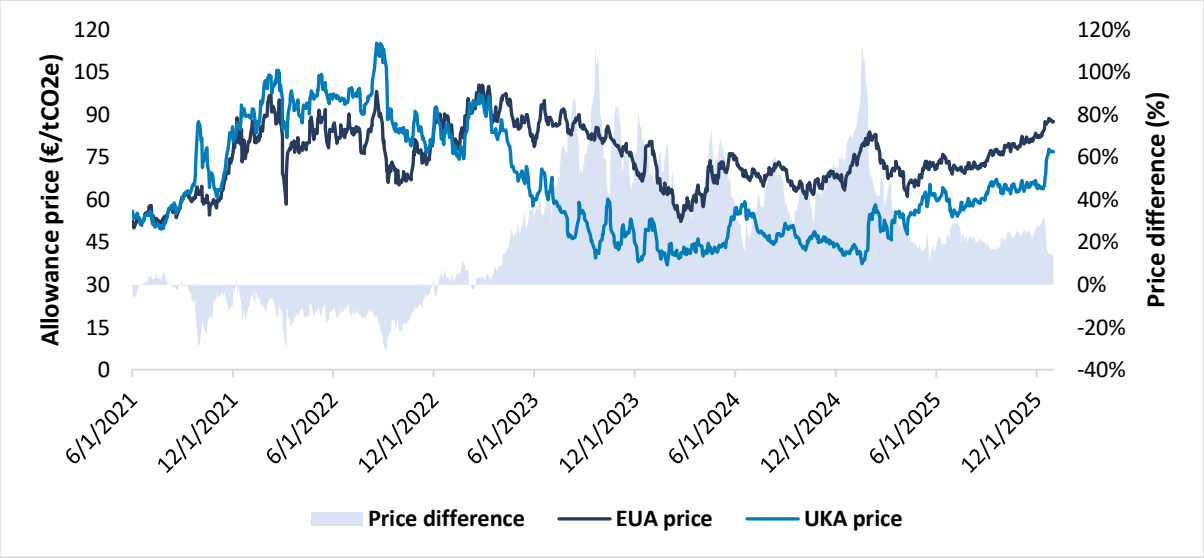
Member State	Name of the domestic policy	Description	Adoption date
Spain	White Certificates	CAEs (White Certificates) are used as official proofs that upgraded industries are saving more energy. They can be bought by energy suppliers to meet energy-saving targets. Savings are calculated and verified under official rules, and once the CAE is issued, it can also be traded.	2023, with yearly implementing acts

3.3. International carbon price developments

3.3.1. Impacts of the UK ETS on the EU ETS

Due to the Brexit, greenhouse gas (GHG) emissions of UK-based installations have been regulated under the UK ETS since 2021. While liquidity in the EU ETS decreased, as UK installations were major participants in the market, there were no structural shocks. The EU ETS remained robust and maintained price momentum, due to its large size, adjustment mechanisms and increased EU climate ambitions. Since then, prices in both ETSs have differed with changes depending on periods, as shown in Figure 1.

Figure 1: EU ETS and UK ETS allowance price evolution



Source: Compass Lexecon based on BloombergNEF data

Figure 1 shows that:

(i) **over 2021-2022**, UK ETS allowances (UKAs) initially traded at a premium to EU ETS allowances (EUAs), at an average of around 10%,

(ii) **over 2023-2024**, this trend reversed with UKA prices being 25-35% lower than EUA prices on average. Despite the announcement in June 2023[8] of a range of reforms to tighten the cap and

[8] UK Government (2023), Developing the UK Emissions Trading Scheme: Main Response, July 2023.

widen the scope of the UK ETS, policy uncertainty, weak power demand and reduced industrial activity contributed to UKA prices remaining lower in 2024.

(iii) **over 2025**, the EU and the UK's agreement to work towards linking the two ETSs, the publication of the authorities' intention to extend the UK ETS for a Phase II (2031-2040), and the notion that banked allowances from UK ETS Phase I would be valid in Phase II[9] sustained UKAs prices. The average difference with the EUAs prices came back well below 20%.

Importantly, the first EU-UK summit since Brexit was held on 19 May 2025 where the EU and the UK agreed to work towards linking their respective ETSs.[10] Indeed, the EU-UK Trade and Cooperation Agreement promotes cooperation on carbon pricing,[11] and linking the two ETSs would create the conditions for EU and UK goods to benefit from mutual exemptions from their respective CBAMs – reducing costs and bureaucracy for businesses while minimizing possible impacts on cross-border trade. Covered sectors are expected to include electricity, industrial heat, industry, maritime, and aviation. Key conditions for the linking agreement include the UK ETS' emissions cap and reduction pathway being at least as ambitious as those of the EU ETS and the agreement being subject to a joint governance mechanism.

Finally, UK Authorities decided in November 2025 to align free allocation rules (benchmarks), industries at risk of carbon leakage and free allocation phase-out trajectories on the EU ETS, limiting differences in scope and features.[12] However, other regulatory evolutions from the UK ETS may affect the EU's, especially in the context of linking discussions. In July 2025, UK Authorities further confirmed their intention to expand the scope of the UK ETS to engineered carbon removals as of 2029, with implementing regulation due in 2028.[13] The introduction of removals allowances would be done without changes to the gross cap, substituting allowances that would otherwise have been allocated for free or auctioned.

3.3.2. Linking with other markets

The EU ETS and the Swiss ETS have been linked since 2020, through a linking agreement between the EU and the Swiss Confederation. This means that allowances issued in one ETS can be surrendered for emissions generated in either of the two emission trading systems. Including aviation in the linking agreement was a crucial requirement for the EU.[14]

As in previous years, in 2024 Swiss entities were far more likely to use allowances generated in the EU ETS rather than EU entities using allowances from the Swiss ETS. This is expected, as the EU ETS is considerably larger in size than the Swiss ETS and generates far more allowances.

Since 2024 however, the linking arrangement allowed for daily transfers between the two systems, compared to only twice a week in 2023. In total, EU ETS-regulated entities (installations and aircraft operators) used c. 1.6 million allowances issued under the Swiss ETS for compliance in 2024. This marks a significant increase compared to prior years (c. 440 000 allowances more compared to 2023, c. 605 000 allowances more compared to 2022). This development underlines the flexibility provided by linked systems as well as consistently growing acceptance of the link.[15]

Table 3 shows that aviation entities in both systems use the linkage much more than stationary installations. In 2024, as EU entities continued to almost exclusively rely on EU ETS allowances, c. 51% of allowances

[9] Uk Government (2025), Extending the UK Emissions Trading Scheme cap beyond 2030.

[10] European Commission (2025), A renewed agenda for European Union – United Kingdom cooperation Common Understanding, 19 May 2025.

[11] European Commission (2021), The EU-UK Trade and Cooperation Agreement, April 2021.

[12] UK Government (2025), UK Emissions Trading Scheme: Free Allocation Review Main Authority Response.

[13] UK Government (2025), Integrating Greenhouse Gas Removals in the UK Emissions Trading Scheme: Main Response.

[14] European Commission (2023), Report from the Commission to the European Parliament and the Council on the functioning of the European carbon market in 2022, COM(2023) 654 final, October 2023.

[15] European Commission (2025), Report on the functioning of the European carbon market in 2024.

surrendered by airlines in Switzerland and 11.6% of allowances surrendered by Swiss stationary installations were generated in the EU ETS.

Table 3: Allowances used for 2024 compliance (% of total surrender units)

		EU ETS allowances		Swiss ETS allowances	
		General allowances	Aviation allowances	General allowances	Aviation allowances
Units used for compliance with the EU ETS	By stationary installations	99.59%	0.31%	0.07%	0.03%
	By aviation operators	70.24%	28.92%	0.08%	0.76%
Units used for compliance with the Swiss ETS	By stationary installations	5.19%	-	93.35%	1.46%
	By aviation operators	65.30%	14.24%	0.17%	20.22%

Source: Compass Lexecon based on European Commission (2025), Report on the functioning of the European carbon market in 2024.

3.3.3. Article 6 of the Paris Agreement

Article 6 has now largely completed its rule book, and while there have been some transactions, the global uptake has been largely slow, with most of the action still in capacity building, putting in place the machinery and deciding on national strategies.

In the EU, international markets still elicit a bad reaction, coloured by enshrined truism in the echo chamber that it is a bad thing. Politically, Member States' positioning on international credits is not as clear, and whether international credits in the EU are an option is still too early to tell, in the face of opposition from some of the EU institutions.

International credits could impact the EU ETS should they be allowed as an instrument of compliance, or by easing the burden if other sectors could do more on the back of Article 6 credits. It is likely that supply of international credits may be a bigger problem than anticipated, if CORSIA is an example of the supply-demand balance.

4. Environmental delivery

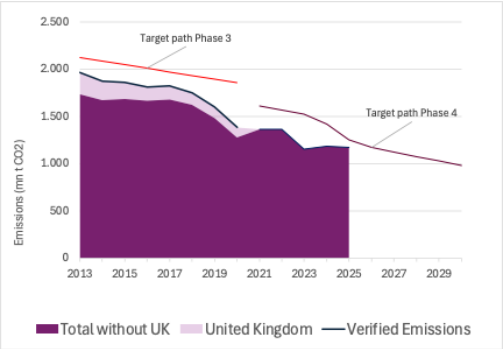
4.1. Delivery against Phase 4 target

4.1.1. KPIs on data for 2025

While in 2025 GDP growth in the EU reached 1.4%[16] the EU Emissions Trading System (EU ETS) continued to deliver emissions reductions. The pace of emissions reductions, however, slowed down compared to the previous years. EU ETS emissions declined by about 1.3% in 2025. In 2024, emissions had fallen by roughly 5%, although comparisons are affected by the inclusion of maritime transport in the ETS from 2024 onward.

[16] Source: European Commission, Directorate-General for Economic and Financial Affairs, European Economic Forecast: Autumn 2025, published 17 November 2025

Figure 2: KPI 1A EU ETS verified emissions vs adopted targets – UK/rest split



Source: ERCST, based on EUTL data
Note: EUTL verified emissions for 2025 adjusted to account for incomplete reporting using 'carrying forward' techniques.

Figure 2 (KPI 1A) highlights several key trends. Verified emissions remain below the cap. However, the gap between verified emissions and the annual emissions cap has narrowed significantly, when compared to previous years. However, excluding the maritime sector, while there were significant reductions in 2022, 2023, and 2024, the pace has decreased significantly in 2025. Even with this slowdown in 2025 more than half of the EU ETS target—a 62% reduction from 2005 levels by 2030—had already been achieved.

The slowdown in emissions reduction observed this year cannot be yet interpreted as resulting from difficulties by EU ETS covered installations to reduce emissions but, as we will see in Table 4, can be, to some degree, attributed to the level of renewables installed in the EU, which has now reached 47%[17] and need to be balanced by non-intermittent power sources, such as gas, for which demand rose.

As illustrated in Figure 3 (KPI 1D) and Figure 4 (KPI 2), stationary installations are grouped into the electric power/public heating sector and the energy intensive industry sector, the former contributing about 41% of total emissions in 2025 and the latter 54%.

The trend of emissions reduction pathways differs significantly between these sectors. The 50% reduction in total emissions from stationary installations between 2008 and 2025 results from 21% from energy intensive industry[18], 75% from electric power, steam & AC, and 4% from other installations.

Figure 3: KPI 1D Verified emissions vs target cap and sector composition

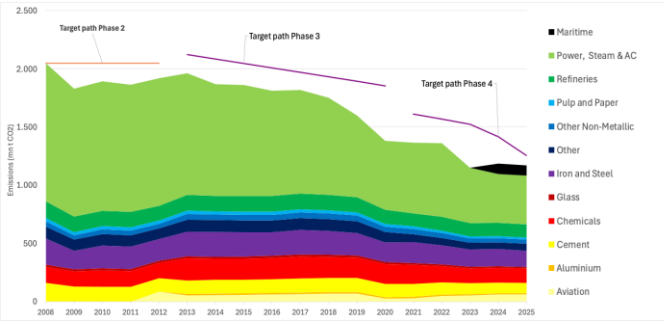
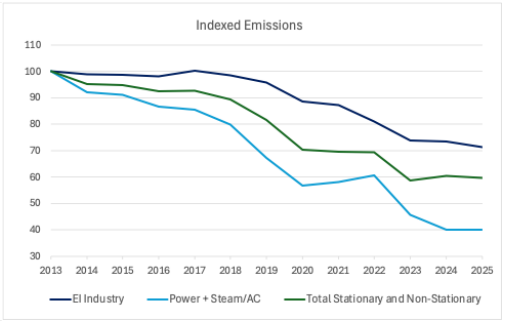


Figure 4: KPI 2 Indexed emissions and sector composition



Source: ERCST, based on EUTL data
Notes: EUTL verified emissions for 2025 adjusted to account for incomplete reporting using 'carrying forward' techniques;
EI industry includes: Aluminium, Cement, Chemicals, Fertilizers, Glass, Steel, Other non-metallic, Pulp and Paper, Refineries.

Table 4 below shows the year-on-year evolution of emissions in 2023-2024 and 2024-2025. Emission reduction from the power sector slowed down, while we see some level of increase in emissions reduction in the energy intensive industry.

[17] Eurostat, "47% of EU's electricity came from renewables in 2025," published 19 March 2026.

[18] *EI industry includes: Aluminium, Cement, Chemicals, Fertilizers, Glass, Steel, Other non-metallic, Pulp and Paper, Refineries*

Table 4: Year-on-year change in emissions (%), 2023-2024 and 2024-2025

Sector	2023-2024 Y-o-Y % change in emissions	2024-2025 Y-o-Y % change in emissions
Maritime	-	-2.0%
Aviation	+15%	+0.5%
Power, Steam & AC	-12.1%	0.0%
EI industry	-0.7%	-2.9%
Total stationary	-5.8%	-1.3%
Total EU ETS	+3.1%	-1.3%

Source: ERCST, based on EUTL data

The power/steam & AC sector accelerated its emission reductions during the mid-Phase 3 period, whereas industry followed primarily in Phase 4.

Figure 5: KPI 3 LRF vs actual change in verified emissions target

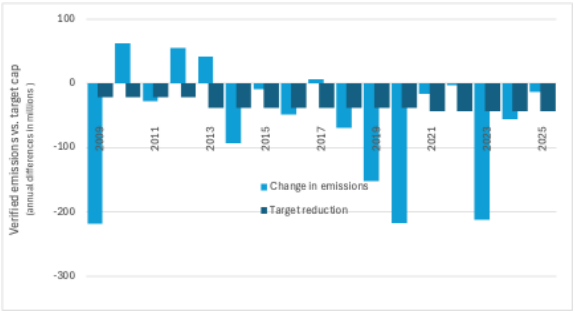


Figure 5 (KPI 3) compares actual annual emissions change to the Linear Reduction Factor (LRF) target. With few exceptions, since Phase 3 actual emissions have declined faster than the LRF pathway. Major crises—the 2008 financial crisis, the 2020 COVID-19 pandemic, and the 2023 energy crisis—all left visible imprints on the EU ETS. Notably, since Phase 3, verified emissions have outperformed the LRF targets specified in the EU ETS Directive in 2014, 2016, 2018, 2019, 2020, 2023, and 2024.

Source: ERCST, based on EUTL data

Table 5: Power generation data in 2024 and 2025

Solar	307	369	62
Wind	485	473	-12
Coal	271	257	-14
Gas	432	466	34
Hydro	370	327	-43
Nuclear	650	652	2
Bioenergy	158	156	-2

Source: Ember (2026), Global Electricity Report

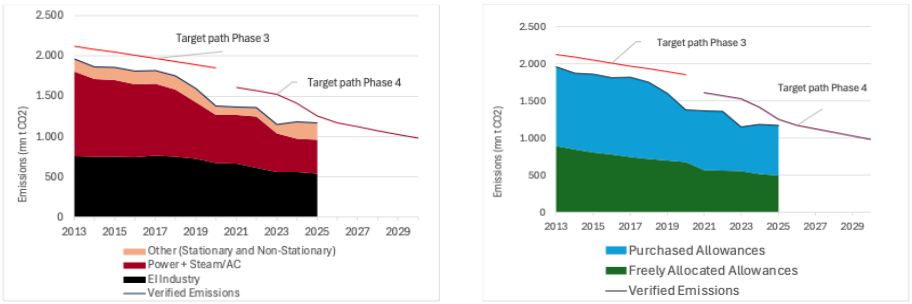
Table 5 illustrates the changes in power generation in 2025 compared to 2024. Electricity demand rose by 0.6%, with the energy mix shifting toward solar and gas, while coal, wind, and hydro declined. Total emissions showed virtually no net reduction. Notably, 2025 was the first year in which batteries began competing with fossil sources for balancing supply and demand (see *Ember 2026*) which impacts the role that different energy sources will play in the energy mix.

4.1.2. Impact on Phase 4

Verified emissions can be further disaggregated by macro-sector. Also, how free allocation and auctioning stack up when compared to verified emissions is another useful illustration. Figure 6 (KPI 1B) also shows that the Power, Heat & AC sector's emissions have declined faster than industry since 2017, though the

decline slowed down in 2025. In contrast, the industrial sector continues along a more gradual and more moderate downward path.

Figure 6: KPI 1B (left) and KPI1C (right) EU ETS verified emissions vs adopted target

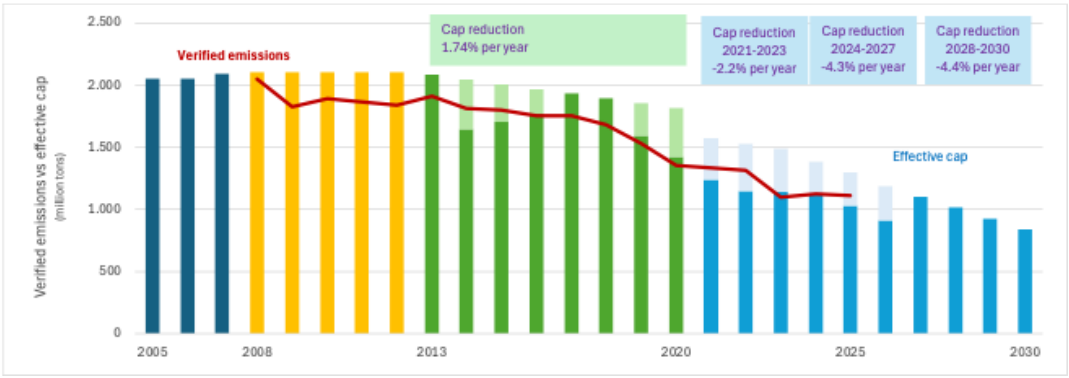


Source: ERCST, based on EUTL data
Notes: EI industry includes: Aluminium, Cement, Chemicals, Fertilizers, Glass, Steel, Other non-metallic, Pulp and Paper, Refineries

Aligned with the EU's 2030 Climate Target, the EU ETS now aims for a 62% reduction from 2005 levels by 2030.

At this stage it is also interesting to show the overall evolution of the emissions since the beginning of EU ETS operations (2005). Figure 7 shows the evolution of observed emissions, the real cap and the effective cap.[19] Since the introduction of the MSR, the year-on-year corresponding balance has been mostly short.

Figure 7: Adopted vs effective emissions cap



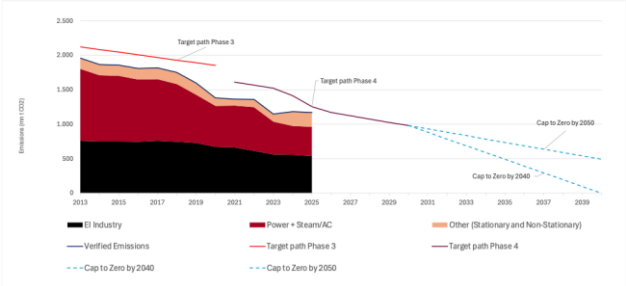
Source: ERCST, based on EUTL data and carbon market reports of the European Commission
Note: figures exclude aviation

[19] The cap (or "real cap") is defined here as the cap derived from the linear factor target path, whereas the "effective cap" is the target path because of the different interventions that impacted the allowances delivery (cancellation; MSR, etc..). The "effective cap' is not fully known in advance but has an influence on the allowances price

4.2. Delivery against EU long-term domestic environmental commitments

The EU ETS has successfully met its main environmental goal of keeping emissions below the prescribed cap. The EU emissions cap has been set with a 2040 emissions target at −90% compared with 1990 levels. The EU ETS's contribution to this long-term target remains uncertain, with post-2030 LRF still under discussion. Figure 8 (KPI 4) outlines potential pathways for the EU ETS after 2030, ranging from net-zero emissions by 2039 to net-zero by 2050.

Figure 8: KPI 4 Possible long-term target paths for EU ETS after 2030



Source: ERCST, based on EUTL data
Notes: EI industry includes: Aluminium, Cement, Chemicals, Fertilizers, Glass, Steel, Other non-metallic, Pulp and Paper, Refineries

A critical discussion ahead involves how best to transition from the current capped EU ETS regime to a net-zero EU ETS framework, considering the pace of technological transformation and the limited remaining timeframe amid insufficient global climate action.

4.3. Evolution of power sector emissions

Multiple factors influence emission levels and reductions in the power sector—energy prices, technological progress, and overlapping policy instruments among them. This complexity complicates precise attribution of emission reductions to the EU ETS itself.

To help quantify these dynamics, the Log Mean Divisia Index (LMDI) methodology is used to assess the long-term contributions of selected factors to changes in EU power sector emissions.

Snapshot on the LMDI methodology

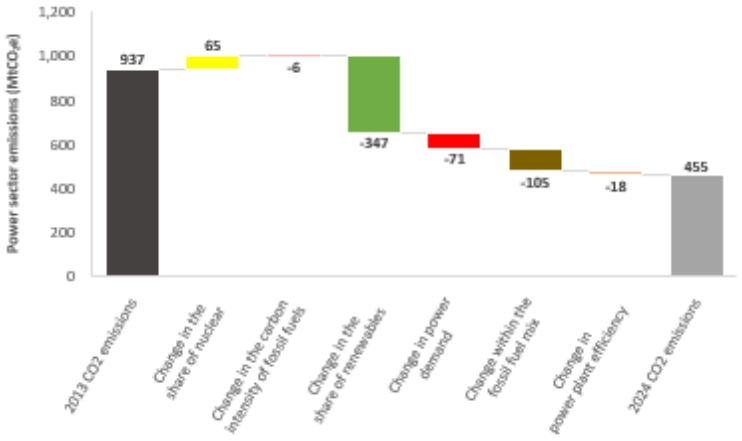
We apply the LMDI to quantify the contribution of different drivers to the variation in GHG emissions in the power sector. LMDI is a widely accepted index decomposition analysis for energy and environmental analysis and offers a systematic way to quantify the contributions of various driving factors to changes in aggregate indicators, such as changes in GHG emissions.

The approach is applied to break down the change in emissions from the power sector to changes in a) power demand (activity effect), b) share of nuclear, share of renewables, fossil fuel mix (effect from generation mix), c) plant efficiency (intensity effect), and d) carbon intensity of fossil fuels (emission factor effect). In other words, with the LMDI, the total power sector emission change is attributed to changes in each of the defined factors, weighted by the (logarithmic mean) change in overall emissions, without leaving a residual.

One of its key properties is that it results in a perfect decomposition – meaning it accounts for each driving factor's contribution all else being equal and does not leave a residual term – that is consistent when aggregated. For example, when estimating the impact of the change in power demand on the GHG emissions of the sector, the base-year (2013) emission intensity of the power mix is used and only the change in power generation is considered as a variable.

Figure 9 shows that annual emissions fell by around 480 $MtCO_2e$ between 2013 and 2024[20]. As with the analysis in the 2025 State of the EU ETS Report, the decreased share of nuclear in the EU power mix compared to 2013 contributed to an overall increase in emissions over the period. However, this increase was outweighed by other factors. The increased share of renewables in the power generation (-347 $MtCO_2e$) mix was the main factor leading to lower emissions, accounting for around 65% of overall emission reductions. Reduced power demand – mainly from industry sectors – and changes in the fossil fuel mix[21] were together responsible for over 30% of emission reductions.

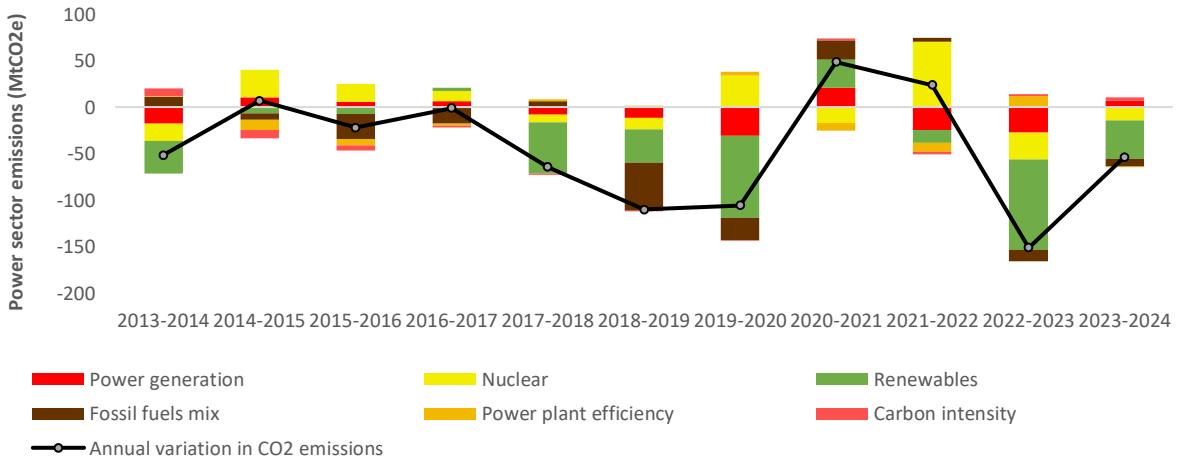
Figure 9: Drivers of variation in EU power sector GHG emissions (2013-2024)



Source: Compass Lexecon analysis based on Eurostat and IPCC data.

Figure 10 zooms in on the annual contribution of each factor on power sector emissions in the period 2013 to 2024. Notwithstanding the complexity of isolating the impact of the EU ETS in emission reductions, over

Figure 10: Energy source vs annual drivers of variation in EU power sector GHG emissions (2013-2024)



Source: Compass Lexecon analysis based on Eurostat and IPCC data.

Phase 3 and the start of Phase 4 power sector emissions fell primarily due to an increase in renewables as well as the switch from coal to gas and reductions in electricity demand. These dynamics may lend credibility to the EU ETS being a driver for change.

[20] The total amount of emissions for the power sector reported in this graph is estimated based on Eurostat data for final energy consumption of the sector and IPCC emission factors per technology. As such it may differ from the level of emissions reported under the power generation category in graphs based off EUTL data. Sources of discrepancies include the fact that the power system emission reported in Figure 9 are estimates and some installations considered in the Eurostat generation data are not ETS covered.

[21] "Change in the carbon intensity of fossil fuels" refers to the variation in GHG emissions released per kWh of electricity produced using fossil fuels (improved fuel quality in transformation) while "Change within the fossil fuel mix" infers mainly fuel switching from coal to gas.

The coal-to-gas switch in the EU power sector primarily occurred between 2015 and 2019, driven by low natural gas prices, increasing EUA prices, and national coal phase-out plans. However, the energy crisis of 2021-2022 temporarily reversed this trend as soaring gas prices made coal-fired power generation more competitive. Moreover, nuclear electricity production decreased in 2022, linked to reactor maintenance works and shutdowns of reactors in some EU countries, but picked up again thereafter. After the economic slowdown of 2022-2023 due to high energy prices during the energy crisis, electricity demand has slightly increased again in 2024. The accelerated shift to renewables driven by energy security concerns and strengthened EU and national policies slowed down from 2023 to 2024 but continues to drive emission reductions in the EU.

5. Competitiveness and socio-economic delivery

5.1. Economic impacts

Carbon leakage and competitiveness have been issues that preoccupied European regulators and stakeholders since the introduction of the EU ETS in 2005. Carbon leakage is the risk that EU companies relocate production or increase imports from countries with less stringent, or absent, climate policies, especially carbon pricing. [22] It must be emphasized that carbon leakage and competitiveness are two issue that cannot be separated – carbon leakage is the result of competitive pressures resulting from asymmetrical climate change policies, in our case carbon prices (and the associated costs) from the EU ETS.

Sectors and sub-sectors identified at risk of carbon leakage for the 2021-2030 period cover approximately 94% of industrial emissions in the EU ETS.[23] Historically this risk was dealt with through different approaches, with the CBAM being the latest approach introduced, and seen as replacing free allocation.

The current European Commission, but especially the political class, has now made competitiveness a priority, while during the debate on the European Green Deal it was largely paid lip service and took second place to environmental priorities. What was, and continues to be difficult, is to identify the impact that EU ETS and climate change policy in general has on competitiveness. Most studies on carbon leakage have been ex-post and have not clearly separated the impacts that the EU's climate change costs, energy costs, labour costs, but more broadly, the work habits, risk taking and entrepreneurship culture have when compared to EU's main competitors. It must be clear that carbon costs are a factor impacting competitiveness, but by no means the only one.

This chapter tries to identify KPIs that can give a picture of the impact of the EU ETS on competitiveness, and the effectiveness of measures put in place to address competitiveness and carbon leakage.

5.1.1. KPI: Balance of allowances

Stringencies that translate into costs

The difference between the free allocation of allowances and the actual verified emissions determines the stringency of the cap-and-trade system for each installation covered by the EU ETS. To compare individual installations, activities, and sectors, we use the following formula:

[22] Recital (9) of Regulation (EU) 2023/956

[23] Commission Delegated Decision (EU) 2019/708 of 15 February 2019 supplementing Directive 2003/87/EC of the European Parliament and of the Council concerning the determination of sectors and subsectors deemed at risk of carbon leakage for the period 2021 to 2030 (OJ L 120 , 8.5.2019)

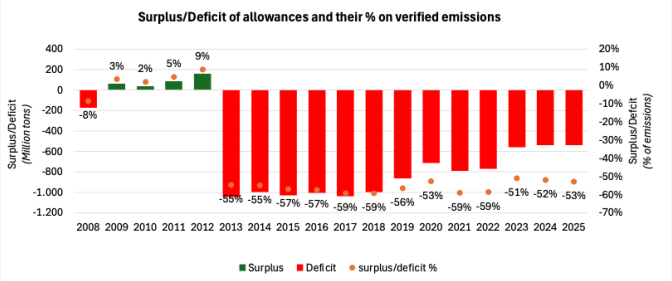
$$Net\ supply\ of\ free\ allowances = \frac{Free\ allocation - Verified\ emissions}{Verified\ emissions}.$$

This indicator is presented both in terms of volume, indicating the share of allowances in a long or short position, and in financial terms, representing the monetary value of those positions by multiplying the volume by the EUA price. The following sections present stringency indicators for stationary installations for the EU ETS overall, sectorally, and by activity scope.

Overall EU ETS stringency

Figure 11 (KPI 5) shows that overall, a little more than half of the emissions are currently not covered by free allowances. This situation started in the EU ETS third compliance period and was caused by the increased shift to auctioning, and the tightening of benchmarks.

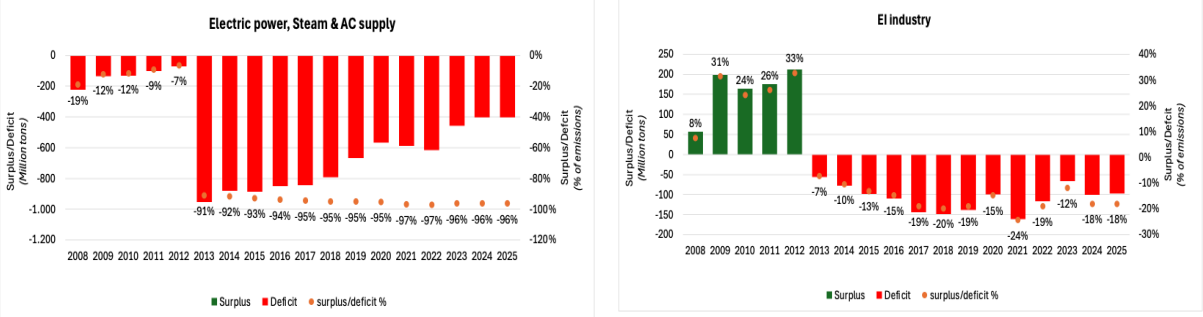
Figure 11: KPI 5 Net supply volume of free allowances - all stationary installations



Source: ERCST. Based on EUTL data.

There is, however, a disparity between the sectors, as visible in Figure 12 (KPI 5A, KPI 5B). The power sector has reached a point where less than 5% of emissions rights are not auctioned.

Figure 12: Net supply volume of free allowances - Electric power, steam &AC (KPI 5A), EI industry (KPI 5B)



Source: ERCST, based on EUTL data
Notes: EI industry includes: Aluminium, Cement, Chemicals, Fertilizers, Glass, Steel, Other non-metallic, Pulp and Paper, Refineries

The energy intensive industrial sectors[24], which accumulated surpluses of allowances from free allocation during the second compliance period (2008-2012), have seen the situation change and are experiencing deficits, which will only increase. EU ETS Phase 4 shows fluctuating deficits, estimated at around 18% in 2024 and 2025.[25]

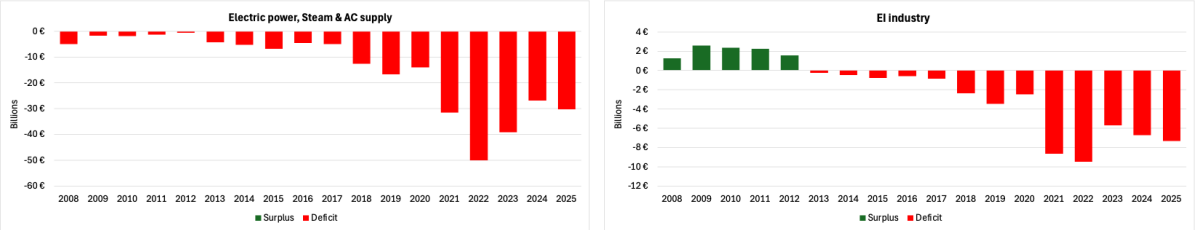
The monetary value of deficits and surpluses of free allowances is calculated by multiplying the net supply/deficit of free allowances with the carbon price. According to Figure 13 (KPI 6), in EU ETS Phase 4

[24] Energy intensive industry in the graphs in this report includes: Aluminium, Cement, Chemicals, Fertilizers, Glass, Steel, Other non-metallic, Pulp and Paper, Refineries

[25] Please note that the figures rely from data from EUTL, which may provide a distorted view of the actual balance of allocated free allowances and emissions per sector

(2021-2025), the electric power sector reached an average annual compliance cost above €35.5 billion. For the energy intensive industry this indicator shows an average annual cost of EUR 7.6 billion EUR.

Figure 13: KPI 6 Net supply value of free allowances

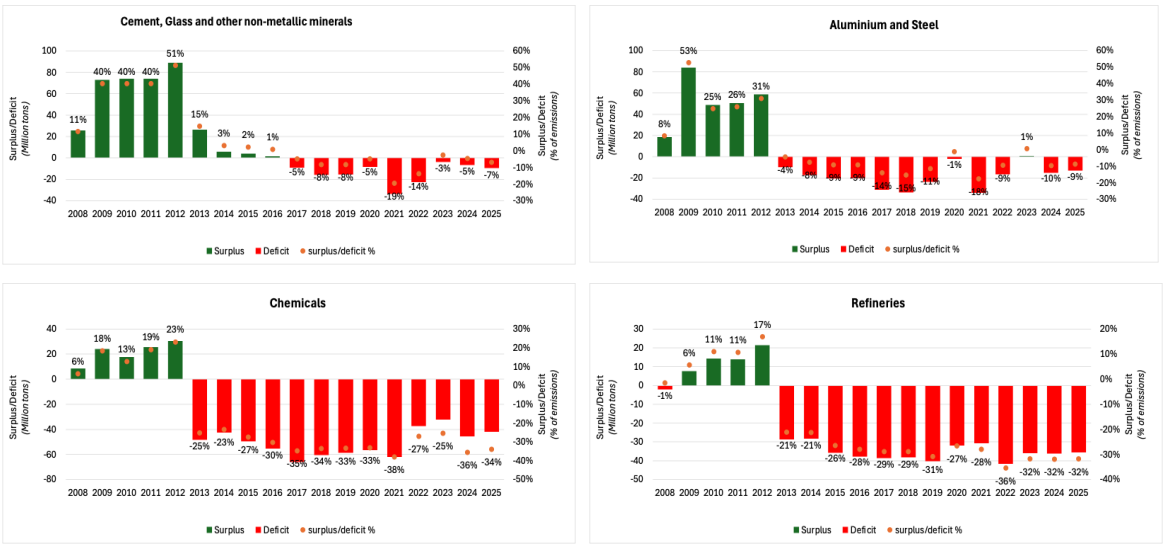


Source: ERCST, based on EUTL data
Note: EI industry includes: Aluminium, Cement, Chemicals, Fertilizers, Glass, Steel, Other non-metallic, Pulp and Paper, Refineries

Sectoral Stringency

The stringency in the different sectors (refineries, metallic products (steel and aluminium), non-metallic products, and chemicals) is illustrated in Figure 14.

Figure 14: Net supply volume of free allowances for selected sectors



Source: ERCST. Based on EUTL data.

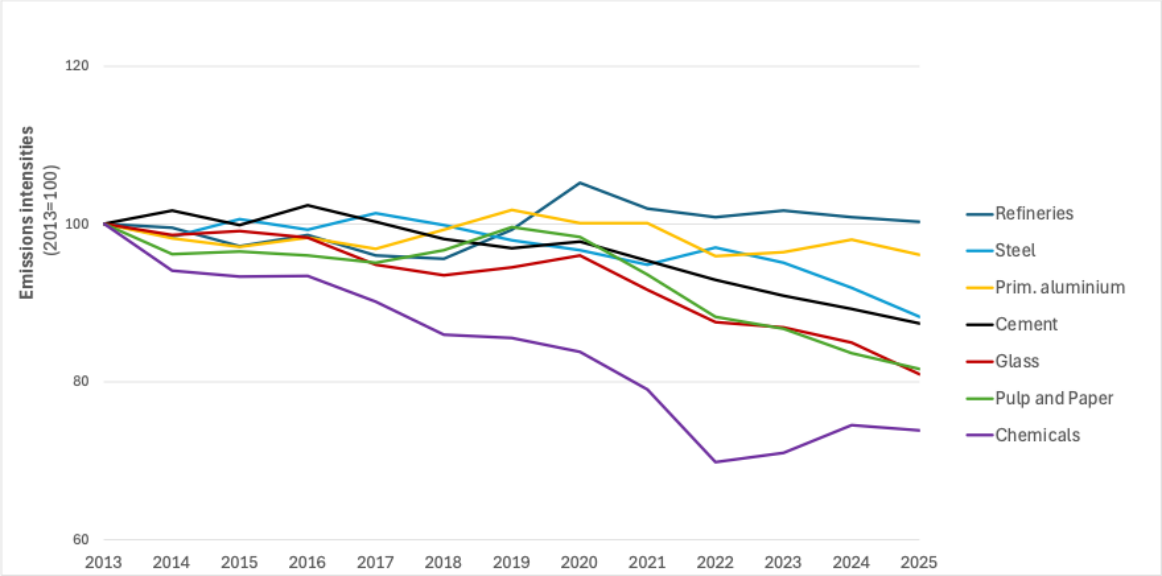
It is clear that some have had significant deficits starting in 2013, which will only accelerate in the future.

5.1.2. Emission intensities in selected industrial sectors

A key KPI for assessing the economic impact of the EU ETS is the emission intensity of the covered industrial sectors (KPI 8A). This KPI helps understand if we are what is happening is absolute emission reductions due to reduced economic activity, or due to decarbonization (decrease in carbon intensity).

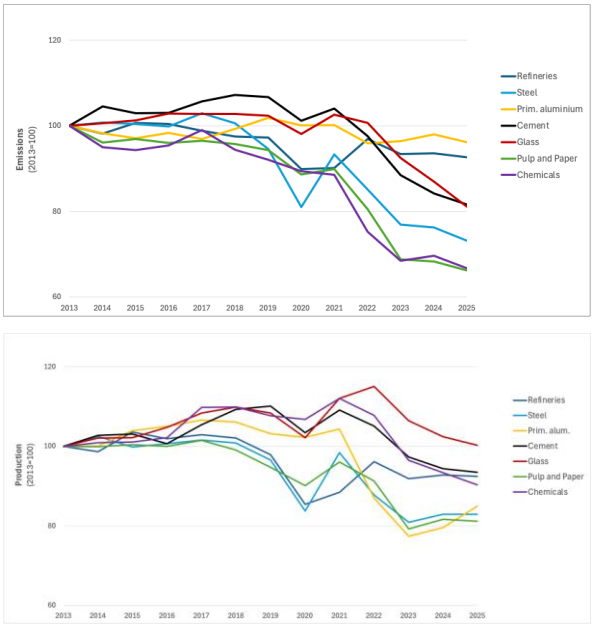
Figure 15 shows that since 2020 carbon intensity has generally been decreasing across the covered sectors but at different rates. In sectors such as chemicals, glass and cement, there is evidence of a decoupling of production output and emission volumes signalling, the early stages of a transition towards lower-carbon production processes. However, there are also signals that a significant amount of absolute emission reductions does not correlate to a decrease intensity, which points to reductions due to decreasing industrial activity.

Figure 15: KPI 8A Emissions intensity for selected activities



Source: ERCST, based on EUTL data
Note: EUTL verified emissions for 2025 adjusted to account for incomplete reporting using 'carrying forward' techniques.

Figure 16: Emissions Index (KPI 8B) and Production Index (KPI 8C)



Source: ERCST, based on EUTL data
Note: EUTL verified emissions for 2025 adjusted to account for incomplete reporting using 'carrying forward' techniques.

Emission Intensities – Sectoral Overview As shown in Figure 16

Primary Aluminium: GHGs improvements in relation to energy efficiency of the smelting process, and to the drop in production, especially starting from 2019 (energy crisis and decreasing demand).

Cement clinker: GHGs improvements as from 2019, motivated by the introduction of dynamic allocation and increasing demand for cement with lower carbon content.

Chemicals: Current results of emissions intensity trends motivated by high gas prices, lower capacity, and restructuring in the sector after closures.

Glass: Continuous GHGs improvements across all glass sectors, driven by innovation (especially in flat glass). Increased electrification, decarbonised raw materials, switching to renewable energy and incremental improvements to processes, including energy demand.

Pulp and paper: Over time GHG improvements are due to the growing share of biomass in the energy mix and improved energy efficiency. In the 2020s, the carbon intensity starts to be driven by output destruction (caused by high energy and raw material prices).

Refineries: GHGs improvements due to investments in energy efficiency while production remained relatively stable. Less intake of natural gas due to high prices lead to more emissions by using other combustibles or feedstock. This partially off-set the gains in energy efficiency.

Steel: GHG emissions and production decreased in parallel, mainly due to dynamics in international trade and high energy costs in Europe; abatement options (electric arc furnace and direct reduced iron plants) are highly CapEx and OpEx intensive.

5.1.3. Level of carbon price of EU ETS compared to other jurisdictions

Visible carbon price in the EU and other jurisdictions

Worldwide, a key distinction among ETSs lies in level of carbon price, sector coverage, as well as the relationship between carbon price and carbon costs (effective carbon price).

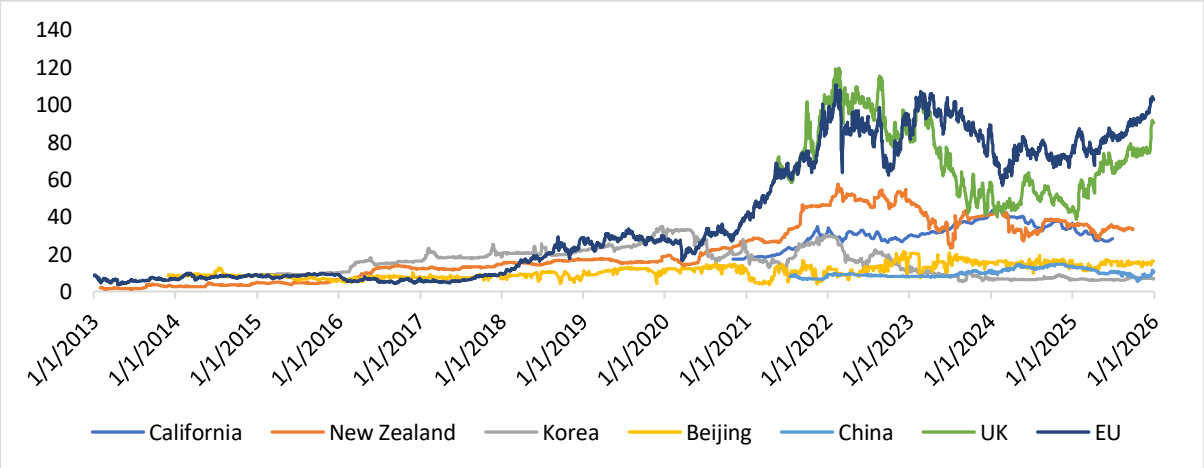
Table 6: Drivers of variation in EU power sector GHG emissions (2013-2024)

	Start year	Sector coverage	2025 Average Price (USD/t CO2e)
EU ETS	2005	Industry, Power, Aviation	84.7
New Zealand ETS	2008	Industry, Power, Waste, Transport, Buildings	33.8
California CaT	2012	Industry, Power, Transport, Buildings	29.5
Beijing pilot ETS	2013	Industry, Power, Transport, Buildings	14.5
China ETS	2021	Industry, Power	10
Korea ETS	2015	Industry, Power, Waste, Transport, Buildings	6.6
UK ETS	2021	Industry, Power, Aviation	66.5

Source: Compass Lexecon analysis based on price data from IPCAP Allowance Price Explorer for California, New Zealand, Korea, Beijing and China, and Bloomberg for the UK and EU.

Different jurisdictions will have measures in place that will lead to a different relationship between the visible (market) carbon price and the effective price (carbon cost), through several approaches, including the provision of anti-carbon leakage measures, such as free allocation. Therefore, what needs to be compared is not only the visible carbon prices in the emission trading systems, which give a signal for mitigation measures, but also carbon costs, which will impact competitiveness and carbon leakage.

Figure 17: Evolution of allowance prices across international ETSs in USD/t CO2e (2013-2025)



Source: Compass Lexecon analysis based on data from ICAP and Energy Market Price

Figure 17 shows the evolution in allowance prices across major emission trading systems over the period 2013-2025. It is clear that the EU ETS visible/market price is significantly above other systems, with the UK being close, but nevertheless still lower.

In the EU, prices surged in 2021-2022 due to the post-COVID economic recovery, revised EU climate ambitions associated with the publication of the Fit-for-55 Package, and the energy crisis. Prices trended down again in 2023-2024 with tension easing in the gas market, reduced industrial activity and the auction of additional allowances mandated by the RePowerEU Package.

With slightly increasing economic activity in 2025, EU ETS prices increased, reaching levels of about 1.3 times of UK ETS prices, 2.5 times of New Zealand ETS prices and almost 3 times Californian CaT prices. The price differences between the EU ETS and prices in other systems can be partially explained by differences in market design, economic activity and policy commitment.

(i) For instance, both the California CaT and the New Zealand ETS impose strict price ceilings or boast extensive market-stabilizing tools, effectively limiting price increases.

(ii) In the cases of the Chinese, Beijing and Korean systems, prices are significantly lower compared to the EU ETS, linked in particular to free allocations in these systems. Moreover, prices tend to be less volatile compared to other systems due to limited trading activities in these markets.

(iii) In the case of the UK ETS, differences to EU ETS prices are driven in particular by the economic slowdown in the UK coupled with policy announcements in the years before 2025. With past announcements of a looser emission cap, UK allowance prices fell below that of EUAs. However, with ongoing efforts of the EU and UK to link their systems, prices have converged more recently (see Figure 17).

Carbon price vs. carbon cost in the EU and other jurisdictions

In most ETSs, covered entities receive emission allowances for free to reduce the risk of carbon leakage and to protect firms against competitiveness losses. There is a wide variation in the share of free allowances in total verified emissions across systems in different jurisdictions: it ranged for example from 100% in Japanese ETSs or the Chinese national ETS, to almost 0% in RGGI. It is also to be noted that the shares also hide sectoral variations across systems, with the electricity sector for instance receiving negligeable shares of free allowances in the EU ETS, the RGGI, the Swiss ETS, New Zealand and the UK ETS, but 100% shares in Australia, China, Japan and Korea.[26]

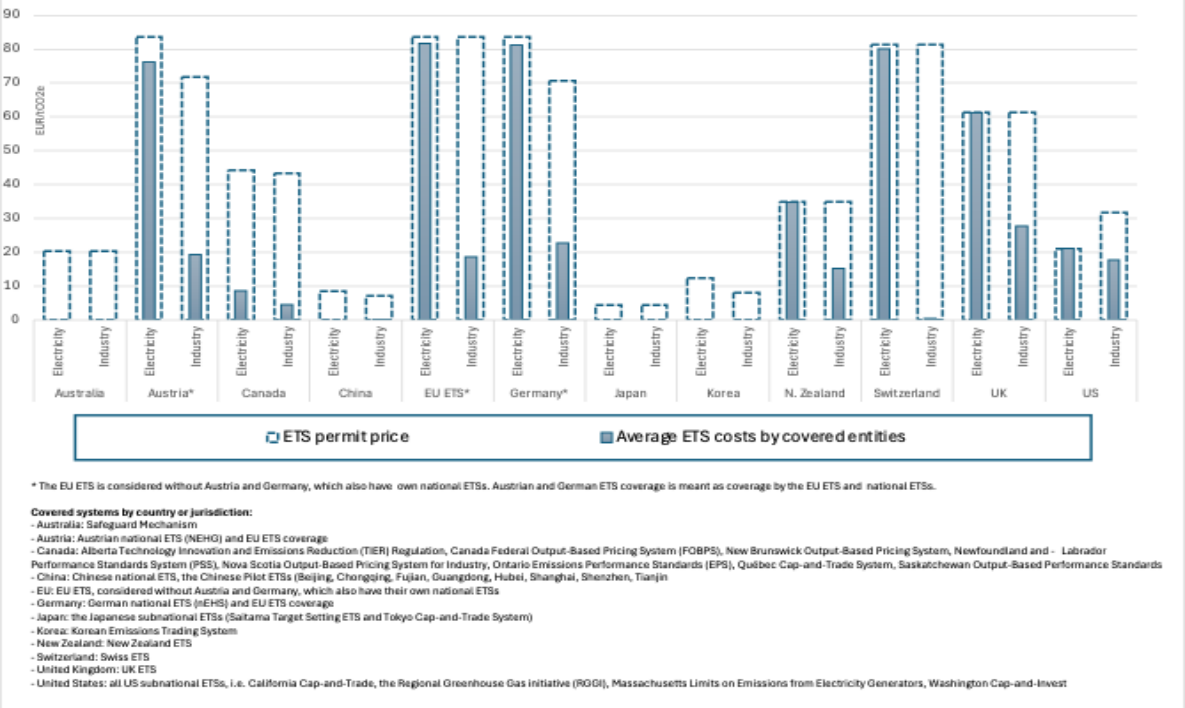
We use data by OECD[27] for a set of ETS systems in 12 countries or supranational jurisdictions, to depict in the following graph in figure 18:

- '*ETS permit price',* which is the respective system's visible or explicit price.
- '*ETS costs by covered entities*', which provides an estimate of the costs incurred on average by covered entities in the industry and electricity sectors, by adjusting for any free allocation of allowances.

[26] p29 and table 2.A.1 in OECD (2025), Effective Carbon Rates 2025: Recent Trends in Taxes on Energy Use and Carbon Pricing, OECD Series on Carbon Pricing and Energy Taxation, OECD Publishing, Paris, https://doi.org/10.1787/a5a5d71f-en

[27] Table 2.A.1. in OECD (2025), Effective Carbon Rates 2025: Recent Trends in Taxes on Energy Use and Carbon Pricing, OECD Series on Carbon Pricing and Energy Taxation, OECD Publishing, Paris, https://doi.org/10.1787/a5a5d71f-en

Figure 18: ETS price vs average costs by covered entities (2023)



Source: ERCST, based on data by OECD (2025)

From the above Figure 18, the following observations can be drawn:

- EU ETS countries lead the way, in terms of highest '*ETS visible price'*, and '*incurred costs by covered entities*';
- A considerable number of systems imply zero or close to zero '*incurred costs by covered entities*', namely Australia, China, Japan, Korea, but also Switzerland for the industrial sector.

5.1.4. ETS compliance costs, trade & production volumes

Industrial production, trade, unitary energy and direct ETS costs 2013-2024

The following section examines the relationship between the level of production, trade balance (imports and exports) as well as average unitary energy costs and average unitary direct EU ETS costs for a range of energy-intensive sectors in the EU: aluminium, glass, iron and steel, chemicals, paper and pulp, and cement.

These sectors have a high exposure to international trade and the associated competitive pressures – with a trade intensity of above 10%[28], except for cement – and are deemed at risk of carbon leakage – with a carbon leakage indicator exceeding 0.2[29] – according to the EU's carbon leakage mitigation methodology.

Based on this data it is difficult to draw a causal relationship between the direct cost of compliance with the EU ETS and production and trade volumes. An in-depth analysis of the impact of carbon pricing in the EU on production output and trade would have to be based on an ex-post assessment of carbon leakage, and thus

[28] Trade intensity is defined as the sum of exports and imports as a share of GDP.

[29] The carbon leakage indicator denotes an industry's exposure to carbon leakage using information on trade and emission intensity. Trade intensity is given by (imports + exports)/(imports + production), and emission intensity is calculated as [direct emissions + (electricity consumption x electricity emission factor)]/gross value added. If the trade intensity multiplied by emissions intensity is above 0.2, the sector is considered at a significant risk of carbon leakage.

consider other dynamics impacting output, including among others, macroeconomic factors affecting trade, labour costs, environmental policy stringency, demand and its price elasticities.

Equally, a careful assessment of EU ETS compliance costs in a given sector should rely on parameters associated with the assessment of carbon leakage risk. Typically, this combines an assessment of the carbon intensity of firms with an assessment of their trade exposure. Carbon intensity captures the impact that carbon pricing has on a particular firm or sector, this is reflected in the direct EU ETS costs below. However, the available EUA purchasing strategies most notably banking is not captured. On the other hand, trade exposure can be thought of as a proxy for the ability of a firm or sector to pass on costs without significant loss of market share and hence their exposure to carbon prices. We do not account for the ability of sectors shown below to pass-through some of the direct ETS costs to consumers.

Finally, while the EU ETS creates two main cost pressures on industries – direct costs and indirect costs (pass-through of carbon costs in electricity prices) – the analysis below considers only direct costs. For simplicity purposes, average annual production and direct EU ETS costs were considered instead of marginal costs which are typically considered by industrials to increase or reduce output or invest in efficiency and decarbonisation measures.

Future editions of this report may feature additional analysis to correct the limitations discussed above.

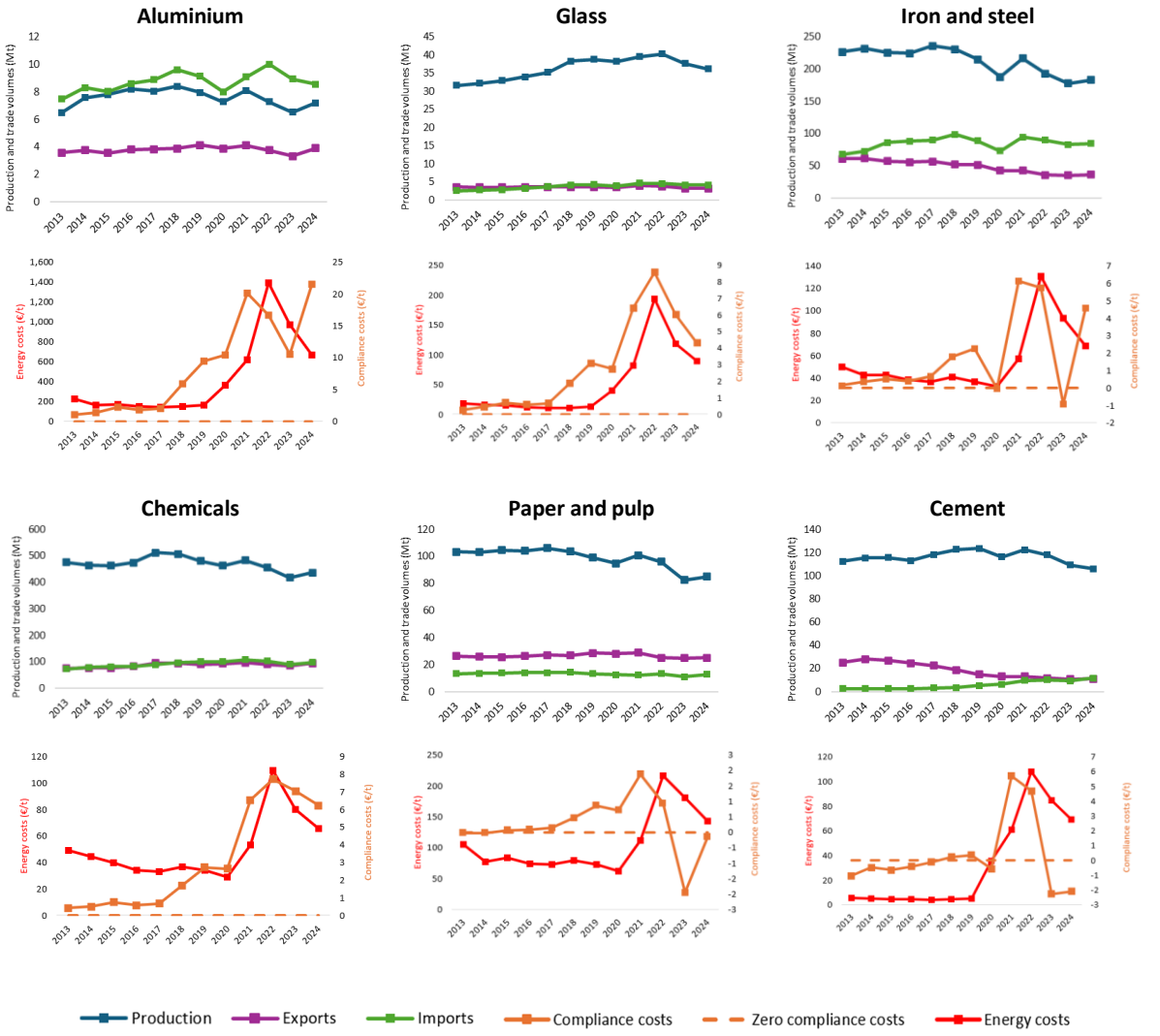
For each sector, the theoretical average direct EU ETS costs of compliance for each sector were calculated per ton of product, in €/t, using the following formula:

$$EU\ ETS\ direct\ cost_{sector,year} = (Verified\ emissions - Free\ allowances)_{sector,year} * EUA\ annual\ average\ price_{year}$$

$$Unitary\ EU\ ETS\ direct\ cost_{sector,year} = \frac{EU\ ETS\ direct\ cost_{sector,year}}{Production_{sector,year}}$$

Figure 19 (KPI 9) illustrates the evolution of EU production, exports and imports as well as average energy costs and direct EU ETS costs of compliance per unit of product over the period 2013-2024 for aluminium, glass, iron and steel, chemicals, paper and pulp, and cement.

Figure 19: KPI 9 Industrial production, trade, unitary energy and direct ETS costs 2013-2024



Source: Compass Lexecon analysis based on data from Eurostat, EUTL, and industry associations

While energy and direct EU ETS costs remained relatively stable before the COVID-19 pandemic, market shocks – particularly the 2022 energy crisis – pushed energy costs to exceptionally high levels. Regulatory and market developments affected direct EU ETS costs diversely depending on sectors.

Overall, before 2018, EU industrial production was constant or slightly increasing, energy costs decreased and average direct EU ETS costs were low because of oversupply in the EU ETS and low EUA prices.

From 2018 to 2020, EUA prices increased in light of the 2018 EU ETS reform, introducing the Market Stability Reserve (MSR) and tightening free allocation rules. EU ETS direct costs increased in most sectors although remaining under circa 5 €/t of production, except for aluminium.

From 2020 to 2021, the COVID-19 pandemic and subsequent economic recovery pushed production volumes and EUA prices up from an all-time low in 2020.

The energy crisis, which was aggravated by the war in Ukraine and Iran, impacted EU ETS prices and costs: first, EUA prices that reached all-time highs due to gas prices surges and increased EUA demand from the

power sector have slowly recovered,[30] second, EU industrial production output decreased due to high energy prices, leaving some installations with a surplus of free EUAs whose allocation is based on historical production outputs.

However, from 2020 to 2024, direct ETS compliance costs were only a fraction of energy costs in sectors observed (between -3% for cement in 2024 and 12% for chemicals in 2021).

Sector-level overview

Aluminium sector[31]: 2018 saw a reversing trend in domestic production output which started decreasing in correlation with rising unitary EU ETS costs. Still, production levels seem to have slightly picked up again in 2024 compared to crisis years. Imports are covering an increasing share of demand since then. Assuming, for example, sale prices between 1,900 and 2,500 €/t for EU-unalloyed unwrought aluminium between 2020 and 2024, energy costs represented on average 30 % of sale prices whereas direct ETS compliance costs represented on average less than 1 %[32].

Glass sector: EU production still meets most of domestic demand, though production volumes have been decreasing since 2022, after a period of growth. The EU became a net importer around 2018, suggesting that the sector has managed to stay competitive, but faces increasing pressure from international competition.

Iron and Steel sector: The sector faces increasingly strong international competition, with imports rising since 2013, but stabilising in recent years. Further, energy costs surges over the 2020s have been correlated with decline in production output. With decreasing energy costs, production levels in 2024 suggest a slow recovery which is also reflected in a pick-up of compliance costs. Assuming, for example, sale prices range between 450 and 850 €/t for EU-steel rebars between 2020 and 2024, energy costs represented on average 12 % of sale prices whereas direct ETS compliance costs represented on average less than 1 %.

Chemicals sector[33]: Production output has been on an overall declining trend since 2017, under pressure of energy costs in recent years, though production volumes in 2024 suggest a slight recovery. EU remains a net importer at sector level in 2018.

Paper and Pulp sector[34]: Production started decreasing since 2017 against increasing energy costs and compliance cost, but a slight recovery is observed in 2024. Imports and exports remained almost constant over the period suggesting that demand may have driven decrease in output. Assuming a sale price of 800 €/t for coated mechanical graphic paper in 2024, energy costs represented on average 18 % of sale price in 2024 whereas direct ETS compliance costs represented on average less than 1 %.

Cement sector: EU exports have dropped to the level of increasing imports in 2024. Production volumes remain on a decreasing trend since 2021.

Table 7 below depicts key information pertaining to each sector's position in terms of the evolution of production and trade and the exposure to higher energy and carbon costs.

Table 7: Sectoral evolution of production, trade, energy costs & carbon costs

	Aluminium	Glass	Iron and Steel	Chemicals	Paper and Pulp	Cement
Reliance on EU production to satisfy demand	30% (average) 2013: 28% 2024: 28%	90% (average) 2013: 92% 2024: 89%	66% (average) 2013: 71% 2024: 63%	81% (average) 2013: 85% 2024: 78%	85% (average) 2013: 85% 2024: 83%	95% (average) 2013: 97% 2024: 89%
Global trade position and evolution	Imports and production roughly double of exports	Shift from net exports to net imports (but low compared to production)	Increasing gap between imports and exports (double)	Shift to slightly net importer	Net exporter (with relatively constant gap)	Shift from net exporter to import/export parity
Increase in energy costs	Almost doubled	More than doubled	More than doubled	More than doubled	More than doubled	Almost doubled

[30] With an additional bearish effect of the REPowerEU package of measures that included the anticipated auctioning of allowances from Phase IV and resulted in increased EUA supply.

[31] Compared to prior reports, the allocation of installations in the EUTL database to sectors has been revised. With the updated allocation, emissions from the steel sector are higher than before, hence, leading to overall higher compliance costs.

[32] Sectoral average does not preclude some installations facing higher direct ETS compliance costs.

[33] Compared to prior reports, the allocation of installations in the EUTL database to sectors has been revised. With the updated allocation, emissions from the chemicals sector are higher than before, hence, leading to overall higher compliance costs.

[34] Compared to prior reports, the allocation of installations in the EUTL database to sectors has been revised. With the updated allocation, emissions from the paper and pulp sector are higher than before, hence, leading to overall higher compliance costs.

(2020→2024)						
Average direct EU ETS costs[35]	Net positive costs (>0)	Net positive costs (>0)	Net positive costs (>0)	Net positive costs (>0)	Net positive costs (>0)	No net positive costs (<0)
Eligible to compensation for indirect CO2 costs[36]	Yes	Yes (but not all sub-sectors)	Yes	Yes (but not all sub-sectors)	Yes	No

Source: Compass Lexecon (2026)

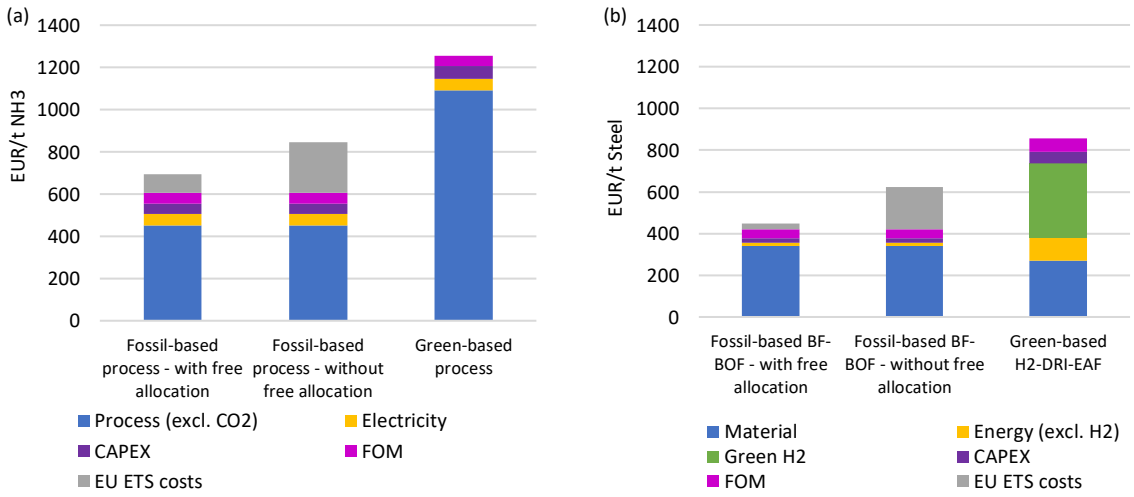
5.1.5. Carbon compliance cost in unit production costs

The phase-out of free allocation by 2034 for CBAM covered goods will have a major cost impact on the manufacturing sector. If the CBAM is functioning as intended, this would be mirrored for equivalent products imported to and traded in the EU domestic market, resulting in EU manufacturers being able to pass-through costs to consumers, or switch to decarbonised processes if they can be more competitive. Actual impacts on the competitiveness of goods manufactured in the EU will depend on the effectiveness of CBAM which will have to be thoroughly monitored by the EC.

As of 2026, CBAM-covered installations start to lose their free allocation, leading to an increase in EU ETS compliance costs.

Figure 20 (KPI 10) shows the breakdown of production costs for (a) ammonia production and (b) crude steel production in the EU in 2030 for the fossil-based process[37] and the decarbonised (green) production process.[38] The price of EUAs is assumed at 100€/tCO_2eq.

Figure 20: KPI 10 Production costs for fossil-based and green (a) ammonia and (b) steel by cost component under different scenarios (2030)



Source: Compass Lexecon based on data from industry surveys for ammonia and from AgoraEnergiewende for steel.

Under the assumptions considered, Figure 20 (KPI 10) suggests several points:

[35] Compared to prior reports, the analysis in the report at hand uses Bloomberg data instead of ICAP data for EU ETS allowance prices. For some years, prices in the Bloomberg dataset are slightly above that of the ICAP dataset. Hence, a small part of increases in compliance costs is driven by changes in the used allowance price dataset.

[36] Based on updated EC Guidelines in the context of the ETS post-2021, published in December 2025.

[37] The fossil-based ammonia production process is based on steam methane reforming (SMR) and Haber-Bosch synthesis. The fossil-based steel production process is assumed to be a retrofit BF-BOF with coking coal, while the green steel production process is based on the DRI-EAF process powered by green electricity.

[38] Energy price assumptions, as well as CapEx, quantities of input/output (iron ore, coal, hydrogen, emissions, etc) and other assumptions can be made available on request.

a. Without regulatory support, in both those sectors, decarbonised production processes would be more expensive than carbon-intensive processes even when assuming a full free allocation phase-out: as of 2030, even when assuming green hydrogen costs in the low range of latest published 2030 hydrogen production costs, decarbonised steel would be c. 50% more expensive than fossil-based steel with no free allocations. Green hydrogen-based ammonia would be c. 40% more expensive than fossil-based ammonia with no free allocations.

b. Free allocation phase-out increases the cost of EU goods: the phase-out of free allocations combined with a rise in EUA prices would lead to EU ETS-related costs associated with the fossil-based production of ammonia almost tripling, resulting in a total cost increase of over 20% per ton of ammonia produced compared to the case of continued free allocation in 2030. For steel production through the fossil-based BF-BOF process, EU ETS-related costs would increase by approximately a factor of 8 in the case of no free allocation, resulting in a total cost increase of almost 40% per ton of steel produced.

Without sufficient public financial support or important technological cost reductions for low-carbon processes (whether for low-carbon energy inputs or CapEx of new installations), free allocation phase-out alone does not provide a clear business case for decarbonisation.

A recent study entitled "Carbon leakage under CBAM and free allocation[39]" has put forward several interesting conclusions, after examining flat steel and fertilizers as case studies. It concluded that while CBAM helps support EU production in the covered sector, reduces import dependence and encourages cleaner production both inside and outside the EU, there are a number of caveats that need to be mentioned:

- Rising carbon costs erode the profitability of carbon efficient EU firms upstream:
    - The financial strain from the phase out of free allocation eventually offsets any early gains for carbon efficient EU firms.
    - In contrast, when free allocation is maintained carbon efficient firms thrive long-term as they gain market share from closing inefficient sites.
- It increases costs for downstream sectors.
    - It shifts part of the competitiveness problem from the upstream sector to the downstream sector.
    - This effect is stronger when free allocation is phased out at the same time.

However, if CBAM is combined with maintaining free allocation:

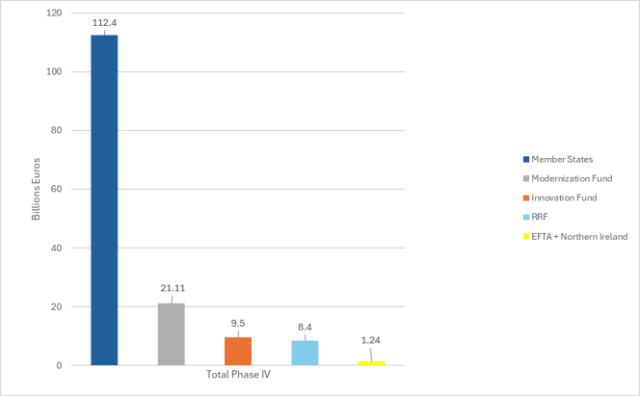
- It makes the adjustment less severe for the upstream sector.
- It reduces the inflationary effect on the upstream product.
- It contains the negative impact on downstream industries, but does not reverse it.
- It leads to a comparable or greater reduction in the EU average carbon intensity, as cleaner sites expand more.

5.2 Auction revenue income

Over the years, the EU ETS has become an important source of revenue for Member States, resulting from the sale of carbon permits through auctions.

[39] ERCST, Carbon Leakage under CBAM and Free Allocation, 2026

Figure 21: Total EU ETS generated income in Phase IV and distribution between budgets (2021-2024)



Source: ERCST, based on Commission reports on the functioning of the carbon market (2022-2024).

The allocation of auction-generated revenues from the carbon market has become increasingly complex over time. While at the beginning of the EU ETS most revenues were directly redistributed to Member States, since the creation of the Innovation Fund in 2019[40], and of the Modernisation Fund[41] one year later, these two EU funding instruments have increasingly taken over portions of the revenue that would otherwise go to Member States.

In Phase IV (2021-2024), the total EU ETS revenue income amounted to EUR 152.65 billion. From this amount, EUR 112.4 billion (74% of total EU ETS revenues) went directly to EU Member States' national budgets.

The rules governing the use of these revenues changed during the period: until the 2023 ETS revision, Member States were required to use at least 50% of auction revenues, and all aviation auction revenues, for climate- and energy-related purposes. Since mid-2023, Member States have been required to use all relevant EU ETS revenues, or an equivalent financial value, to support the green transition, including climate, energy and related social measures. Revenues used for indirect cost compensation for electricity-intensive industries are treated separately under State aid rules.

Of the remaining amount, EUR 21.11 billion went to the Modernisation Fund (14% of the total), and EUR 9.5 billion to the Innovation Fund (6.25% of the total). Up to 2024, EUR 8.4 billion supplied the Recovery and Resilience Facility (RFF). RFF was introduced in 2022 to contribute to the EUR 20 billion objective, following the adoption of REPower EU and will monetize EUAs until that amount is achieved which is expected to be in 2026 (see Chapter 6 for more details).

The remaining EUR 1.24 billion went to Iceland, Liechtenstein, Norway, as EEA-EFTA members, and Northern Ireland. EFTA countries are not part of the EU but are covered by the EU ETS. EEX started auctioning carbon credits for Iceland, Liechtenstein and Norway in June 2019. Northern Ireland is not an EEA-EFTA participant but its inclusion reflects the continued application of the EU ETS to electricity generation in Northern Ireland from 1 January 2021 under the Protocol on Ireland/Northern Ireland / Windsor Framework. Electricity generation plants in Northern Ireland, have remained part of the EU ETS following the departure of UK installations from the EU ETS in 2021.

The following section will examine how these EU ETS-generated auction revenues are being used to address competitiveness, climate change, energy and carbon leakage risk.

[40] Commission Delegated Regulation (EU) 2023/2537 of 15 September 2023 amending Delegated Regulation (EU) 2019/856 supplementing Directive 2003/87/EC of the European Parliament and of the Council with regard to the operation of the Innovation Fund. C/2023/6043
[41] Commission Implementing Regulation (EU) 2020/1001 of 9 July 2020 laying down detailed rules for the application of Directive 2003/87/EC of the European Parliament and of the Council as regards the operation of the Modernisation Fund supporting investments to modernise the energy systems and to improve the energy efficiency of certain Member States C/2020/4541

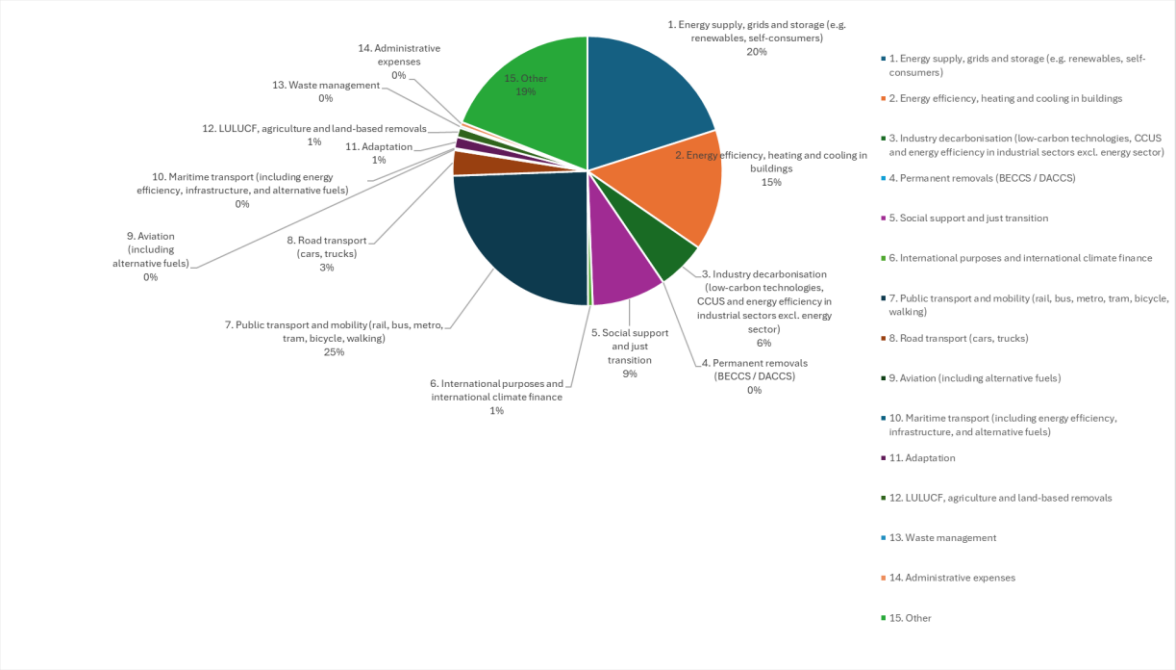
5.3 Measures to address competitiveness

5.3.1. Member State auction revenues and use

Every year Member States must report on the use of auction revenues generated from EU ETS auctioning. In 2024 for all EU 27 (Germany, which has data restricted from public view at the time of writing this Report, is calculated differently) [42], total auctioning revenues that went directly to Member States accounted for more than EUR 21 billion. This represents a 34% decrease in auction revenues going directly to Member States compared to the previous year 2023[43].

Figure 22 illustrates how Member States have utilised their revenues generated from the auctioning of EUAs. Following the 2023 revision of the EU ETS Directive, in particular Article 10(3), and the related updates to the Energy Governance Regulation reporting framework, Member States have reported the use of their auction revenues from 2024 onwards using new harmonised categories (1–15).

Figure 22: EU ETS reported MS auction revenues EU27 per category (2025 reporting, 2024 data) (%)



Source: ERCST, based on the use of EU ETS auction revenues (2025 reporting, 2024 data), GovReg, EEA Table 3

As discussed above, this sits alongside a strengthened revenue-use obligation: the previous requirement to use at least 50% of auction revenues for climate- and energy-related purposes was replaced by a requirement to use all relevant EU ETS auction revenues, or an equivalent financial value, for climate action, the energy transition and related social measures (see KPI 11, figure 24). This is a positive development as this new categorisation allows for better tracking of where EU ETS revenues have been used. However, it does not allow us to compare expenditure per category with previous years.

[42] EEA (2024): Use of ETS auctioning revenues - Reporting year (2024) - GovReg
[43] A detailed use of EU ETS revenues in 2022 is presented in the 2024 State of the EU ETS Report

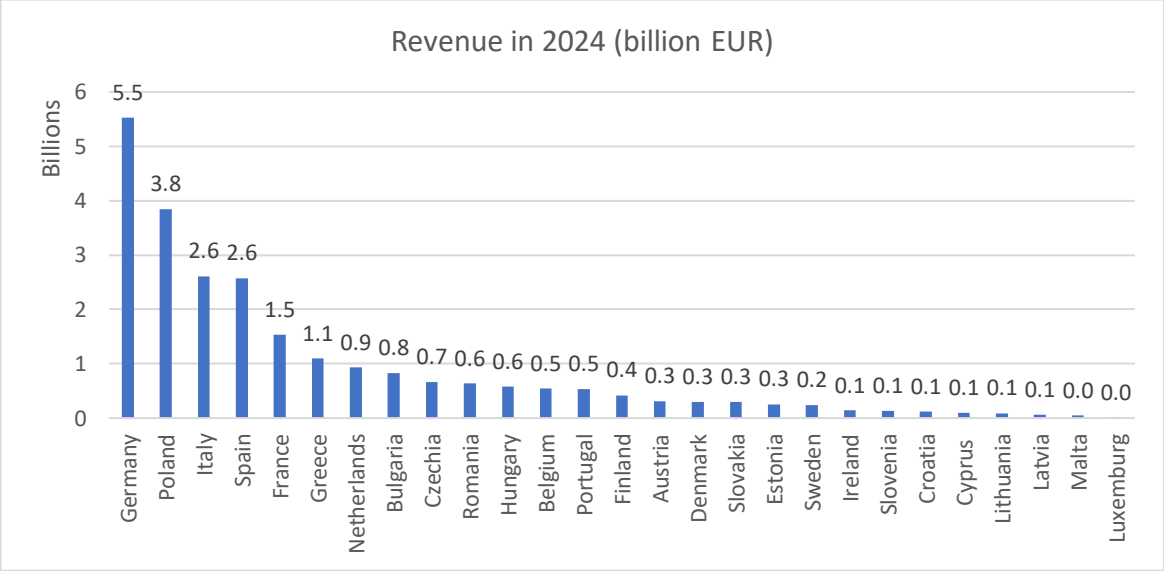
In 2024, 25% of EU ETS revenues were spent on public transport and mobility, followed by energy supply (20%), energy efficiency (15%).

The 'Others' category includes a diverse range of activities. In Sweden, this includes the Climate Leap (Klimatklivet), a national investment-aid programme supporting local and regional projects that reduce greenhouse-gas emissions, particularly in sectors not covered by the EU ETS, support to local authorities in Belgium, biodiversity-related projects in Spain and Hungary, geographical and territorial information systems in Portugal, sustainable development funds in Malta, promotion of biogas projects in Lithuania, and R&D in green technologies development in Germany and Greece. 'Others' may also include aid for indirect carbon cost compensation, as reported in 2025 by Finland, Slovenia, Slovakia, Romania and Portugal[44].

Results are illustrative and show that categories "Energy supply" (category number 1), "Industry decarbonisation" (3), "energy efficiency" (2), and "social support" (5) covered about half of total reported revenues.

Figure 23 shows the distribution of auction revenue by Member State. The top three recipients are Germany, followed by Poland, Italy and Spain. In the case of Germany, there is a discrepancy in the reported data, with data showing use of EUR 20 billion for climate and energy-related activities, while EUR 5.5 billion is the accurate figure for total income generated from the auctioning of EUAs, as shown in the graph below. This is the result of the German approach whereby all EU ETS revenues are combined with a fund for climate and energy projects, which is additionally co-funded from the general budget[45].

Figure 23: EU ETS reported MS auction revenues EU 27 per MS



Source: ERCST, based on Table 7. Revenue from the auctioning of general allowances in the EU ETS (EU 27, 2024).

[44] It is important to highlight that this does not include all Member State expenditures in indirect cost compensation. While some Member States have used income from auction revenues for this provision, some other Member States finance indirect compensation from national funding. In 2023, EUR 2.1 billion of the 2023 revenue was reported to finance for electricity-intensive industries for indirect carbon costs, while total indirect cost compensation reported to have been paid by EU 27 Member States was 3.95 billion EUR. Source: Report from the Commission to the European Parliament and the Council on the functioning of the European carbon market in 2023 {SWD(2024) 264 final}

[45] Source: Use of ETS auctioning revenues - Reporting year (2024) – GovReg. Reporting data sheet for Germany. Table 1 and Table 3.

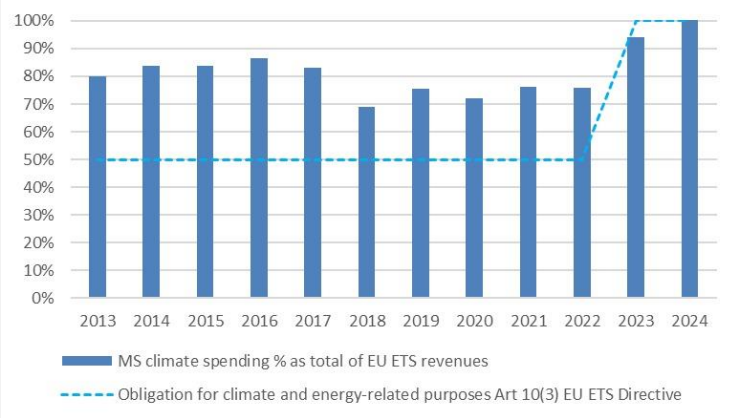
Auction revenues spent on climate and energy objectives

To evaluate the efficiency of the use of EU ETS auction revenues we can benchmark revenue use against a specific target.

Until the last revision of the EU ETS Directive, Article 10 (3) stipulated that Member States must allocate at least 50% of the auction revenues to climate and energy-related purposes. Since June 2023, Member States are obliged to use 100% of EU ETS revenue to support climate action and energy transformation. However, revenues used to provide indirect cost compensation are treated separately and are not covered by this 100% obligation.

The new legislative mandate is reflected in Figure 24 (KPI 11). Between 2013 and 2023, Member States overachieved and reached an average of 78.5% of auction revenues that went to MS being spent on climate and energy.

Figure 24: KPI 11 *Percentage of total MS auction revenues spent on climate, renewable energy and energy efficiency (2013-2024)*



Source: ERCST, based on EEA data on revenues.

5.3.2. Modernisation Fund

Through the Modernisation Fund (MF), the EU ETS supports the modernisation of energy systems and improvements in energy efficiency in lower-income Member States. Operational since January 2021, the Fund is designed to accelerate decarbonisation by financing investments in areas such as renewable energy, energy efficiency, energy storage, electricity networks, district heating, and just transition measures in eligible beneficiary countries.

Access to the Modernisation Fund is restricted to lower-income Member States. Initially, eligibility covered Member States with GDP per capita at market prices below 60% of the EU average in 2013. The 2023 revision of the EU ETS Directive expanded eligibility to include Greece, Portugal and Slovenia from 2024, based on a GDP per capita threshold below 75% of the EU average over 2016–2018. The Fund therefore now has 13 beneficiary Member States, all of which have received support to date.

Since its inception in 2021, there have been ten biannual disbursement decisions of the Modernisation Fund[46], with a total of EUR 20.7 billion disbursed. In 2025, two disbursement decisions were made[47]:

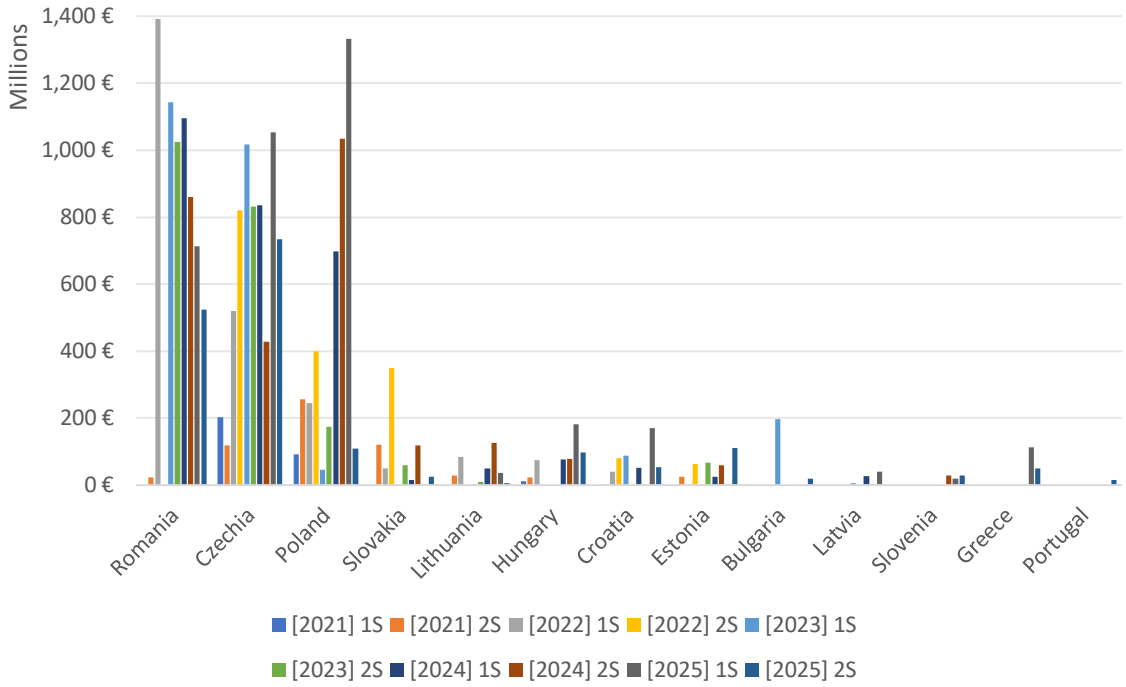
- In the first biannual disbursement cycle released in June, multiannual projects were approved for a total volume of EUR 3.7 billion.
- In the second biannual disbursement decision released in December, multiannual schemes were confirmed for a total volume of EUR 1.7 billion.

Figure 25 displays the total funding received per Member State across all ten disbursement decisions.

[46] Modernisation Fund Disbursement Biannual Decisions available at: https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/modernisation-fund_en#:~:text=The%20Modernisation%20Fund%20is%20a%20dedicated%20funding%20programme,Estonia%2C%20Hungary%2C%20Latvia%2C%20Lithuania%2C%20Poland%2C%20Romania%20and%20Slovakia.

[47] European Commission, Commission Decisions C(2025) 3936 and C(2025) 8841 on the disbursement of revenues from the Modernisation Fund, including annexes, first and second biannual disbursement cycles of 2025, 13 June 2025 and 10 December 2025

Figure 25: Total funding received from the Modernisation Fund per Member State (2021-2025)



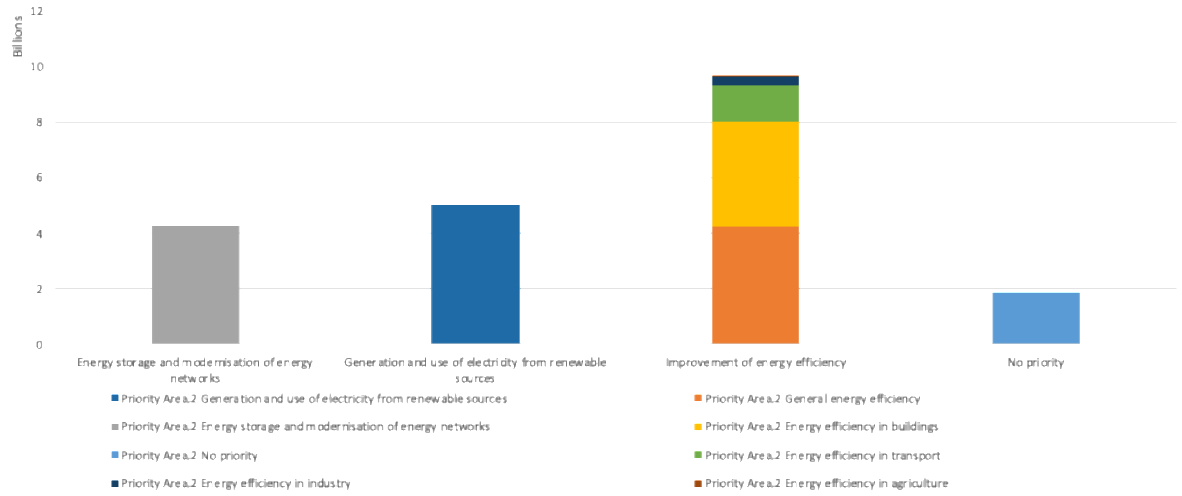
Source: ERCST, based on disbursement decisions.

Up to 2025, Romania (EUR 6.7 billion, representing 32% of the total funding disbursed), Czechia (EUR 6.5 billion, 31% of the total), and Poland (EUR 4.3 billion, 21% of the total) have been the main beneficiaries. Funding allocated to Slovakia, Lithuania, Hungary, Croatia, Estonia, Bulgaria, Latvia, Slovenia, Greece, and Portugal represents only 20.7% of the total funding received to date. Looking at 2025 reported data only, Czechia was the main beneficiary (with EUR 1.7 billion).

Figure 26 goes a step further and unpacks the Fund's investments per area, as reported by Member States. Priority areas are those aligned with Article 10d (2) of the Directive 2003/87/EC, while non-priority areas are those not aligned but can still get access to funding under certain conditions (i.e. where fossil fuel-based projects are used).[48]

[48] A maximum of 20% of the Modernisation Fund can be used to support non-priority investments.

Figure 26: Modernisation Fund investments by area, as reported by MS (2021-2025)



Source: ERCST, based on disbursement decisions

Examining the 2021-2025 data, we can conclude that most funding has targeted improving energy efficiency (almost EUR 10 billion) and generation and use of electricity from renewable sources (EUR 5 billion), followed by energy storage and modernisation of energy networks (EUR 4 billion)[49].

Non-priority disbursements (i.e., projects relying on natural gas) still account for a substantial portion of the total envelope (almost 2 billion).

5.3.3. Innovation Fund

The EU ETS allocates a share of revenues from the sale of EUAs to financing projects with high decarbonisation potential through the Innovation Fund (IF). This instrument is pivotal in facilitating risk-sharing with project promoters and highlighting pioneering, highly innovative projects.

In addition to awards dispensed through calls for proposals, the IF23 pilot auction call on hydrogen[50], which included auction-as-a-service, marked the first implementation of a supplementary funding mechanism through competitive bidding.

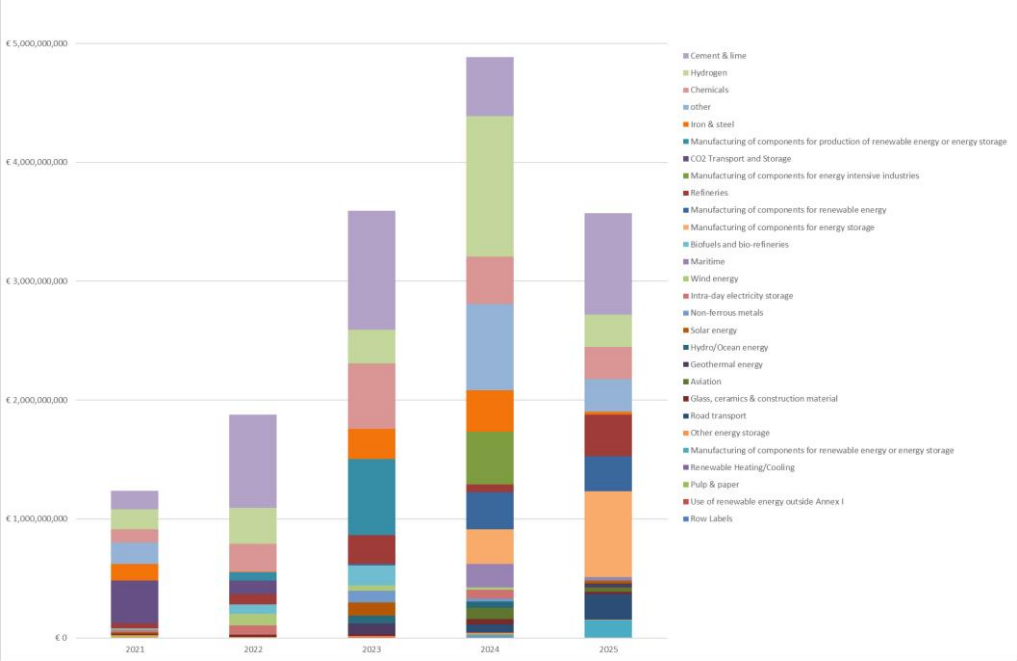
Following the success of the pilot IF23 auction, DG CLIMA launched a EUR 1.3 billion funded IF25 Hydrogen Auction in December 2025. From this budget, EUR 300 million was dedicated to the maritime and aviation sector. It also launched a IF25 Heat Auction, with a budget of up to EUR 1 billion.

Figure 27 shows the allocation of funding by sector across the previous five IF calls.

[49] Due to MS reporting, some projects cannot be attributed to single priority areas. In these cases, we assigned a single priority area based on the project description.

[50] European Commission (2024) Innovation Fund 2024 Auction. Info day. December 10. [Slide 11].

Figure 27: Innovation Fund funding by sector and call year (2021-2025)



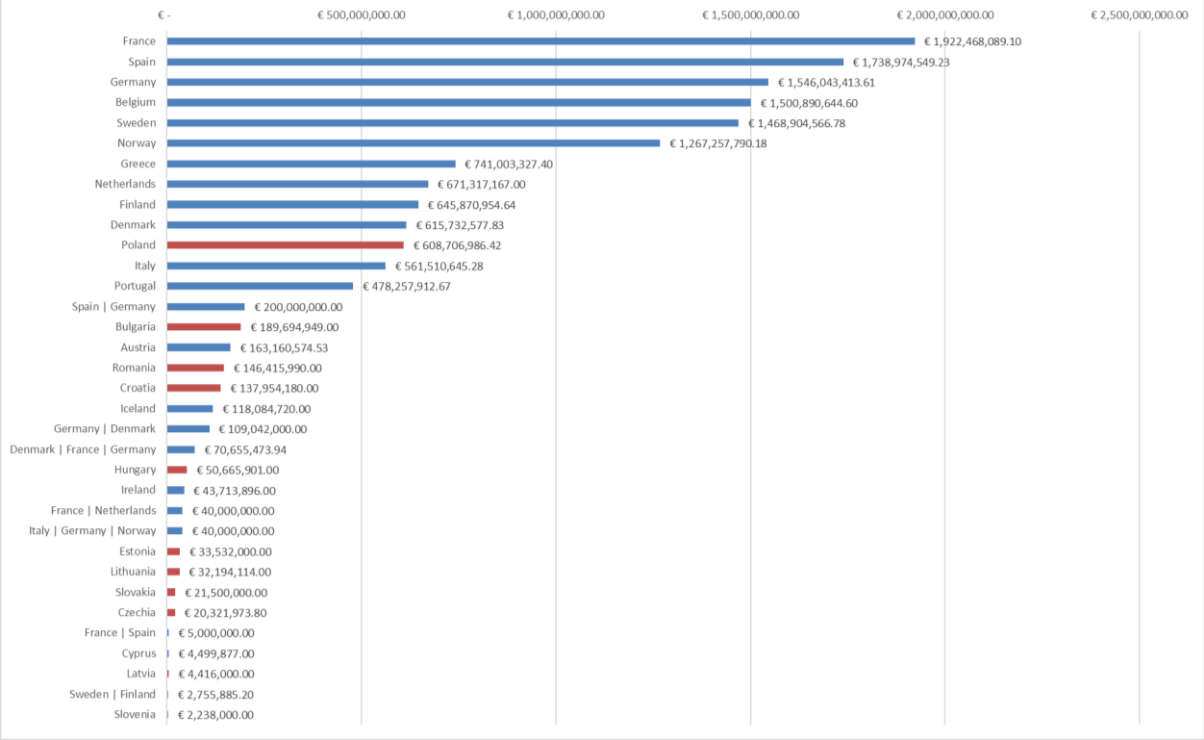
Source: ERCST, based on disbursement decisions

The overall funding provided by the IF has increased significantly over time but decreased year-to-year in 2025. The cement and lime sectors remain the leading overall beneficiaries, receiving almost EUR 500 million in funding since the inception of the IF. CCS and CCU emerge as the dominant decarbonisation funded technologies in these sectors.

In the 2024-2025 call 'Cement & lime' were the main annual beneficiary, receiving EUR 8.5 billion, and modifying the trend of the 2023-2024 call year, where hydrogen was the main beneficiary. The second main beneficiary is 'Manufacturing of components for energy storage' with EUR 0.72 billion and 'Refineries' with EUR 0.35 billion. In 2025, nearly EUR 11.6 billion was deployed across 65 different projects.

From a country-specific perspective, Figure 28 illustrates the distribution of total IF funding by Member State. This shows a concentration of funding among a few Member States, with the top five recipients receiving almost the same amount of funding as all other Member States combined.

Figure 28: Innovation Fund funding by EU ETS country and geographical division, cumulative 2021-2025



Source: ERCST, based on Innovation Fund Project Portfolio.

The distribution of Innovation Fund disbursement decisions remains highly uneven across Europe, with Western and Northern European countries capturing the largest shares of funding over 2021–2025. France, Spain, Germany, Belgium, Sweden and Norway are all above €1.2 billion, while most Central and Eastern European Member States remain far below this level. This creates a clear gap between the countries with the strongest project pipelines and those that are still struggling to access the Fund at scale.

Poland stands out as the only Central and Eastern European country with a level of funding that is at least somewhat comparable to the lower end of the Western European group, with around €609 million in cumulative disbursement decisions. However, even Poland remains well below the leading recipients: France receives more than three times as much, while Spain and Germany also remain far ahead. Other CEE countries, such as Bulgaria, Romania, Croatia, Hungary, Estonia, Lithuania, Slovakia, Czechia, Latvia and Slovenia, receive much smaller amounts, often below €200 million and in several cases below €50 million.

This suggests that the Innovation Fund is not yet delivering a geographically balanced distribution of support. The pattern likely reflects differences in project readiness, administrative capacity, industrial base, access to co-financing, and experience in preparing competitive applications. Since the Innovation Fund is awarded on a competitive basis, countries with stronger innovation ecosystems and more mature decarbonisation projects are better positioned to secure funding. However, the result is that regions with significant decarbonisation needs, particularly in Central and Eastern Europe, risk receiving a relatively small share of support. This raises an important policy question: whether additional technical assistance, project development support, or targeted mechanisms are needed to help lower-performing countries access the Fund more effectively.

5.3.4. Indirect cost compensation

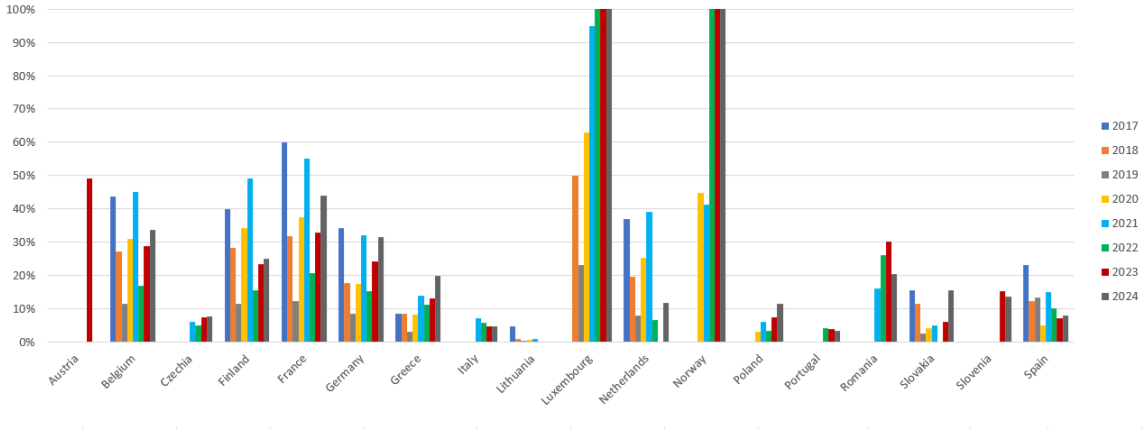
In the EU ETS the guidelines on State Aid Measures[51] allow Member States to provide aid to a selected list of sectors covered by emission trading. The EU considers this aid compatible in two situations: when sectors are deemed to be exposed to a genuine risk of carbon leakage due to significant indirect costs actually incurred from GHG costs passed on in electricity prices (aid for indirect emission costs); and when aid is involved in optional transitional free allowances for the modernisation of electricity generation.

Figure 29 (KPI 12) shows the percentage of EU ETS auction revenues spent on indirect costs in the EU and Norway (for Norway, data is missing for 2024). According to self-reported data by Member States[52] in 2024, the average percentage of auction revenues spent on indirect costs compensation in 2024 was 66%. State aid to mitigate the indirect costs of the EU ETS in energy-intensive industries was provided by fifteen Member States in 2024. To note, the Netherlands re-introduced payments, while Austria's temporary support scheme expired.

Total indirect cost compensation disbursed by Member States from 2017-2024 amounted to EUR 18.7 billion, of which EUR 5.5 billion in 2024 alone.

Apart from Norway and Luxembourg, France has the highest share of auction revenues spent on indirect costs compensation in 2024 (44%), followed by Belgium (33%), Germany (31%), Romania (20%) and Greece (19-20%).

Figure 29: KPI 12 Percentage of auction revenues spent on indirect cost compensation, EU 27 (2017-2024)



Source: ERCST, based on Reports from the Commission on the functioning of the European carbon market. Data for Norway are provided by Veyt[53]

The cases of Luxembourg and Norway are noteworthy, as they disbursed more on indirect cost compensation than they generated in auction revenues. For Luxembourg, this is explained by the drop in the country's auction volume, caused primarily by its use of ETS allowances to offset emissions in sectors covered by the Effort Sharing Regulation ('ESR flexibility')[54]. In Norway, indirect cost compensation is partly financed by the Norwegian government's revenues from EU ETS and from the general budget.

[51] Communication from the Commission Guidelines on certain State aid measures in the context of the system for greenhouse gas emission allowance trading post 2021. C (2020) 6400 final.

[52] The Commission publishes the annual Report on the Functioning of the European carbon market by the end of the year. The last report was published on November 19, 2024, and includes compensation paid out in 2023 for indirect costs incurred in 2022. COM (2024) 538 final.

[53] Miljødirektoratet, "CO_2-kompensasjon," Norwegian Environment Agency, accessed 11 May 2026, https://www.miljodirektoratet.no/ansvarsomrader/klima/co2-kompensasjon/

[54] COM (2024) 538 final. Pp.29.

6. Market functioning

6.1. Market functioning trackers

This chapter looks at nine key performance indicators (KPIs) to identify how well the market is functioning. While these indicators are useful by themselves, it is also crucial to contextualize them against historical developments and market sentiment to provide a picture of how the market is operating, and whether it is improving or worsening compared to previous years. Liquidity provides an overall picture of how easy it is for participants to enter and exit market positions and the effect on price based on the nine KPIs.

Table 8: Market functioning trackers in 2025

Indicator	2023/2024	2024/2025
Volume		
Open interest		
Auction participation		
Auction coverage		
Auction versus spot spread		
Cost of carry		
Ask-bid spread		
Volatility		
Hedging		
Liquidity		

Source: BloombergNEF. Note: Green indicates improving, red worsening, amber stable.

The EU carbon market remained relatively stable in 2025 across the various indicators, showing largely unchanged conditions year-on-year. This stability persisted despite growing uncertainty over longer-term policy direction, particularly amid debate surrounding the EU's overarching 2040 climate target.

Demand for allowances from industrial participants remained subdued, driven more by competitive pressure from imports, sluggish activity in the sector and high energy costs than by structural emissions reductions from decarbonization. Emissions from the power sector broadly leveled off, breaking with the downward trend of recent years. This was reflected in utilities' hedging activity, which showed little change over the same period.

However, the maritime sector saw a rise in emissions covered by the EU ETS as it expanded exposure to carbon costs. Shipping is being gradually phased into the EU ETS, with 70% of emissions covered in 2025, up from 40% previously.

At the same time, the weakening of carbon's historically close relationship with gas – particularly in the second half of the year – likely contributed to volatility in EU carbon prices falling to its lowest level since 2018.

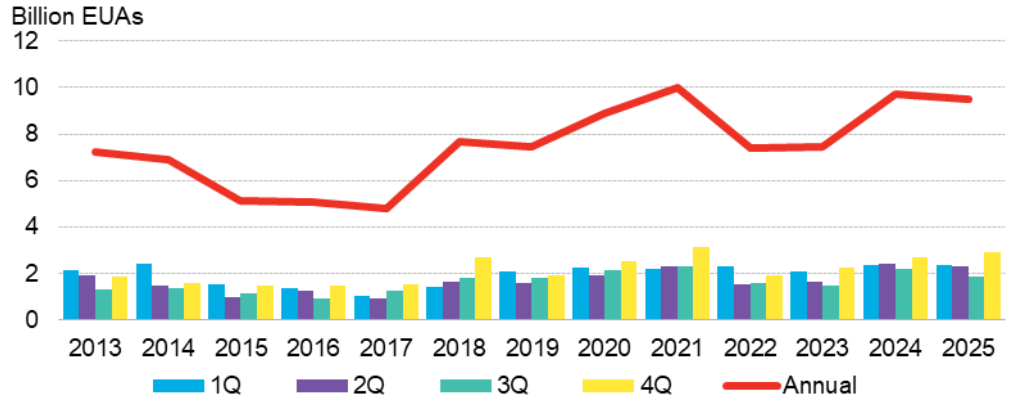
Speculative participation increased again, with investment funds' holdings of EUAs rising by more than 10% year-on-year, while compliance entities' holdings declined by 7%. EUA prices broadly tracked investment funds' net positions, underscoring the growing influence of financial actors in the market. In

particular, carbon prices, and investment funds' net positions, saw a significant increase toward year-end due to a bullish supply outlook for 2026.

6.1.1. Volume

Traded volume is crucial when assessing liquidity. A liquid market allows participants to open and close positions – in other words, enter and exit the market – whenever they want. Liquidity also enables participants to engage in activity without unduly affecting the market and to be confident that the future is priced at its true value.

Figure 30: KPI 13 Traded EUA volumes



Source: ICE, BloombergNEF.

Traded volumes were broadly stable year-on-year, declining marginally by 2% to 9.5 billion EUAs. However, interquartile variance more than doubled compared with 2024, suggesting the market remains sensitive to both changing fundamentals and new announcements.

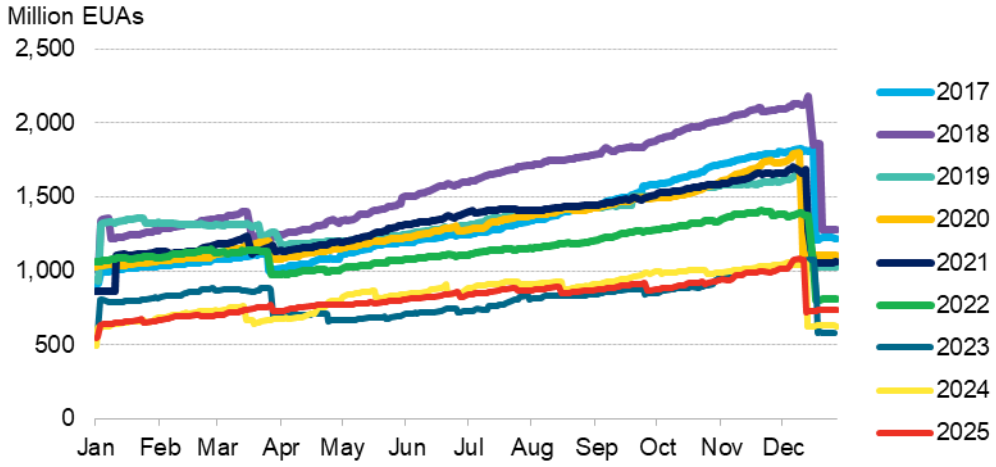
Volatility was particularly pronounced in the second half, with a sharp shift in activity between 3Q and 4Q. Market participants appear to have accelerated purchases ahead of year-end – a typical seasonal pattern – but at a notably elevated level. Buying volumes approached those last seen in 2021, reflecting a bullish price outlook for 2026 amid expectations of tightening supply.

6.1.2. Open interest

Open interest denotes the total number of outstanding contracts that are held by market participants at the end of each day – in other words, it measures contracts that have been bought or sold without completion of the transaction by subsequent sale or purchase, or by making or taking actual delivery of the financial instrument or physical commodity.

Open interest measures activity levels in the futures market. Generally, the higher the open interest, the more a particular contract is traded, and hence the higher the level of liquidity.

Figure 31: KPI 14 Aggregate open interest seasonality



Source: ICE, EEX, BloombergNEF.

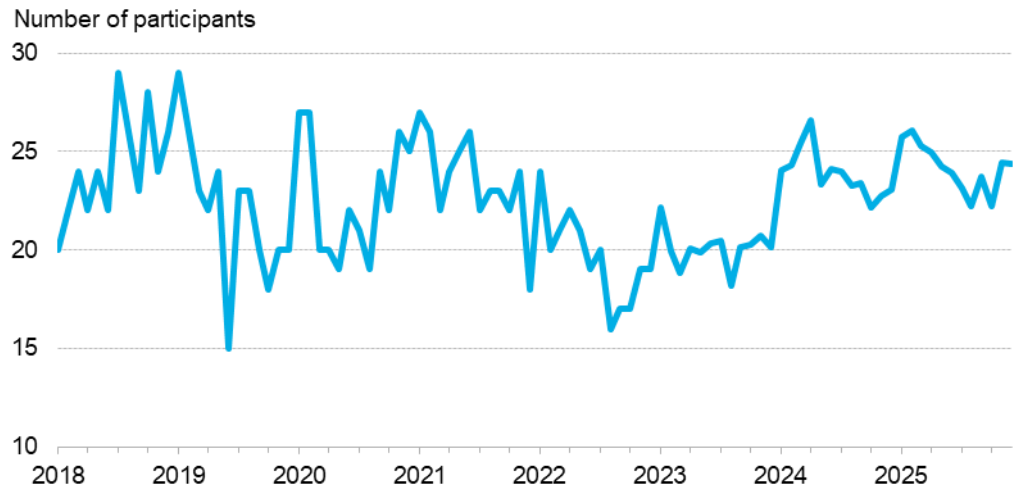
Open interest remained relatively subdued, edging down 3% year-on-year. While BNEF estimates that total compliance demand increased compared with the previous year, overall demand remains below 2020 levels.

The year-on-year rise was driven primarily by the expanded inclusion of the maritime sector in the EU ETS, with coverage increasing from 40% to 70% of the sector's verified emissions. Excluding this policy-driven effect, weak underlying demand and supply fundamentals kept demand muted.

6.1.3. Auction participation

Auction participation counts the number of participants in daily auctions on the European Energy Exchange (EEX). By measuring how many participants are bidding into auction, this KPI reflects interest in primary supply.

Figure 32: KPI 15 Monthly average auction participation



Source: EEX, BloombergNEF.

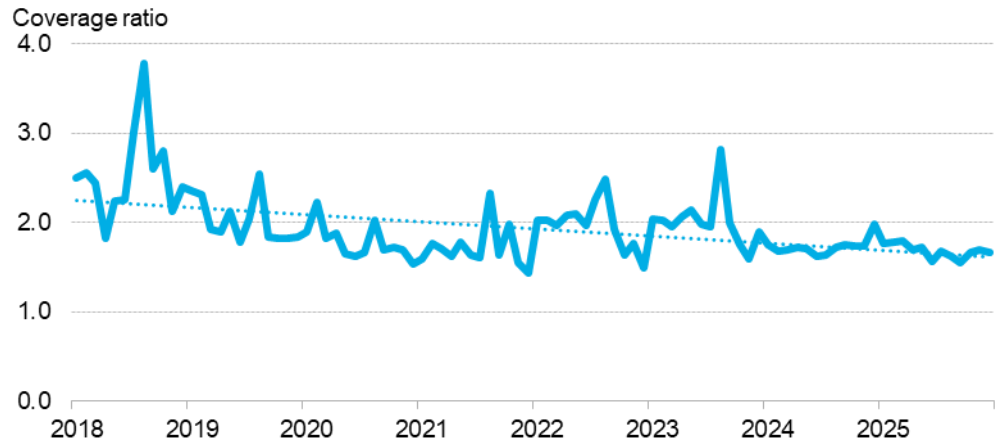
Auction participation increased modestly in 2025, averaging 24.2 participants per auction, up from 23.9 in 2024.

However, participation consistently declined after a strong start to the year through to August as optimism waned. Despite the slowdown, participation recovered toward year-end, suggesting renewed engagement as market participants positioned ahead of the new compliance cycle.

6.1.4. Auction coverage

The auction coverage ratio reflects the total number of bids in an auction divided by the number of available EUAs. This indicator reveals what actual auction demand is relative to supply on the primary market.

Figure 33: KPI 16 EU ETS auction coverage ratio



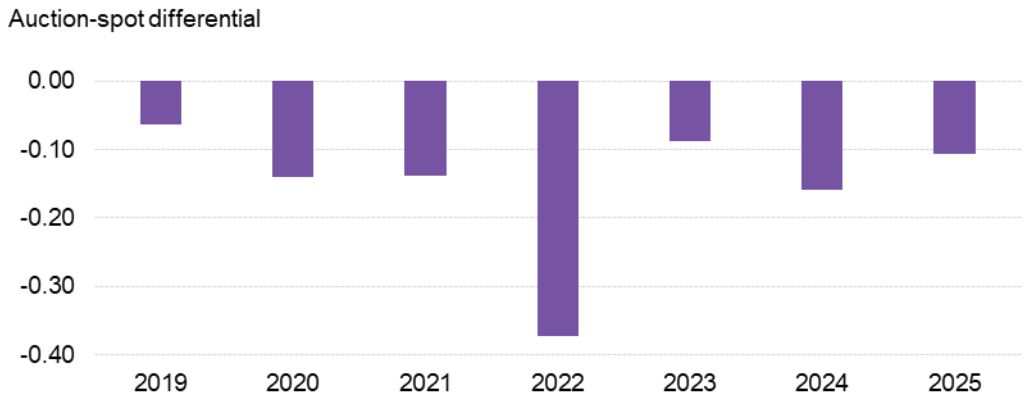
Source: BloombergNEF. Note: Coverage ratio is the total number of bids in an auction divided by the number of available EUAs.

The coverage ratio saw a small decrease in 2025, averaging 1.68 across the year. A coverage ratio below 2, which also occurred last year and in 2020 and 2021, can allow some market participants to exercise market power or potentially game auctions in the future. The auction coverage ratio has seen a decreasing trend over the past 8 years.

6.1.5. Auction-spot differential

The auction-spot differential KPI measures the difference in the EUA price between auctions and the secondary market. A low absolute difference is preferable, as a high difference could indicate an ability of market participants, particularly speculators, to exercise market power.

Figure 34: KPI 17 Monthly average difference between auction and spot price



Source: EEX, BloombergNEF.

The auction-spot differential did not see any major swings. It sat at -0.11, slightly up from -0.16 in 2024, with the change overshadowed by the large differential seen in 2022 of -0.37. The narrow auction-spot differential in 2025 suggests that the market remains relatively stable, with the expectations between bidders and sellers closely aligned.

6.1.6. Cost of carry

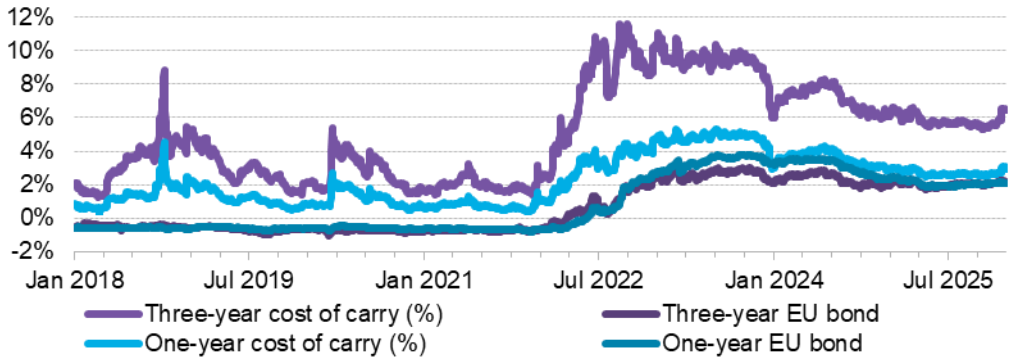
Cost of carry can be used as an indicator of how market players expect the price to move in the future. It shows the difference between the price of an allowance on the spot market and a futures contract with delivery in the future, and therefore tells us the premium the market places on futures contracts.

The cost of carry was broadly stable in 2025, declining marginally by 1% year-on-year. However, it firmed noticeably toward year-end as market participants increased forward purchases, likely in anticipation of tighter supply in 2026 as well as years ahead.

This build up in positioning occurred against a backdrop of subdued underlying compliance demand, contributing to a widening in the forward premium despite limited changes in immediate fundamentals.

The cost of carry remains elevated in comparison to the years before 2022, indicating that market participants continued to place a relatively high premium on future price developments.

Figure 35: KPI 18 Cost of carry of EUAs vs AAA EU three-year bond yields

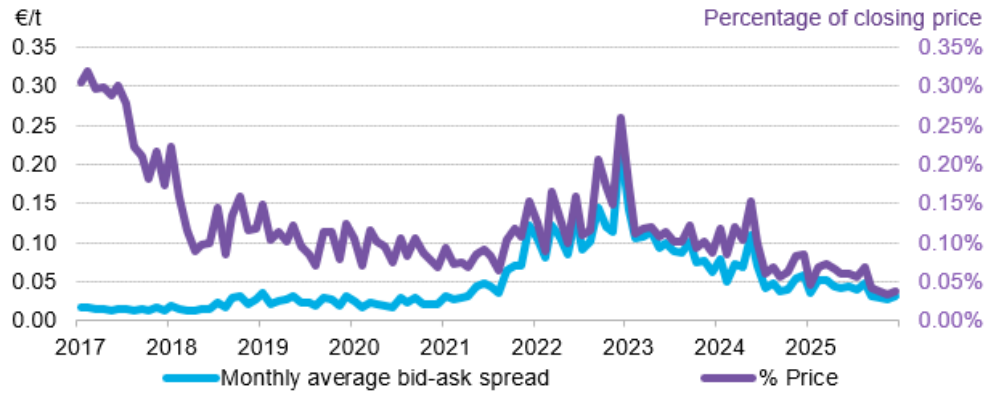


Source: ICE, BloombergNEF. Note: Cost of carry here shows the difference between the one- and three-years-ahead December futures contracts and the front-year December futures contract.

6.1.7. Ask-bid spread

KPI 19 shows the difference between the lowest ask price and the highest bid price in the market at market close. The average ask-bid decreased to €0.04 per metric ton of CO2e in 2025 from €0.06/t in 2024.

Figure 36: KPI 19 Ask-bid spread on ICE



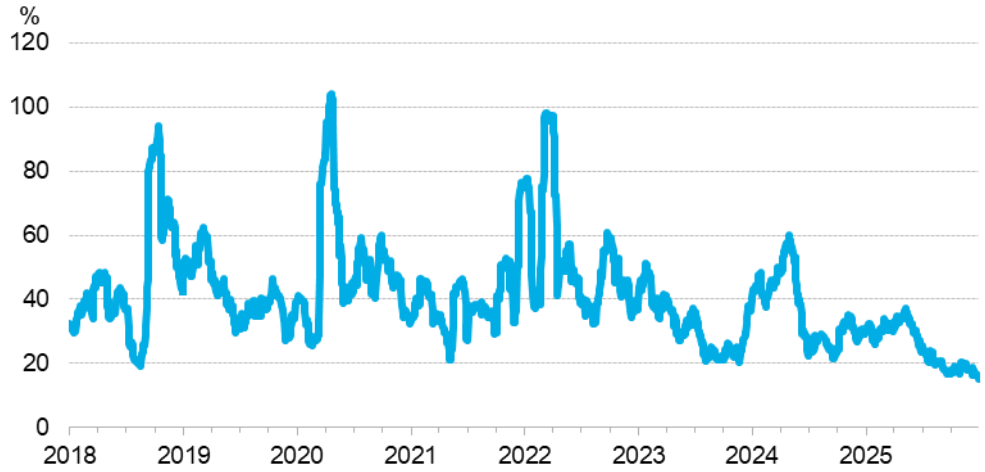
Source: ICE, BloombergNEF. Note: Ask-bid spread shows the difference between the lowest ask price and the highest bid price in the market at market close, in euros per metric ton and as a percentage of the closing price.

A reduced ask-bid spread can signal greater certainty in the market and can be an expression of lower risk. It indicates a shrinking difference between the price the bidder is willing to pay and the price sellers expect to receive. The difference in 2025 is narrow and has trended downward since 2022.

6.1.8. Volatility

In addition to the ask-bid spread, volatility is another measure of risk in the market. This metric represents how much prices move around the mean price. High volatility is undesirable for compliance entities, as utilities and industrials need a reliable price signal on which to base long-term investment decisions. On the other hand, high volatility may be positive for traders and other financial participants seeking to profit from price movements.

Figure 37: KPI 20 Volatility



Source: ICE, BloombergNEF. Note: Volatility refers to the 30-day price volatility. It equals the annualized standard deviation of the relative price change for the 30 most recent trading days' closing price, expressed as a percentage.

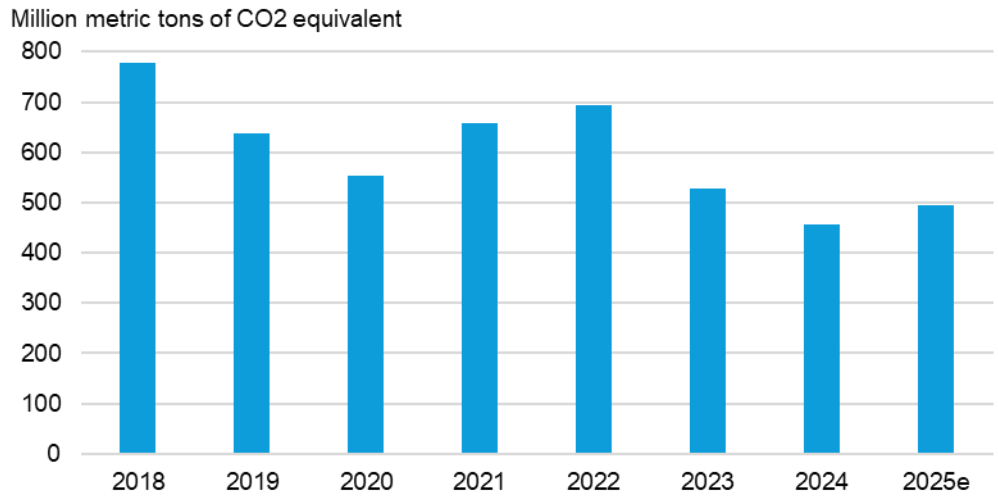
Volatility averaged its lowest level over the past seven years at 25% in 2025. This may be partially attributed to the weakening of the coupling between carbon and gas as well as limited policy announcements.

6.1.9. Utilities hedged holdings

Compliance entities hedge their future exposure to carbon price volatility by purchasing allowances in advance, in addition to buying EUAs to meet immediate surrender obligations. BNEF estimates that power sector hedging was relatively stable year-on-year in 2025, with an uptick of 8% based on data collected in August 2025 for the year.

Industrial installations – the other major source of compliance demand – are less transparent in their hedging behavior, although typically hedge to a lesser extent. This is largely because many industrial sectors receive substantial free allocations under the EU ETS, limiting their direct exposure to carbon price risk. However, industrial hedging activity is expected to increase over time as free allocations are progressively phased out for most sectors over the next decade.

Figure 38: KPI 21 Utilities hedged holdings

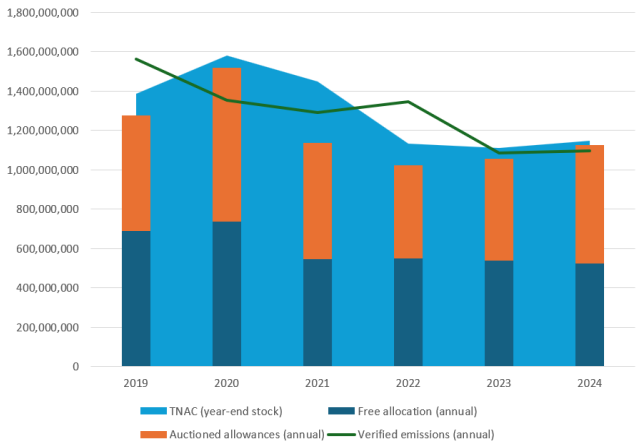


Source: BloombergNEF, various company reports. Note: Data as of August 2025.

6.2. Supply-demand balance and evolution of TNAC

The interaction between allowance supply and demand is essential for a functioning cap-and-trade system like the EU ETS. The related price formation of emission allowances reflects the market stringency, which is determined by past realizations and future allowance supply and demand expectations.

Figure 39: KPI 22 Drivers and controls of the market stringency



Source: ERCST, based on the carbon market reports and the MSR documents of the European Commission.

KPI 22 (Figure 39) depicts how the balancing of the market has operated so far, including the main supply sources: free allocations and auctions. Essential is splitting the supply of allowances into freely distributed and auctioned volumes. The free allocations, which are distributed in advance over a trading period, are motivated as a shield against carbon leakage, the relocation of activities outside of the EU ETS geography. Thus, as a quick response to adjusting market stringencies, only the auctioning volume is left.

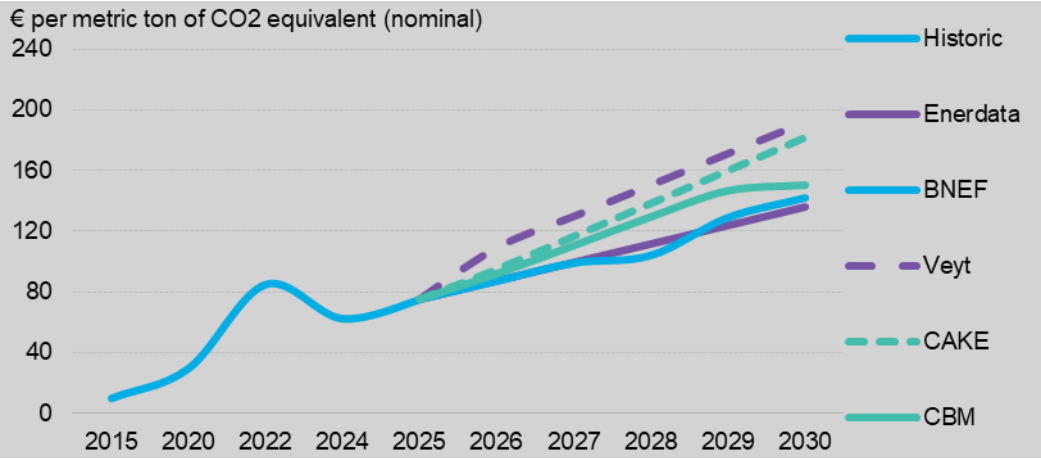
The first instrument for intervention in the EU ETS mechanisms was the shift in the intended auction volume. This instrument was used in the so-called backloading, which removed 900 million allowances from the auction volume from 2014 to 2016 as a response to the massive inflow of international allowances (CERs and ERUs) into the system up to 2012. The second instrument was the establishment of the Market Stability Reserve, which provides a rule-based mechanism for controlling the supply of allowances. The so-called Total Number of Allowances (TNAC)[55] triggers this mechanism and is annually published by the European Commission. This mechanism also allows for the cancellation of allowances, which has become a powerful tool for reducing the vast surplus in the EU ETS.

The most recent TNAC value, published in May 2025, amounted to 1,148 $GtCO_2$. In line with the MSR Decision, a total of 275 531 900 allowances have been placed in the reserve over the course of 12 months from 1 September 2025 to 31 August 2026. The next TNAC value for 2025 will be published by the Commission in June 2026.

6.3. Price forecasts

If the aim of this report is to keep track of changes that have an impact on the EU ETS, it is interesting to follow how the perception of the market changes over time. To do that, we can evaluate price forecasts from different analysts.

Figure 40: EUA price forecast



Source: Ariadne Project (2025), based on data from BloombergNEF, Veyt, Enerdata, CAKE/KOBIZE, and ClearBlue Markets.

Figure 40 shows 2025 EUA price forecasts collected from various analysts. There is strong consensus that the carbon prices will rise to 2030. Although there is variation between forecasts, all of them reach above €135 per metric ton by the end of this decade.

While the forecasts may vary from year to year and methodologies may change, they give an overall impression of market sentiment. All projections expect the carbon price to increase, illustrating the anticipation of future scarcity for the remainder of Phase 4, which runs from 2021 to 2030.

[55] TNAC = supply - (demand + allowances in the MSR)

6.4. Historical price and policy development

EU carbon prices are closely linked to policy developments, as these determine market supply –unlike other commodities, which depend on natural resource availability. The EU ETS is regularly reviewed and updated to align with the EU's broader emissions reduction agenda, with the European Commission conducting structured, forward-looking reviews rather than reacting to short-term market movements. This has important implications for the long-term evolution of prices and overall market functioning.

While 2025 was relatively quiet in terms of concrete policy changes, it was marked by significant debate around the EU's 2040 emissions target, which will shape the next round of reforms expected in 2026.

6.5. Market participation

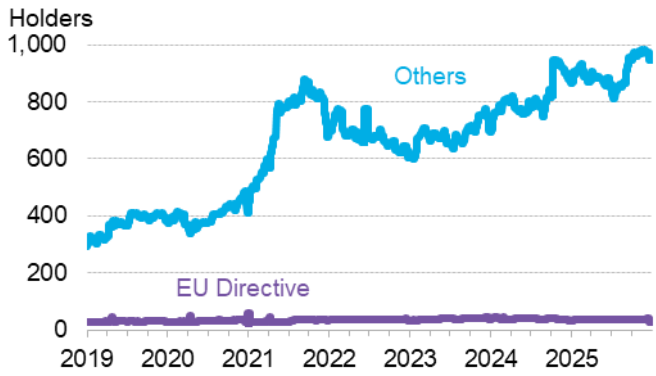
The average number of entities invested in EUA futures and not regulated under the EU ETS Directive has consistently risen over the past four years to over 940 in 2025, up 11% year-on-year. Meanwhile, net position holders by compliance entities under the EU directive fell 7% year-on-year in 2025.

Speculators can increase volatility and create price spikes if they trade opportunistically. They can also bring market liquidity and stability to prices if they have a longer investment horizon (beyond one year) and invest from a demand-supply fundamental's perspective.

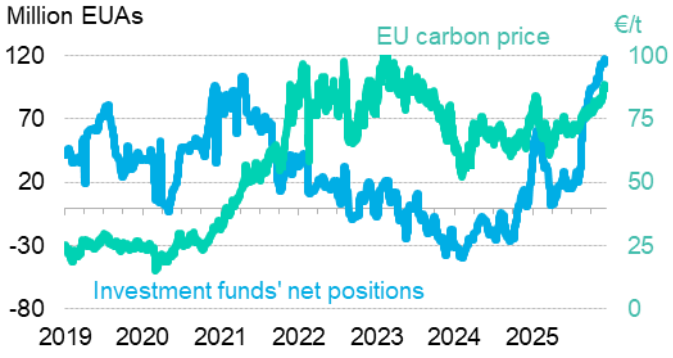
Fluctuation in prices in 2025 largely followed the trend of investment funds' net positions, with a correlation of over 60% throughout the year, suggesting that speculators can move the market, especially when it trades on thin volumes.

The carbon price ended the year on a strong note at €87 per metric ton, slightly higher than the price at the start of the year. The U-shape trend meant that the price averaged €75 per metric ton in 2025 overall.

Figure 41: Net position holders (KPI 23) vis-a-vis investment funds' net positions (KPI 24)



Source: ICE, EEX, BloombergNEF. Note: Data is from Commitment of Traders (CoT) database.

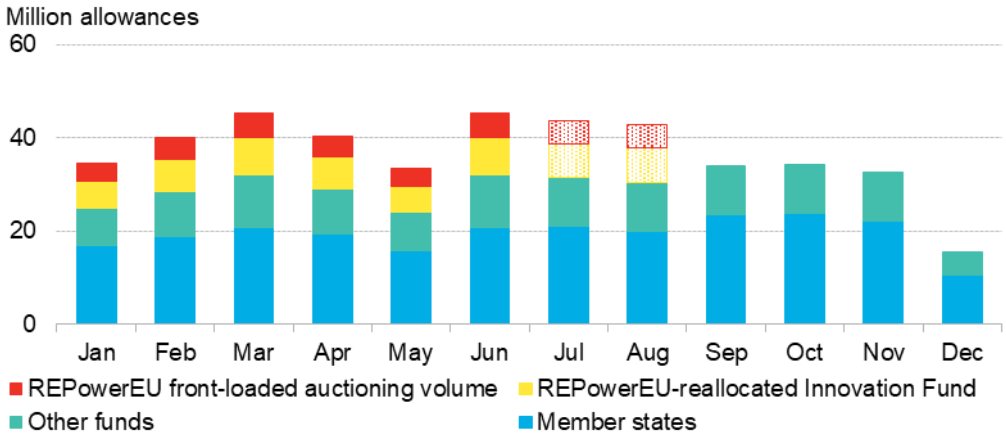


Source: ICE, EEX, BloombergNEF. Note: Data is from Commitment of Traders (CoT) database.

6.6. REPowerEU

Based on the European Commission's latest auction calendar, over 93 million EUAs are scheduled for auction in 2026 under REPowerEU, the EU's strategy to reduce reliance on Russian energy. About 56 million allowances are redirected from the Innovation Fund pool and the remainder from front-loaded member state auctions. Launched in 2023, the program aims to raise €20 billion by the end of 2026, its planned final year.

Figure 42: KPI 25 Other EU policies impacting carbon: REPowerEU volumes in 2026



Source: European Commission, BloombergNEF.

Note: Volumes from September onwards are adjusted by BNEF's estimate of Market Stability Reserve injections

However, the bloc appears on track to reach this funding target ahead of schedule, particularly if EUA prices remain above the Commission's 2023–2026 average price assumption of €75/t. Should revenues exceed expectations, REPowerEU auctions could conclude early, BNEF estimates this could occur as early as May or June.

7. Looking forward

The European Commission had a public consultation in 2025 regarding the review of the EU ETS, and a proposal should be published by July 15, 2026[56].

This review will be challenging as it will need to strike a balance between competitiveness and continued drive for decarbonization. While the European Institutions have the role of providing an annual report of the state of the EU ETS, as well as undertaking the upcoming review and ensuring that the EU ETS is fit for purpose going forward, is also important that an independent review of the EU ETS take place, including the role it will play in decarbonization, and the impact it will on EU economic activity.

This chapter presents forthcoming legislative developments and aims to serve as a methodical record rather than providing a detailed analysis. It takes more of a qualitative approach, highlighting upcoming developments.

Table 9: Overview of forthcoming legislative developments

Policy	EU ETS 2026 Review
Details	**2026: The Commission is expected to review the EU ETS Directive, including:** • The functioning of the EU ETS after the recent Phase 4 reforms and the alignment of the cap with the EU's 2040 climate target. • The linear reduction factor and the future trajectory of the cap beyond 2030. • The scope of the system, including possible adjustments for sectors already covered by the EU ETS and the interaction with ETS2. • The role of free allocation, CBAM and carbon leakage protection for energy-intensive industries.

[56] European Commission (2024): EU emissions trading system for maritime, aviation and stationary installations, and market stability reserve – review. Law. Have your say.

	• The use of auction revenues, Innovation Fund and Modernisation Fund support to drive industrial decarbonisation. • The impact on growth, jobs, affordability, industrial competitiveness and the EU's ability to maintain a strong carbon price signal.
Impact?	It is difficult to predict at this stage what will be the impact of this review on the architecture, governance and functioning of the EU ETS. It will have to be a carefully crafted compromise to ensure that competitiveness is addressed while maintaining a price signal for decarbonization. It will also be largely dependent on what the time horizon to consider the EU ETS "fit for purpose" will be: until the next review, or if we take a 2040-time horizon. In the former, it becomes a technical review with fewer political choices. If the latter is the choice, then significant changes may be necessary, with the difficult political choices that it entails.

Policy	**Carbon Border Adjustment Mechanism (CBAM)**
Details	• Q2 2026: Commission published the draft Implementing Act on the deduction of carbon prices paid in third countries (Article 9) in May 2026 for a four-week public feedback period, with adoption expected to follow. This was the last outstanding element from the December 2025 package. • 2026–2027: Ordinary legislative procedure on downstream extension + anti-circumvention and on Temporary Decarbonisation Fund; Council and Parliament positions expected through 2026. • Q3/4 2027: First annual CBAM declaration deadline (for 2026 imports). • 2027: Commission report evaluating extension to indirect emissions and to further sectors such as chemicals. • Q4 2027: Commission to review and evaluate progress in international climate negotiations. • Q1 2028: First biennial Commission report on CBAM's impact on carbon leakage, including exports.
Impact?	The downstream extension is the central file to watch: if adopted, it would bring approximately 180 additional steel- and aluminium-intensive products into CBAM scope from 1 January 2028, capturing around 7,500 additional importers. The true impact will depend on the final scope agreed by co-legislators. On the export side, the Commission has not put forward a structural solution; the Temporary Decarbonisation Fund is the transitional answer for 2028–2029, drawing on 25% of CBAM revenues to partially compensate exposed EU producers. Given its limited size and duration, it functions as a bridge, with the durable export solution expected in the upcoming ETS review opening in July 2026. The Article 9 Implementing Act remains the most consequential near-term file for third-country carbon-pricing recognition, default carbon prices, and the treatment of taxes, subsidies and offsets. The Commission published the draft act in May 2026 for a four-week public feedback period, with adoption expected to follow. Looking further out, the 2027 CBAM review remains the main moment for a second wave of scope expansion, including the assessment of indirect emissions in current CBAM goods and the potential inclusion of new sectors such as chemicals and polymers, alongside a broader review of default values. Taken together with the downstream extension, these developments will reshape the interaction between CBAM and the EU ETS, and their net effects on EUA dynamics will need to be understood as the files take shape.

Policy	**Permanent, and non-permanent removals (CCU)**
Details	By July 31, 2026: • Commission to publish a report on integrating negative emissions (including but not limited to BECCS and DACCS), into the EU ETS.

	• Commission to review also whether double counting is avoided, and to assess ways to account for emissions that have been captured and utilised in a product, but risk entering the atmosphere during or after normal use.
Impact?	With current information available and pending substantial legislative developments, assessing the impact of including CCU in EU ETS is challenging. Impact will depend on final decisions, accounting methodology, and EU ETS expansion to new sectors (i.e. municipal waste incinerators). There may be an increase in EUA demand for products that were previously exempt from surrendering allowances, such as Precipitated Calcium Carbonate (PCC). Under the current revisions, part of PCC will have to bear the cost of CO_2 usage when its end application is not considered permanently chemically bound. Moreover, the decision regarding the inclusion of CCU has not yet been finalised, making it impossible to accurately assess the potential impact on EUA demand. An expansion of the list of permanently chemically bound products may lead to a decrease in demand for EUAs for these. This is unlikely to significantly impact the market if no substantial amounts are available. Conversely, if the list of permanent chemically bound products is reduced, these products will need to pay for the CO_2 they emit, resulting in increased demand for EUAs. From an environmental point of view, the wider the list of CCU products recognised as not emitting or partially emitting CO_2, the greater the incentive to reduce GHGs. This approach makes sense if permanently chemically bound products, which do not emit CO_2 *under regular use*, are exempt from surrendering certificates. The recognition of CCU (both permanent and non-permanent) in EU ETS could be a first step for the accounting of negative emissions as we approach net zero. If negative emissions are included in the EU ETS, in the long term, the increased supply of EUAs/CDRs could counterbalance the expected price increase of EUAs from a stricter cap and facilitate EU decarbonisation. Stricter environmental provisions should be in place to avoid mitigation deterrence.

Policy	**Municipal Waste Installations (MWI)**
Details	As part of the 2026 EU ETS Review, by July 31, 2026: Commission to release a report and if positive, legislation for the inclusion of MWI into the ETS by 2028. • Q1 2028: Emissions from MWI installations would be included in ETS1. • Q1 2030: Until 2030, Member States will have the possibility to opt out of MWI from the ETS1 (Art 30 (7)).

Policy	**Aviation**
Details	• 2025 - 2026: Flights within the EEA area will lose 50% of free allowances, with a phased out by 2026. • By July 31, 2026: The Commission reviews CORSIA as part of the 2026 EU ETS Review. • Q1 2027: Possible inclusion of flights between the EEA and non-EEA airports into ETS1 in case CORSIA does not deliver.
Impact?	The inclusion of new sectors in EU ETS should not damage the functioning of the carbon market but instead increase the cap and bring additional supply of EUAs. The inclusion of municipal waste incinerators could have implications for the accounting of CCU, as the EU ETS value chain expands. An important question is who will benefit from claiming utilised CO_2, to avoid paying for carbon which is not emitted but utilised. The inclusion of international aviation in EU ETS could have implications for the relationship between CORSIA and EU ETS. From an environmental perspective, it is reasonable to consider that the higher the number of trips covered by EU ETS, the better the carbon footprint, as currently EU ETS is more ambitious than CORSIA. From a market perspective, it should enhance liquidity and demand for EUAs, as free allocation for aviation will end by 2026.

Policy	Maritime transport
Details	2027 - 2028: To include offshore ships exceeding 5,000 gross tonnage and potentially incorporate smaller offshore ships. Q1 2028: Shipping 100% emissions on journeys between EU and non-EU ports if the IMO mechanisms are deemed not ambitious enough.
Impact?	The extension of ships covered by EU ETS should increase the demand for EUAs and bring market pressures. If additional trips are covered by EU ETS, this trend could be accentuated. Similar to aviation, the inclusion of international maritime voyages should improve their carbon footprint. It will be important to observe how IMO articulates with EU ETS in the future.

Policy	International Linking
Details	Q2 2026: Commission to review the possibility of linkages between the EU ETS and other carbon markets.
Impact?	Following the Swiss example, international linking should be a positive development for the EU ETS. it will increase the number of participants in EU ETS, increasing market size, trading and liquidity. If it is the same level of ambition, it should also reduce the risk of carbon leakage vis-à-vis linked jurisdictions. Impact will depend on linking conditions, sector coverage, and exchangeability of credits.

Policy	ETS for Road transport, buildings and other sectors not covered by ETS1 (ETS2)
Details	By July 31, 2026: • Commission to decide whether to include installations below 20MW total rated thermal input (Annex I) in ETS1. If not, they will join ETS2. • Q2 2027: Commission to review the ETS2, evaluating its effectiveness, administration, and practical application. • Q1 2028: ETS2 commences. • Before 2031: Commission to decide if EU ETS1 and ETS2 should be merged.
Impact?	The inclusion of ETS2 in ETS1 in the future could increase market size, reduce transaction costs and increase market supply. This development could be especially relevant to bringing market liquidity in EU ETS into a shorter market. Current ETS1 covered sectors are expected to decarbonise in the 40s and the availability of EUAs will be limited.

Policy	Benchmark update
Details	May 2026: Implementing Act updating, for the period 2026-2030, the benchmark values on the basis of 2021 and 2022 data, applying the annual reduction rate between 2008 and 2028 [Article 10a (2) (c) of the EU ETS Directive].
Impact?	More stringent benchmarks will reduce the amount of free allocation available to compliant entities. If CBAM is on top, the speed of free allocation phase-out will increase. By extension, it will increase the demand for EUAs to cover emissions, thus increasing carbon prices. From an environmental impact, the faster the phase-out of free allocation the higher the risk of carbon leakage, as long as no other effective instruments in place. In the end, this could impact not only the climate but also competitiveness of EU industries.

Policy	Industrial Decarbonisation Bank
Details	June 2026: EC legislative proposal aiming at EUR 100 billion funding to support industrial decarbonisation[57]. • Existing Innovation Fund: 20 billion (starting from 2025) • 10% of Member States EUAs Auctioned in 2028-2037: EUR 33 billion. • InvestEU: 2.5 billion (leverage factor of 10 to make total leveraged amount EUR 33 billion).
Impact?	On the Innovation Fund share, there is no indication that additional EUAs will be sold in the market thus no expected impact. The impact on the market related to auctioning shares will depend on the distribution of EUAs across periods (i.e. frontloading in REPower EU), otherwise, there will be no direct impact on EUA supply. An indirect impact could still happen on the EU ETS. If successful, the Bank could accelerate emission reduction in EU industry, leading to a lesser demand for EUAs. Still, many uncertainties remain until the legislative proposal in 2026.

[57] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. The Clean Industrial Deal: A joint roadmap for competitiveness and decarbonisation. COM (2025) 85 final. Pp 13.