

ERCST COMMENTARY

EU carbon price: regulatory intervention, economic cycle, market fundamentals

Summary

Currently there is a bearish market in the EU ETS with carbon prices down from close to EUR 100, to the 50 range. That has raised concerns among certain stakeholders, with some feeling that this range does not provide a sufficient price signal for decarbonisation.

This Commentary aims to identify what is behind the current situation which seems at odd with the stated direction in the EU Climate Law, including the direction of the 2040 target for the EU.

The conclusion seems to be that the supply-demand balance resulting from a convergence of low industrial activity and EUA demand (which some see as cyclical but may be more structural in nature), coupled with better low carbon energy performance and more supply, was exacerbated by regulatory intervention to access funds for the REPowerEU programme. This may impact the EU ETS both in the short term as well as the long-term in terms of price signal for decarbonisation.

Some takeaways to be considered will include the elimination of ad-hoc discretionary interventions, such as the increase of EUAs in circulation for REPowerEU budget purposes, and the ex-ante integration of potential interventions in the market design; drawing lessons from the current situation for the next revision of the MSR; start the discussion on the future of the EU ETS, including discussion on the objectives of the EU ETS in the context of the constrained financial capability of the EU; and the need for a discussion on flanking measures to provide signals for investors.

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To reference

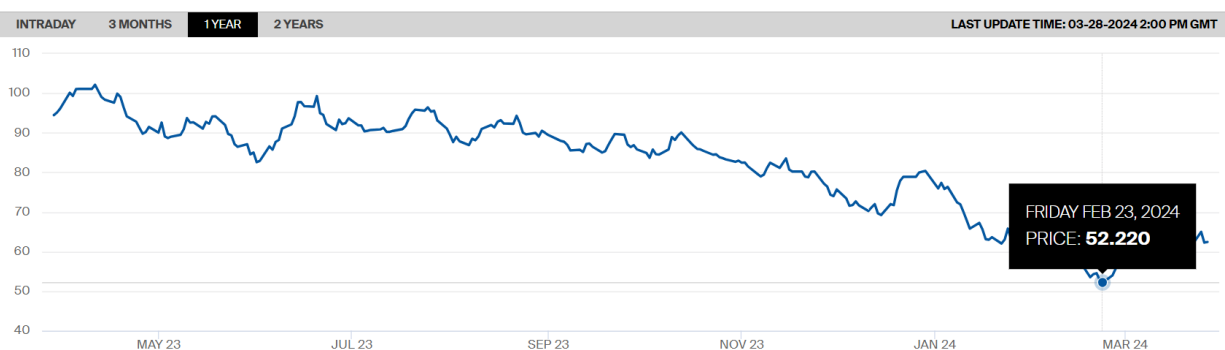
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Market context

The combined impact of a series of factors and circumstances have led to bearish EU carbon prices in Q1 2024. On 23 February 2024, the carbon price reached its lowest level since 2021.

Figure 1 Evolution of EUA Futures Dec 2024 over the last year



Source: ICE Index – EUA Futures Dec 2024

Market analysts expect the EU carbon price to continue a bearish trend into 2024 on projected lower emissions, and therefore lower demand for EUAs, but also due to a situation of oversupply. The reality of the demand/supply balance that explains the current bearish trend needs to be well understood and is discussed below.

- **Demand:** The EU has seen reduced industrial activity following inter alia the surge in energy costs in 2022, which translates to lower emissions and lower demand for EUAs. There has also been a reduction in demand for permits from the power sector due to a combination of limited power demand partly due to reduced industrial demand following the energy crisis as well as mild weather in the winter of 2023/2024; increased low carbon generation output thanks to the rapid expansion in renewables at the aftermath of the 2022 energy crisis and the recovery of nuclear output (in France); as well as the narrowing of the gas to coal spread with the decline of gas prices that has suppressed coal generation.
- **Supply:** Analysts expect the total supply of EUAs in 2024 to be 6-16% higher year-on-year¹, due to the front-loading of EUA auctioning to meet the provisions in REPowerEU,

¹ 1) According to estimates by BNEF, the total supply of EUAs in 2024 will be at least 6% higher year-on-year (estimate that does not take into account the full extent of the Market Stability Reserve). Source: <https://think.ing.com/articles/eu-carbon-prices-to-stay-under-pressure/#:~:text=On%20the%20supply%20side%2C%20the,compliance%20entities%20receiving%20free%20permits> ;

2) According to analysts at Vertis Environmental Finance, the EEX volumes for the September to December 2024 period could be around 76 million lower to reflect adjustments under the EU ETS' MSR, bringing the total volume to 684 million EUAs and EUAs 2024, i.e. 16% increase compared to 2023 auctioned volumes. Source:



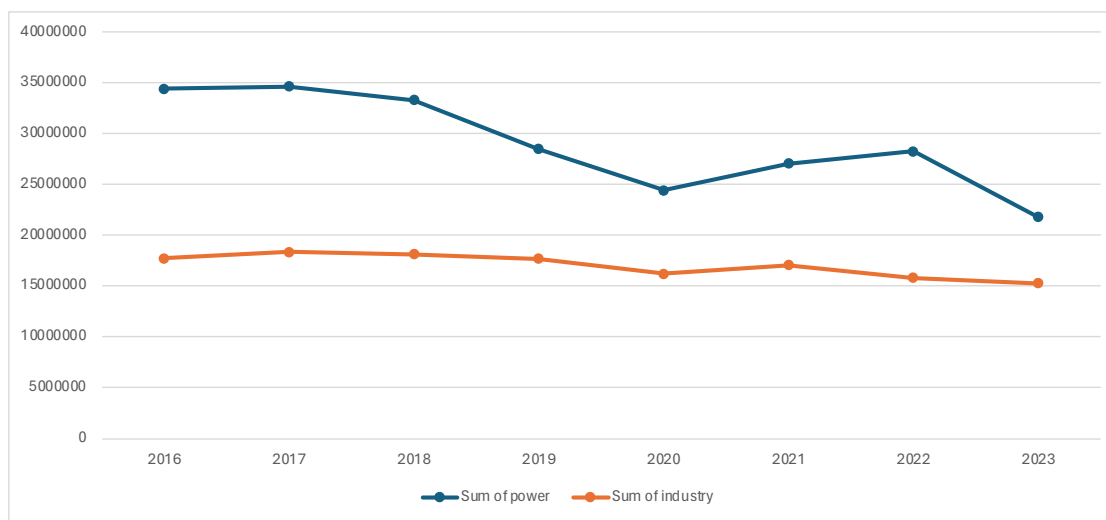
new compliance entities receiving free permits, as well as the addition of shipping in the EU ETS.

EUA demand

CO₂ emissions (and therefore physical demand for permits) from power generation and industrial activities saw a decline in 2023 compared to the previous year.

Preliminary data on verified emissions published in early April 2024 by the European Commission shows that EU ETS emissions decreased by 15.5% in 2023 vs 2022². This unprecedented emissions decrease has been driven by 24% emissions decrease in electricity production, and a 7% emissions decrease in industry. The decline in verified emissions is consistent with the evolution of emissions from power generation and industry as indicated by other data sources, such as the open-access platform Kayrros Carbon Watch³ that provides realtime measurements (i.e. through satellite imagery) of carbon emissions (see figure below).

Figure 2 Evolution of CO₂ emissions from power generation and industry in Europe (excl. UK)



Source: ERCST, based on real-time CO₂ emissions data by KAYRROS Carbon Watch

The recent decline in industrial emissions reflects reduced industrial activity and efficiency gains. The decline in power emissions is driven by an overall reduced demand for power (also affected by reduced industrial activity), an increase in low carbon generation output (notably wind, solar, but also nuclear output in France), as well as the narrowing of the gas to coal spread with the decline of gas prices.

² DG CLIMA (2024): Record reduction of 2023 ETS emissions due largely to boost in renewable energy. News Article. 3 April. Available at: https://climate.ec.europa.eu/news-your-voice/news/record-reduction-2023-ets-emissions-due-largely-boost-renewable-energy-2024-04-03_en (Accessed on April 9th 2024).

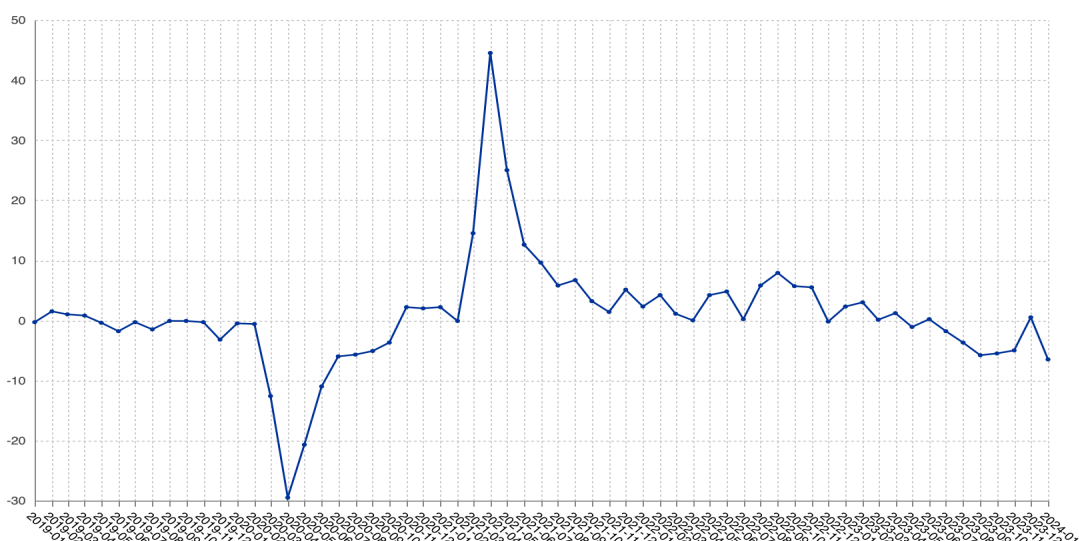
³ See <https://carbonwatch.kayrros.com>



In Germany for instance, greenhouse gas emissions in 2023 decreased by 73 million tons of CO₂ compared to 2022 to an estimated total of 673 million tons of CO₂, the lowest level since the 1950s⁴. This decrease reflected: a) a decrease in coal-fired power generation saving 44 million tons of CO₂ alone, due to an overall drop in electricity demand in conjunction to an increase in electricity consumption from renewable sources; b) a significant decrease in industrial emissions by 20 million tons of CO₂ compared to 2022 due to a 11% decline in production by energy-intensive companies as a result of the economic situation⁵.

At the EU level, power sector emissions declined by 24% in 2023⁶ – the largest decline on record, driven by an increase in generation from wind and solar and record decrease in EU coal and gas generation, with electricity demand falling 3.4% year-on-year also playing a significant role⁷. The decline in electricity demand accounted for a 45% drop in fossil-based generation⁸, thus a part of the power sector's emission reduction was due to demand disruption. Similarly, monthly data by Eurostat on manufacturing production also suggests a downward trend for most months in the second half of 2023 compared to the same month of the previous year (Figure 3).

Figure 3 Monthly manufacturing production as a percentage change compared to same period in previous year



Source: Eurostat dataset [sts_inpr_m](#)

⁴ Based on calculations by Agora Energiewende, <https://www.agora-energiewende.org/news-events/germanys-co2-emissions-drop-to-record-low-but-reveal-gaps-in-countrys-climate-policies>

⁵ idem

⁶ DG CLIMA (2024). *Record reduction of 2023 ETS emissions due largely to boost in renewable energy*, News article 3 April 2024, https://climate.ec.europa.eu/news-your-voice/news/record-reduction-2023-ets-emissions-due-largely-boost-renewable-energy-2024-04-03_en

⁷ Ember, European Electricity Review 2024, <https://ember-climate.org/insights/research/european-electricity-review-2024/#supporting-material>

⁸ idem



As was the case in the previous bearish market, when prices declined to less than EUR5/tCO₂ in mid-2013 (compared to close to EUR30/tCO₂ in mid-2008) and led to the introduction of the MSR, demand is simply a function of economic activity, but those factors may interfere. In that case the decline in economic activity was due to the financial crisis and CDM credits, which led to an accumulation of structural surplus in the EU ETS. That slump in economic activity was seen as cyclical.

In this case, the decline in economic activity is the result of a potentially more structural change in the EU economy because of high energy prices, resulting from the lack of access to Russian gas, due to the conflict in Ukraine, as well as the increasing costs imposed on European industry by EU legislation. How the EU energy intensive sectors will adjust to the new energy and climate legislation reality and whether this is cyclical or is the start of a restructuring of EU industry is something that cannot be fully foreseen at this time.

EUA Supply

In 2024, a total of up to 684 million EUAs and EU Aviation Allowances (EUAAAs) are expected to be auctioned according to the auction calendars published by the European Energy Exchange (EEX) at the end of 2023⁹. This is about 161 million EUAs more than the 523 million auctioned in 2023.

The total volume announced by EEX is preliminary in that it does not take into account adjustments to the volumes from September to December 2024 under the Market Stability Reserve (MSR) following the publication in May 2024 of the total number of allowances in circulation (TNAC) in 2023 and the subsequent decision by the Commission on July, 31 2024 on the number of permits EU Member States will sell from September to December 2024.

Still, analysts expect the total supply of EUAs in 2024 to be in the order of 6-16% higher year-on-year¹⁰. Several factors contribute to the expected increase in supply:

1. New compliance entities receiving free permits;
2. The addition of shipping in the EU ETS. According to BNEF, “[...] *the move to include maritime emissions in the EU Emissions Trading System will see the market oversupplied*

⁹ EEX publishes 2024 EUA and EUAA auction calendars, 12/21/2023 EEX Press Release https://www.eex.com/en/newsroom/detail?tx_news_pi1%5Baction%5D=detail&tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Bnews%5D=7656&cHash=dc05eb4dee2ce12da83d4ae3a536847a

¹⁰ 1) According to estimates by BNEF, the total supply of EUAs in 2024 will be at least 6% higher year-on-year (estimate that does not take into account the full extent of the Market Stability Reserve). Source: [https://think.ing.com/articles/eu-carbon-prices-to-stay-under-](https://think.ing.com/articles/eu-carbon-prices-to-stay-under-pressure/#:~:text=On%20the%20supply%20side%2C%20the,compliance%20entities%20receiving%20free%20permits)

[pressure/#:~:text=On%20the%20supply%20side%2C%20the,compliance%20entities%20receiving%20free%20permits](https://think.ing.com/articles/eu-carbon-prices-to-stay-under-pressure/#:~:text=On%20the%20supply%20side%2C%20the,compliance%20entities%20receiving%20free%20permits) ; 2) According to analysts at Vertis Environmental Finance, the EEX volumes for the September to December 2024 period could be around 76 million lower to reflect adjustments under the EU ETS' MSR, bringing the total volume to 684 million EUAs and EUAAAs 2024, i.e. 16% increase compared to 2023 auctioned volumes. Source:



in 2024-25, before shifting to a deficit of allowances from 2026 onwards. The earlier oversupply is designed to facilitate hedging for the sector, whereby allowances are pre-purchased to cover future obligations”¹¹;

3. The front-loading of EUA auctioning to meet the provisions in REPowerEU.

Specifically, the European Union decided to raise EUR 20 billion from the sale of allowances¹² to help pay for the energy transition (REPowerEU). Some 40% of the total amount (EUR 8 billion) is to be met by bringing forward the auctioning of allowances originally scheduled to be auctioned between 2027-2030 to the period before August 31, 2026. This increases supply of EUAs, but will reduce the volumes of auctioned EUAs afterwards.

According to the European Commission’s notice of provisional EU ETS 2024 auction volume¹³, a total of 34,674,000 EUAs are being frontloaded and auctioned in 2024 for the Recovery and Resilience Facility (RRF) that would have otherwise been auctioned during 2027-2030. These EUAs contribute towards the overall EUR 8 billion target for the RRF (in the context of REPowerEU, Article 10e(3) of the ETS Directive).

However, it needs to be emphasised that the frontloading of auctioned allowances was based on a) an amount of EUR 8 billion and not a fixed number of allowances and b) was conceived during high EUA prices. At the time when frontloading was introduced, this was seen as having multiple benefits, i.e.:

- i. Muting EUA prices, which at high levels were seen as politically sensitive, especially ahead of an election year¹⁴;
- ii. Responding to requests from industrial sectors that were, and are insisting on a “new industrial deal” that could compete with the US IRA and Chinese subsidies and overcapacity and which saw, and continue to see, the resources made available as being inadequate.

¹¹ Source: BloombergNEF, Ten Things to Watch in Global Carbon Markets in 2024, January 23, 2024 <https://about.bnef.com/blog/ten-things-to-watch-in-global-carbon-markets-in-2024/>

¹² A target set assuming a price of 75 €/tons CO₂. While no explicit carbon price is provided in the Auctioning Regulation (EU) 2023/43, the 75 €/tons CO₂ is obtained by dividing the 20 billion EUR target between the total amount of EUAs disbursed in 2023 for REPowerEU, and the initial annual volume of allowances announced to be auctioned pursuant to Article 10e(2) and (3) of Directive 2003/87/EC, as announced in Art 10 c of Auctioning Regulation (EU) 2023/43.

¹³ Commission’s notice of provisional EU ETS 2024 auction volume, https://climate.ec.europa.eu/news-your-voice/news/notice-provisional-eu-ets-2024-auction-volume-general-and-aviation-allowances-2023-11-16_en#email

¹⁴ See for example: Euractiv news article 28 September 2022 ‘Lawmakers close in on EU carbon market ‘frontloading’ to lower energy prices’ <https://www.euractiv.com/section/emissions-trading-scheme/news/lawmakers-close-in-on-eu-carbon-market-frontloading-to-lower-energy-prices/#>



However, as always, markets are unpredictable, and the impact of this front-loading risks to be felt in some unexpected ways in the short term and possibly, in the long term.

The regulatory intervention through frontloading can be seen as having the following impacts:

- 1) **Creating a feedback loop in the EU ETS.** Since there is no fixed amount of EUAs that will be frontloaded, but one that needs to meet the EUR 8 billion amount, the number of EUAs that will need to be auctioned to reach the Euro amount may continue to rise due to lower current EUA prices, therefore continuing to increase the need for further EUAs to be brought forward in auctioning. How far this bearish feedback loop will go is difficult to forecast.
- 2) **Exacerbating the scarcity expected in the second half of Phase 4:** frontloading is, in theory, neutral, as it simply borrows from future. However, as the LRF continues to bite and the scarcity and price in the market is expected to increase post 2026¹⁵, the decrease in amount of EUAs that will be available for auctioning in that period will only exacerbate the situation, leading to a potentially major scarcity in the second half of Phase 4. If indeed part of today's reduced demand for EUAs is cyclical and may rebound, this will also compound market scarcity. Another element that may have a perverse impact in the short term, are the current low EUAs prices which may also exacerbate the upcoming squeeze, as the signal and urgency to invest in abatement technologies is weakened. In addition, the Market Stability Reserve (MSR) will be called to absorb relatively more allowances in the future, making things even more “painful” for companies under EU ETS compliance obligations. Finally, since there is no fixed amount of EUAs that will be frontloaded, but one that needs to meet the EUR 8 billion amount, the number of EUAs that will not be available in the second part of Phase 4 is unpredictable, and may rise due to lower current EUA prices, increasing the future scarcity further.
- 3) **Impact on the evolution of the MSR and on MSR review.** The higher the amount of EUAs in the carbon market, the higher the volume of EUAs, as a %, that will be taken out by the MSR (and the higher the number of EUAs that will be invalidated). If the TNAC is above the intake thresholds, an additional supply under REPowerEU will partly (24%) be taken by the MSR (and eventually invalidated). More EUAs in the market, means more EUAs going to the MSR, and more EUAs invalidated afterwards.
- 4) **At a time of low demand (before 2026), additional supply is brought into the market,** while at a time of higher expected demand (post 2026) a shorter demand is created.
- 5) **EU ETS as a regulatory market.** Frontloading for REPowerEU has been welcome as it provides much needed funding for the different and broader (not only EU ETS) instruments put in place by the EU to help decarbonize industry and the economy more widely. Such funding is urgently needed, but what also needs to be emphasized is that it does not constitute additional money, but a cap neutral measure for redistribution in different periods, that may

¹⁵ “In the long run, prices are forecast to be buoyed by aggressive supply cuts to align the market with its objective to lower emissions by 62% by 2030 compared to 2005 levels”. BloombergBNF(2023).



also shift higher compliance costs into the future. However, using the frontloading provision to access funds sends a signal that may not be what the EU ETS requires at this time as the discussion on the future of the EU ETS post-2030 has started, including through work that the EC has commissioned. It sends a number of signals:

- a) That the EU ETS is open to ad-hoc discretionary intervention with low visibility/predictability, even if for worthy causes, which will impact price formation and the much-needed price signal for decarbonization. If political interventions will depend on the carbon price, the price itself will become a political variable. There are concerns that, also function of energy commodity prices, the coal to gas switch may not always happen at subdued EUA prices with negative environmental outcomes. Some power producers have raised the concern that should EUA prices remain suppressed there is a greater number of instances where coal generation is dispatched before gas in the merit order.
- b) That the EU ETS has become as much a market mechanism as well as a source of funds, even if for very important and needed causes. In 2014-2016, i.e. before the MSR, there was backloading of 900 million allowances, the auctioning of which was postponed until 2019 and 2020¹⁶; now frontloading. With REPowerEU there has not been (timely) information to market participants with respect to the expected timing of issuance, and the mechanisms behind the decisions with respect volumes to be auctioned between until August 2026.

Takeaways

Brussels has entered pre-election mode ahead of the EU elections in June 2024. This raises also the question of whether the current price drop reflects not just uncertainty over the economy/GDP, but also uncertainty over the policy outlook if intervention can happen. A precedent of shifting supply in “critical situations” has been created. Should prices rise very steeply in the future, there is a risk that this might again be considered a critical situation, leading to more interventions and front-loading. With a shorter supply of EUAs in the carbon market there is a risk that the next intervention will not be cap neutral anymore and the impact stronger in the market.

From the perspective of some in the energy intensive industries, high EUA prices represent a cost not incurred by non-European competitors that have a negative impact on European competitiveness, as well as on the financial ability of companies to invest in decarbonisation. Often, it is not only the carbon price that drives investment, rather it is the expected long-term scarcity that triggers the first step in investment decisions, but also support in the form of subsidies (as was also the case in the electricity sector). For some industries, the problem per se is not the

¹⁶ In July 2012, the European Commission introduced a proposal to reduce the supply of allowances between 2013 and 2015 to tackle the EU ETS surplus. This “backloading” proposal involved setting-aside 900 million allowances early in Phase 3 and reintroducing these allowances back into the market at the end of Phase 3. As a result the volume of auctioned allowances was reduced by 400 million in 2014, by 300 million in 2015 and by 200 million in 2016.



price but the cap as for some sectors/products (e.g. primary aluminium), the technology to get there is not yet developed. Therefore, the long-term scarcity, sometimes at odds with social acceptability is important.

Some of the takeaways to draw from the recent experience with the carbon price include:

1. **Eliminate instances of ad-hoc discretionary interventions and ex-ante integrate potential interventions in the market and governance design:** there is a need for a more transparent and predictable approach to regulatory interventions in the EU ETS. While well intentioned, the unpredictability created by expressing the intervention in monetary and not in number of EUAs has led to unnecessary market uncertainty. Also, such interventions cannot be one off, they need to be supported by a transparent provision outlining the circumstances for such interventions. Allowing such intervention to come through a legislative process will lead to their politicization. According to the EU ETS Directive, the Commission can review the period for the REPowerEU auctioning¹⁷.
2. **Draw lessons from the current situation and market “myopia”¹⁸ for the next review of the MSR:** Analyse the current situation and take it as a point of departure to start a timely discussion on how and whether there is a need to revise the MSR for an EU ETS fit for purpose, with a view to making changes in the context of the planned MSR review in 2026 (and not earlier because this would just be another ad-hoc intervention to the carbon market).
3. **Start the discussion on the future of the EU ETS.** Clearly, as liquidity EU ETS starts to decrease, as the nature of the market changes and there is increased pressure on budgets, there will be increased temptations for market interventions. This militates for an early discussion on the future of the EU ETS, a process that is already underway. Discussion on the objectives of the EU ETS in the context of the constrained financial capability of the EU. Is the EU ETS a mechanism fit to deliver GHGs emission reductions without leading to loss of competitiveness and de-industrialisation, or a tool to finance the transition? In this sense, is important to have a discussion on how to improve the use of auction revenues in a broader governance (i.e. linking, cap going to zero, market and political stability) discussion on the future of the EU ETS and to assess the effect on public finances of various levels of EU ETS prices. Discussion on the EU industry’s capacity to cope with a high EU

¹⁷ According to Article 10e of the EU ETS Directive, “The period for auctioning referred to in this Article shall be reviewed one year after its start in the light of the impact of the auctioning provided for in this Article on the carbon market and price.”

¹⁸ Financial Times (2024): Europe’s carbon price crash looks like serious market myopia. February 28th. Available at: <https://www.ft.com/content/c01f737d-58df-4efa-9a29-9e708598b026> (Accessed on April 11th, 2024).



ETS price while still investing in decarbonisation investments and while still doing business in EU.

4. **A discussion on measures to support the competitiveness of industry while it is decarbonising (e.g. CCfDs) is needed.** The tension will always be between the long-term price signal and social and political acceptability of the carbon price. To ensure that the EU industry remains competitive while investing in its decarbonization, there is a need for additional flanking measures to achieve industrial decarbonization, and not deindustrialization in the EU. The interactions between different climate instruments should also be accounted and provided for. Going forward it will be absolutely critical to handle the interaction between the full range of policy measures triggering CO₂ emissions reduction and the EU ETS. This must be thoroughly analysed and addressed as part of the upcoming ETS reform.