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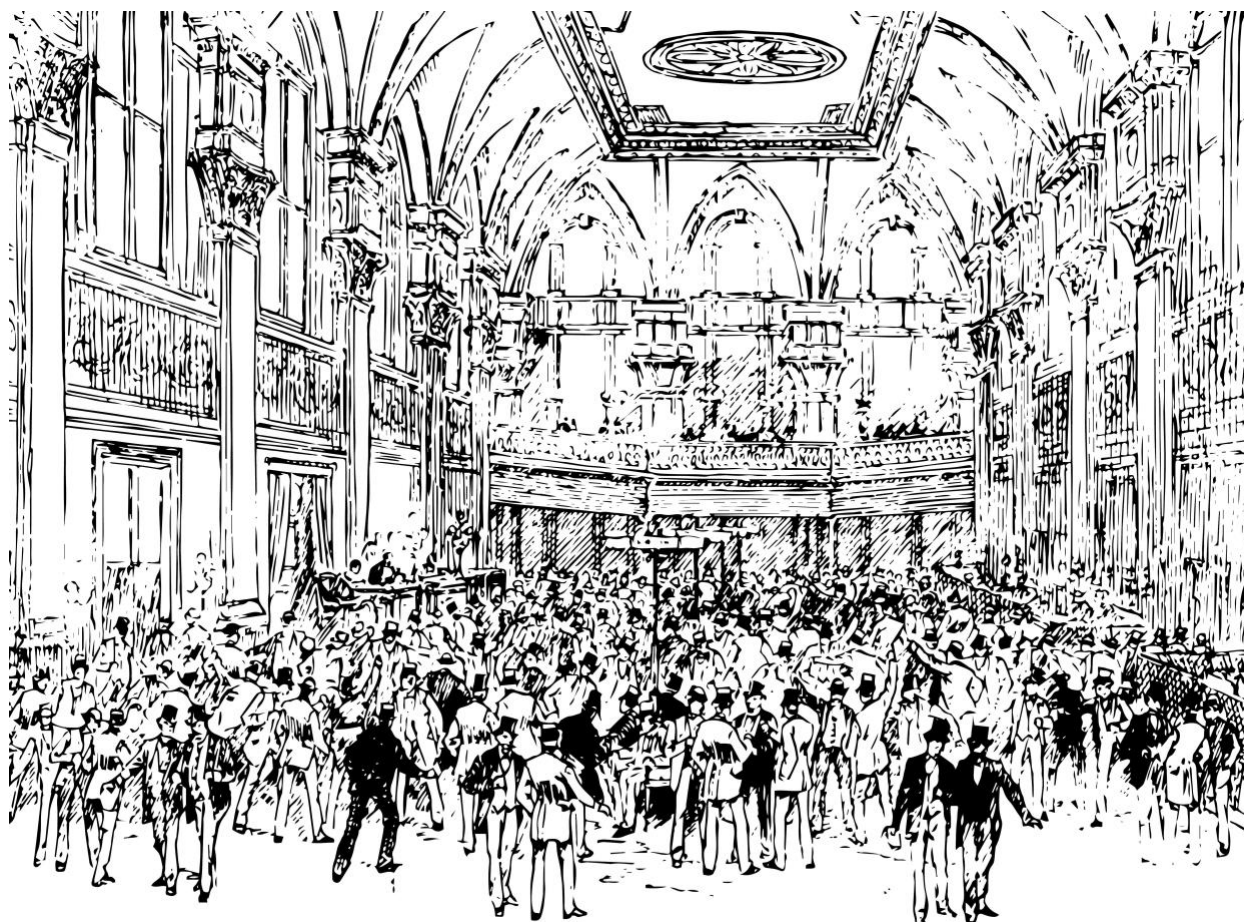
European Roundtable on
Climate Change and
Sustainable Transition

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2020 State of the EU ETS Report



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The European Roundtable on Climate Change and Sustainable Transition (ERCST) is an independent non-profit association based in Brussels, Belgium. It aims to provide a neutral space where policy-makers and regulators can meet stakeholders to discuss climate change policy and how to manage the transition to a low GHG-economy in a sustainable way. While focused on European climate policy, ERCST fully recognizes, and incorporates in its activities and thinking, the global dimension of climate change policy. Besides providing a place to meet, ERCST provides rigorous intellectual analysis in step with the EU and international political agenda, by using the experience and research input of its staff, and the input of the stakeholders who join its activities.

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The Wegener Center for Climate and Global Change is an interdisciplinary, internationally oriented institute of the University of Graz, which serves as a core research center for pooling the competences of the University in the areas of climate change and the related issues in climate physics, meteorology, and economics. An evidence based approach to the transformation of energy systems, innovative analytical modeling concepts, and the design of energy and climate policies are focal points of current research activities.

EcoAct is an international advisory consultancy and project developer that works with businesses and organisations to meet the demands of the Paris Agreement. We simplify the challenges associated with environmental sustainability, remove complexity and empower individuals and teams to deliver bespoke solutions for a low carbon world. We believe that climate change, energy management and sustainability are drivers of corporate performance and seek to address business or organizational problems and opportunities in an intelligent way.

2020 State of the EU ETS Report

Table of Contents

Executive Summary	1
Key Performance Indicators.....	3
1 Background	5
2 An EU ETS “fit for purpose”	6
3 Impact of COVID-19 on the EU ETS.....	8
4 Changes in the regulatory environment.....	11
5 Sentiment Market Survey	16
6 Environmental delivery	17
6.1 <i>Delivery against the trading period target.....</i>	<i>17</i>
6.2 <i>Emission and decarbonization trends</i>	<i>19</i>
6.3 <i>Delivery against EU long-term domestic environmental commitments</i>	<i>20</i>
7 Economic delivery	21
7.1 <i>Is the EU ETS a driver for change?.....</i>	<i>21</i>
7.2 <i>Monetary impacts and carbon leakage</i>	<i>25</i>
8 Market functioning.....	29
8.1 <i>Market functioning trackers.....</i>	<i>29</i>
8.2 <i>Price forecasts</i>	<i>33</i>
9 The EU ETS in the European Green Deal.....	34
9.1 <i>Increased 2030 and 2050 targets.....</i>	<i>34</i>
9.2 <i>Increase in the scope of the EU ETS.....</i>	<i>36</i>
9.3 <i>Free Allocation and Carbon Border Adjustment Measure</i>	<i>36</i>
9.4 <i>Use of auctioning revenues.....</i>	<i>37</i>
9.5 <i>Review and future role of the Market Stability Reserve</i>	<i>38</i>
9.6 <i>The EU ETS post-2030.....</i>	<i>38</i>
10 Policy issues to monitor in the future	39

2020 State of the EU ETS Report

Executive Summary

During 2019, and at the start of 2020, the EU ETS had to “live” in two different worlds. On one side, it was the EU ETS whose mission was to deliver economically efficient decarbonization for the 2013-2020 period. The second side was an EU ETS that had to understand the demands and ambition that the European Green Deal would put on it and prepare for these challenges. In addition, it had to deal with new extreme circumstances triggered by the measures put in place to address the medical situation, which resulted in an economic meltdown that will likely surpass the 2008/2009 financial crisis.

Following a very active year in 2018, everyone was prepared for a more “normal” 2019. Indeed, in 2019 the EU ETS performance provided stakeholders reassurance that the EU ETS was now “fit for purpose” and on the right track to deliver on its main stated objectives: meeting environmental targets, deliver economic efficient decarbonization and provide good price discovery. EUAs prices had stabilized at a level that provided a signal for decarbonization in certain areas.

On the environmental side, preliminary 2019 data show that emissions from stationary sources decreased sharply, by 8,9%. This was the largest drop seen since 2009. This decrease can be attributed to a large amount of fuel switching due to a higher carbon price combined with historically low gas prices; a continuation of renewable penetration in the EU power mix; good conditions for renewables; and 2019 being a relatively ‘warm’ year. One important indicator of success in decarbonization, carbon intensity, showed mixed results. Data seems to indicate that the carbon intensity of sectors like glass, metals, refining, and paper & pulp are slowly decreasing, contrary to others for which the trend over Phase 3 remains largely flat.

An economically efficient decarbonization should be driven by EU ETS prices. In 2019, EUAs prices were constantly above the medium-efficiency coal-to-gas switching price, and for part of the year the EUA price was even higher than the high-efficiency coal-to-gas switching price. The ERCST Market Sentiment Survey also showed an increase in confidence that the EU ETS is providing a stable and predictable framework for an investment signal.

For the third objective, that of market functioning and price discovery, key performance indicators did not give any real reason for concern, but a few indicators need to be kept under observation. EUA prices have been unexpectedly resilient in the face of the hit that the energy complex suffered as a result of the economic shock in March 2020.

How do we assess the impact of the current legislative initiatives and current economic turmoil on the state of the EU ETS? Today, we are at the dawn of a new review process, not only for the EU ETS, but for all EU climate and energy policies. The EGD and the COVID-19 induced crisis have two significant components. One is the policy debate that is mandated by the proposals put forward by the Commission. When faced with historical decisions, that policy debate is a “must”, but the process for such a debate may need to be re-thought and adapted.

The second point is the uncertainty that we are facing – both in terms of the current economic crisis, as well as what comes next. With an economy in tatters in the EU, and a society in deep shock, there will be important decisions to be made in prioritizing attention and resources. The EGD and the EU ETS will not be immune and will compete for attention and resources.

Some of the decisions from this review will impact the EU ETS and the role that it will play to 2030, and beyond. To mention but a few, the ETS may have to adapt to and deal with an increased LRF, examine the addition of new sectors, navigate a transition from free allocation to other forms of hedging the risk of carbon leakage (e.g. BCA) and update the Market Stability Reserve (MSR) to keep up with increasing demands on its services. How the cap and the natural rate of decarbonization interact, will tell the story of how well the EU ETS will perform, and its real role.

The first test which will impact the EU ETS is the Climate Law and a new 2030 target – will they stay on schedule, and what will be the level of ambition. This in the face of a lukewarm reaction so far from important trade partners in updating or renewing their NDCs, as mandated by the Paris Agreement.

The EU ETS continues to be important as a driver and as a symbol. The review that is coming will shape the EU ETS.

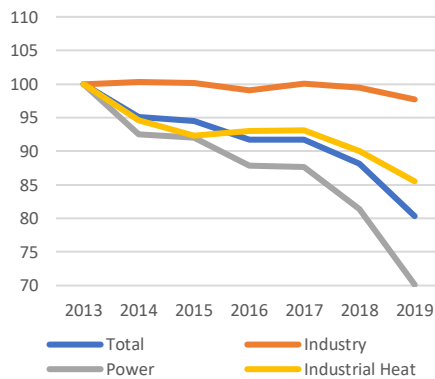
Key Performance Indicators

Environmental Delivery

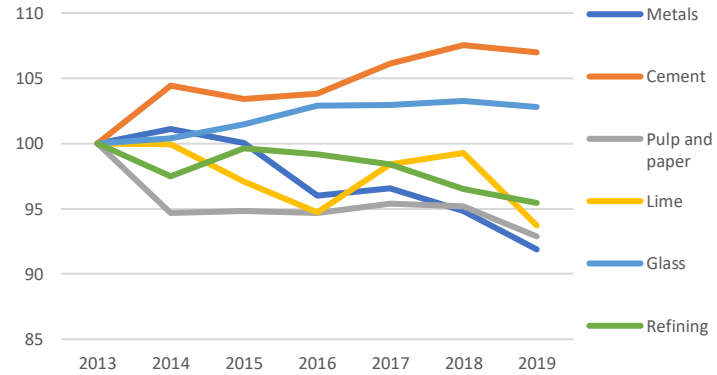
The most recent data available for the KPIs for environmental delivery show good performance. Emissions decreased considerably in 2019, by an estimated 8.9%, almost **four times as fast as the cap**, and the highest year-on-year ever, besides the 2008/2009 financial crisis.

The power sector has driven the overall emission reductions during Phase 3 so far, but 2019 also saw a decrease in industrial emissions of 1.8%.

Index of emissions



Index of emissions for selected industrial sectors



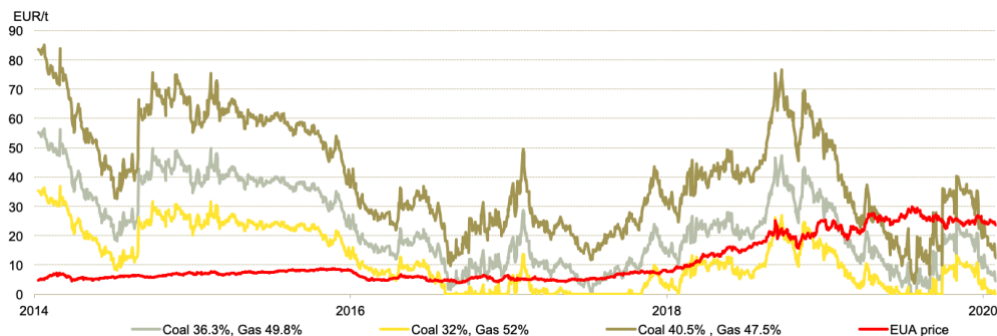
Source: BloombergNEF and ERCST elaborations on EUTL, 2020

While intensity data is hard to come by, our proxy indicates that most industrial sectors are improving the carbon intensity of their production. However, the current pace of improvements is not fast enough to reach the long-term objectives.

Economic Delivery

A large share of the emission reductions in 2019 can be attributed to fuel switching, and the EUA price played a significant role. The price was constantly above the low- and medium-efficiency switching price, and for part of the year even above than the high-efficiency switching price. Before 2019, the EUA price had only been above the low-efficiency switching price.

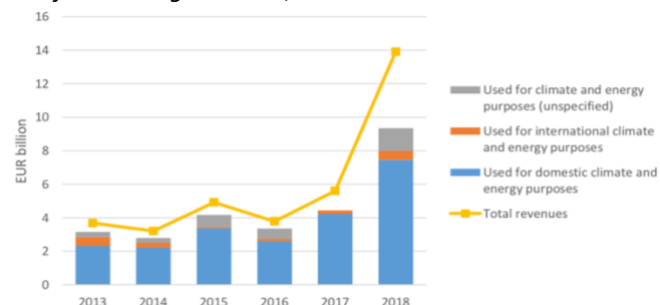
Switching price for different thermal efficiencies, compared to the EUA price



Source: BloombergLP, BloombergNEF

Revenue recycling of EUA auctioning provides for a vital flow of cash for climate action, which will become more important if prices keep rising. Member States report they spent 70% of their auctioning revenues on climate and energy purposes in 2018, below the average of 80% for the period 2013-2018 as a whole.

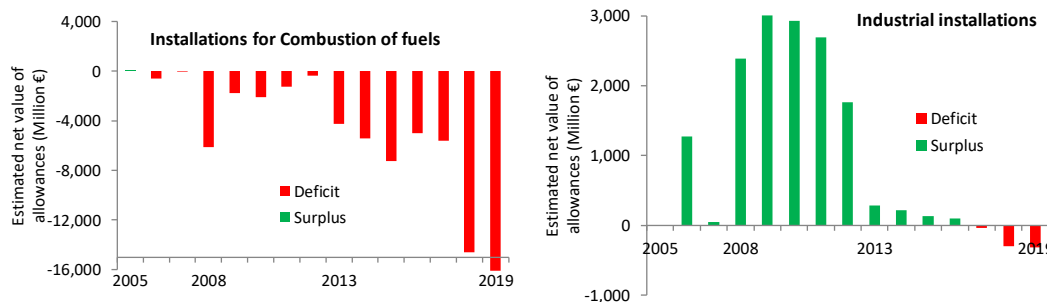
Use of auctioning revenues, 2013-2018



Source: European Commission, 2019

With regard to protecting industrial sectors at risk for carbon leakage, the data shows that industrial installations historically received more free allocation than their verified emissions. However, this trend has steadily been reversed over Phase 3. In 2018 and 2019 free allocation covered 96.8% and 97.5% of industrial emissions, respectively, down from 98.8% in 2017.

Net cost of allowances



Source: Wegener Center elaborations on EEA, 2020, and EUTL, 2020

Market Functioning

Each year, we track eight KPIs to evaluate the functioning of the market.

Overall, the market had a relatively calm year, at least if 2018 is used as a baseline. Most of the KPIs moved in a negative direction, but that is not a cause for concern, as 2018 was exceptionally active year, as new financial players entered the market and old ones ramped up activity.

Market Functioning Tracker

Indicator	2018/2017	2019/2018
Volumes	Improving	Stable
Open interest	Improving	Worsening
Auction participation	Improving	Worsening
Auction coverage	Improving	Worsening
Auction versus spot spread	Worsening	Stable
Ask-bid spread	Worsening	Improving
Cost of carry	Improving	Worsening
Volatility	Worsening	Improving

Legend	
Improving	Stable
Worsening	

1 Background

Like all initiatives, the EU Emission Trading System (EU ETS) requires, periodically, an assessment regarding its well-functioning and the delivery of its objectives. Article 10(5) of the EU ETS Directive provides for such a yearly assessment, to be carried out by the European Commission (Commission).

This “State of the EU ETS” Report is an independent effort which is not intended to duplicate or replace mandated work. It focuses on identifying issues and making assessments of the performance of the EU ETS.

This report is intended as a “**snapshot**”, providing policymakers and stakeholders with an overview of how the EU ETS is doing by April of each year, based on previous year data. Within the constraints posed by the lack of publicly accessible data, the Report tries to assess the question whether the EU ETS is “fit for purpose”.

Every year we beat back the temptation of providing solutions and making forecasts. Given the enormity and “never happened before” type and level of crisis that has been triggered, we feel compelled to allow ourselves to slightly deviate this year.

As background, following the completion of the review for Phase 4 of the EU ETS in early 2018¹ many stakeholders made the assumption that the EU ETS was “fit for purpose” until 2030. Instead, much has happened over the last two years: the Commission published its communication, “A clean planet for all”² and the EU election resulted in an increase in the number of green MEPs and in overall green sentiment.

This led to the publishing of the European Green Deal (EGD) and the endorsement of the climate neutrality objective by the European Council³ in late 2019. Today, we are at the dawn of a new review process, not only for the EU ETS, but for all climate and energy policies.

While the EGD pretty much “snowed us under” with climate and energy related work, it looks almost easy compared to where we are now, given the situation we have to face. The COVID-19 induced crisis has two significant components that need to be taken into account, and both are by no means marginal.

One is the policy debate that is mandated by the proposals put forward by the Commission and which needs to take place when faced with potentially historical decisions. These decisions may change life and EU society as we know it. The process for such a debate, under current conditions, needs to be re-thought and adapted.

The second point is the uncertainty that we are facing – both in terms of the current economic crisis as well as what comes next. With an economy in tatters in the EU, and a society in deep shock, there will be important decisions in prioritizing attention and resources. The EGD and the EU ETS will not be immune and will compete for attention and resources.

Which makes the undertaking at hand, this review entitled the “2020 State of the EU ETS”, so much more difficult.

¹ Directive (EU) 2018/410. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L0410&from=EN>

² European Commission (2019). <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0773&from=en>

³ European Council (2019). <https://www.consilium.europa.eu/media/41768/12-euco-final-conclusions-en.pdf>

Finally, we have to still flag, maybe especially in this current crisis which illustrates how interconnected the world is, that while the EU ETS is a complex instrument, and for some a world in itself, it does not exist in a vacuum. For all its faults, the EU ETS should not be compared to an ideal world, but to real options that would be available to address climate change.

It must be remembered that the EU ETS operates in a highly interconnected environment and is affected by climate change and other policies at different levels: global, EU, EU Member State, and sub-national jurisdictions. It has to live with that reality and respond to it.

2 An EU ETS “fit for purpose”

In order to assess whether the EU ETS is “fit for purpose”, we first need to identify the parameters which measure its success. Simply put, “what do we expect the EU ETS to deliver?” Ideally there would be Key Performance Indicators (KPIs) which will give clarity on the performance of the EU ETS in identified areas.

In reality, there are not always clear quantitative indicators for what the EU ETS may be expected to deliver. In some cases, objective, quantitative indicators have emerged gradually, as experience is gained with these mechanisms, both in the EU, but also around the world. Also, experience from other markets may also provide benchmarks. Nevertheless, some of the assessments will have a level of subjectivity and judgement (sometimes political) attached to them.

In this context, we need to remind ourselves that Article 1 of the EU ETS Directive⁴ outlines its broad objectives:

“This Directive establishes a scheme for greenhouse gas emission allowance trading within the Community 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.”

Some objectives are clearly enunciated and identified, while some stakeholders may see other objectives as implicit. The direct deliverables assessed by this report include:

1. **Environmental delivery.** Does it deliver against absolute environmental targets as expressed in the EU ETS Directive and the EU’s long-term climate change objectives?
2. **Economic efficiency.** Does it deliver macro-economic efficiency and function as a driver for cost-effective decarbonization, taking carbon leakage concerns into account?
3. **Market functioning.** It is worth having a market only if it functions well and leads to good price discovery.

Over time, other deliverables or indicators have come to be “expected” or “understood”. Some have come to equate the good functioning of the EU ETS, wrongfully in our view, with the delivery of a “right price” which could incentivize certain technologies or approaches. This report will not judge the success or failure of the EU ETS based on price levels.

⁴ Directive (EU) 2003/87/EC. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02003L0087-20180408&qid=1587648079332&from=EN>

Long-term competitiveness.

One indicator not explicitly mentioned is the expectation that the EU ETS will contribute to the long-term (competitive) advantage for Europe. This has become more explicit with the EGD, which was presented by the Commission as Europe's "New Growth Strategy", aimed at transforming the EU into a fair and prosperous society.⁵ The main issue is perceived to be the magnitude of upfront investments that need to be made in order to put Europe firmly on a new path of sustainable and inclusive growth, the source of these investments, and how to manage the transition.

Many stakeholders expect that the EU ETS will play a key role in this new growth strategy, and will help accelerate the transition to a low-carbon economy by:

- Incentivize investments to accelerate the transition;
- Address the socio-economic impacts associated with the transition to a low-GHG economy through revenue-recycling;
- Contribute to the creation of a market for low-carbon products;
- Incentivizing behavioral and system change.

The first two objectives can be considered as being more "explicit", as they are clearly captured in the EU ETS Directive by the legislators. For example, through the requirement for Member States to use at least 50% of the revenues generated from the auctioning of allowances for climate and energy purposes, as well as through the establishment of dedicated funds, such as the Innovation and Modernization Funds, the EU ETS explicitly facilitates investments in low-carbon technologies and helps address socio-economic impacts and facilitate a "Just Transition".

For these two objectives, the inputs are clear and KPIs can be developed, e.g. in terms of the amount of investment leveraged; new jobs created; retraining of workers, etc.

The third and fourth objectives could be considered as being less "mature" in the policy debate and KPIs more difficult to develop.

One indicator to watch is the fact that consumption-related emissions in the EU are decreasing more slowly than production emissions. A recent study by the Bank of Finland⁶ shows that CO₂ production emissions dropped by 20% in the period 2000-2014 vs. a 15% drop on the consumption side. Consequently, imported emissions, at 37%, make up an increasingly larger share of the total CO₂ emissions in the EU, up from 27% over the same period. In absolute terms, imported CO₂ emissions increased by 15% since 2000, although they have been slowly decreasing since 2005.

This may be an indicator pointing that the uptake in low carbon products is slow, and something is urgently needed if we are genuine about the EU contribution to the Paris Agreement goals.

Promote carbon pricing.

One additional role is that of the EU ETS as a pioneer in promoting carbon markets as a tool for addressing climate change. Many studies, including the Annual ICAP Status Report⁷ and the annual

⁵ European Commission (2019). The European Green Deal. https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf

⁶ Heli Simola (2020). CO₂ emissions embodied in EU-China trade and carbon border tax. *Bank of Finland, BOFIT*. <https://helda.helsinki.fi/bof/bitstream/handle/123456789/16561/bpb0420.pdf?sequence=1&isAllowed=y>

⁷ ICAP. (2020). Emissions Trading Worldwide: Status Report. <https://icapcarbonaction.com/en/icap-status-report-2020>

State and Trends of Carbon Pricing report from the World Bank⁸, show that carbon pricing is spreading across the world. The internationalization of the EU ETS, including through linking it to other markets, as well as the use of Article 6 of the Paris Agreement for offsets, needs to be considered as part of the vision during the transition period.

It is increasingly clear that the EU is using multiple approaches to promote the use of carbon markets around the world. Firstly, through “leading by example” and persuasive diplomacy, other jurisdictions take inspiration from the EU ETS in designing their own policy responses to climate change.

Secondly, the EU is able to leverage climate ambition or the use of carbon markets as a condition in free trade agreements or its accession process. This, alongside other reasons, has led to countries like Montenegro and North Macedonia recently announcing their intention to put a price on carbon.⁹

Lastly, the EU can use a “stick” approach to convince other countries to adopt more ambitious climate policies and/or carbon pricing mechanisms. The announcement of the exploration of the use of a carbon border adjustment mechanism (CBAM), is a move in this direction.

KPIs for these objectives will be increasingly important, and will be incorporated in future editions of the “State of the EU ETS report”.

3 Impact of COVID-19 on the EU ETS

While this Report is meant to be a snapshot of the EU ETS performance in 2019, a discussion of the impact that the response to COVID-19 will have on the EU ETS has to be part of any logical discussion on the “State of the EU ETS”. It has to be a truism that COVID-19 impacted the state of the EU ETS. The implications of the response to the health crisis should be seen in terms of short term as well as more strategic.

From an economic standpoint, the International Monetary Fund (IMF) recently updated its global GDP growth expectations downwards to an expected contraction of 3%.¹⁰ Many European countries are likely to be harder hit, experiencing negative growth rates between 5% and 9%.

Moreover, it seems increasingly unlikely that the economic recovery will be “v-shaped”, similar to what happened in 2009. In China, where the epidemic peak seems to have passed, economic recovery seems to be slow so far.¹¹ In Europe and the USA, at this time, it seems that a return to normal life might not happen soon.

The decline in economic activity will be accompanied by significantly lower CO₂ emissions in 2020. Recent analyses estimate that global CO₂ emissions will fall by unprecedented levels: CarbonBrief estimates a decline of about 2000 MtCO₂¹², while the Global Carbon Project expects a drop of 2500

⁸ World Bank. (2019). State and Trends of Carbon Pricing 2019. <http://documents.worldbank.org/curated/en/191801559846379845/pdf/State-and-Trends-of-Carbon-Pricing-2019.pdf>

⁹ S. Morgan. (2020, February 24). EU hopefuls up climate game in Western Balkans. *Euractiv*. <https://www.euractiv.com/section/climate-environment/news/eu-hopefuls-up-climate-game-in-western-balkans/>

¹⁰ IMF. (2020). World Economic Outlook. <https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-april-2020>

¹¹ C. de Perthuis. (2020). How COVID-19 is changing the outlook for climate action. *Chaire Economy du Climat*. <https://www.chaireeconomieduclimat.org/wp-content/uploads/2020/04/ID-63-EN.pdf>

¹² S. Evans. (2020, April 4). Analysis: Coronavirus set to cause largest ever annual fall in CO₂ emissions. *CarbonBrief*. <https://www.carbonbrief.org/analysis-coronavirus-set-to-cause-largest-ever-annual-fall-in-co2-emissions>

MtCO₂, equivalent to 5.5% – 6.8% of 2019 emissions. In a recent study, Christian de Perthuis estimates that in a “long containment scenario”, global emissions could decline by as much as 5000 MtCO₂ in 2020.¹³ For Europe, the study sees emissions declining in this scenario by 1000 MtCO₂, or about 25% of 2019 emissions.

It remains to be seen how accurate these estimates will be, given the high uncertainty over the path and duration of the health crisis, as well as over the measures taken by governments.

Short- to medium-term outlook for the EU and the EU ETS

EU energy demand in the last week of March decreased by 27% compared to the first week of February (compared to a -4.4% decrease for the same period in 2018).¹⁴ Compared to a “business-as-usual” scenario, BloombergNEF estimates power demand in the first week of April to be down by -28% in Italy, -20% in Spain, -14% in Great Britain and -4% in Germany.¹⁵

Oil, gas and EUA prices all dropped substantially in March. While EUA prices initially held up well, they dropped by almost 40% between March 10 and 18, to €15 per ton.¹⁶ Since then, the EUA price has increased to just over €20, holding there throughout most of April.

Airlines are amongst those most severely hit by the travel bans and confinement measures. Eurocontrol data shows that weekly air traffic has been 85-90% lower so far in April this year compared to 2019.¹⁷

The implications these impacts will have on the emissions covered by the EU ETS will be explored in chapter 6, while the potential impact on EUA price levels is discussed in chapter 8.

Other important considerations also need to be highlighted. Questions such as “what should be expected from the MSR?” need to be answered. The gut reaction of many will be – “keep prices high”.

What is clear, is that the MSR is being put to its first real test. While it was thought that a repeat of the 2008/2009 crisis was highly unlikely, the reality is that the current situation may be worse, and without any precedents to fall back on. We should expect prices to be lower as a market should react to lower demand.

The real test of the MSR is how it will deal with the surplus from the decreased demand as a result of economies being shut down. Will the MRS be able to absorb the surplus resulting from the lower demand due to the economic crisis in a ‘reasonable amount of time’?¹⁸

Due to the time lag, any change to the MSR intake rate will only be noticeable from September 2021, as the total number of allowances in circulation (TNAC) for 2020, reflecting the impact on emissions we are currently witnessing, will only be published by May 2021.

¹³ C. de Perthuis. (2020). How COVID-19 is changing the outlook for climate action. *Chaire Economie du Climat*. <https://www.chaireeconomieduclimat.org/wp-content/uploads/2020/04/ID-63-EN.pdf>

¹⁴ EnAppSys. (2020). European Electricity Fuel Mix Summary.

¹⁵ D. Marquina, V. Viskovic, A. Borisova, & T. Rowlands-Rees. (2020). Covid-19 Indicators: EU Power and Gas. *BloombergNEF*

¹⁶ Closing future price, ICE

¹⁷ <https://www.eurocontrol.int/>

¹⁸ A. Marcu, J-Y. Caneill, & F. Cecchetti. (2019). Preparing the review of the Market Stability Reserve. *ERCST*. <https://ercst.org/publication-review-of-the-msr/>

This underlines that the MSR is not designed to counteract any demand shocks, and price shocks, in the short term, but to absorb the built-up surplus of allowances out of the market in the future. Whether or not the current intake rate of the MSR will suffice to do this in a “reasonable amount of time” will, again, depend on the extent of the crisis that lies ahead of us.

Secondly, the current economic downturn will affect the amount of free allocation received by an installation during the second allocation period (2026-2030). This amount is based on the “historical activity level” (HAL) of an installation multiplied with a product benchmark. For 2026 onwards, the HAL will be calculated on the basis of the activity levels of 2019-2023. Hence, the current drop in activity levels in 2020 due to the containment measures could result in lower amounts of free allocation given to installations.

Industrial players are already arguing in favor of dropping 2020 from of the calculation.¹⁹ Another option would be to base free allocation on the actual activity level of an installation instead, an approach that is also being considered by the legislators to determine the amount of compensation that can be given to installations for their indirect costs.²⁰

A similar debate has also emerged with regard to the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), the market-based measure put in place by the International Civil Aviation Organization (ICAO), where 2020 is one of the two years used to determine the basis for “carbon neutral growth” for international aviation from 2021 onwards.²¹

Long-term outlook for the EU and the EU ETS

Looking further ahead, how the crisis will impact the EU ETS, and more broadly the transition towards climate neutrality in the EU, this will largely depend on how the economic stimulus currently under preparation by the governments and central banks will be developed and used. Indeed, the decisions that will be made in the coming months and years by European policymakers could either accelerate the transition, or slow it down considerably.

In an open statement, climate and environment ministers from 17 EU Member States have called upon the Commission to use the EGD as a framework for the EU’s recovery plan.²² MEP Pascal Canfin launched an “alliance for green recovery”, bringing together close to 200 MEPs, CEOs, associations and NGOs united by this goal.²³

At the same time, others have called for delays of the implementation of the EGD, and some even for the abandonment of current climate policy, including the EU ETS.²⁴

¹⁹ A. Gumbau. (2020, April 9). ANALYSIS: EU industry seeks to safeguard flow of free carbon units as virus impact skews. *Carbon Pulse*. <https://carbon-pulse.com/96538/>

²⁰ see chapter 7 for more information on indirect costs compensation

²¹ see chapter 4 for more information on ICAO’s market-based mechanism, CORSIA

²² Climate Home News. (2020, April 9). European Green Deal must be central to a resilient recovery after Covid-19. <https://www.climatechangenews.com/2020/04/09/european-green-deal-must-central-resilient-recovery-covid-19/>

²³ <https://drive.google.com/file/d/1j54QxE-QjhrEHjGb5LrKsHuDAKvv8LUq/view>

²⁴ Euractiv. (2020, March 17). EU should scrap emissions trading scheme, Polish official says. <https://www.euractiv.com/section/emissions-trading-scheme/news/eu-should-scrap-emissions-trading-scheme-polish-official-says/>

What is clear, is that the debate is not over yet, and there are indications that the Commission is indeed considering delaying some of the initiatives which are part of the EGD.

These important decisions will need to balance the climate ambitions of the EU against the economic realities of the brutal economic shock that the world is experiencing, and how other Parties to the Paris Agreement will react. We are already seeing major economic powers, including Australia, Japan, New Zealand and Russia, keeping their Nationally Determined Contribution (NDC) at current levels ahead of the 2020 mandated update provided by the Paris Agreement.

4 Changes in the regulatory environment

European Parliament elections, Green Deal and Climate law

The European Parliamentary elections took place in May 2019 and saw an increase in the number of green leaning MEPs in the European Parliament.²⁵ This election result has ensued in a *change in political sentiment*, with a Commission which is “greener”, and the European Council that has, largely, backed the carbon neutrality by 2050 objective.

The first green stone of the new EU Commission has been the communication of the EGD issued on December 11th. The objective of climate neutrality was then endorsed by the European Council in its December 2019 conclusions. With an enhanced climate ambition, the EU ETS will be greatly impacted by this new strategy. The EU ETS directive will be revisited in 2021.²⁶

2020 will be a test year for the EGD with the quest for strong support from Member States. Although the legislative process in the European Parliament and the Council of the European Union is still ongoing, the European Parliament agreed to the EGD’s objective of achieving climate neutrality by 2050 in its January 2020 resolution.²⁷

As a first pillar, the Climate Law to ensure a climate neutral European Union by 2050 was presented by the Commission on 4th March 2020, and is currently open for a public consultation until 1st May 2020. Reaching an agreement on the Climate Law (including an expected amendment for a new 2030 target) will then pave the way for the Commission to propose changes to more specific laws, such as the EU ETS Directive.

However, in this new COVID-19 situation, the EGD is unlikely to be an exception to revisiting the priorities for the EU, both in terms of resources and attention. The health crisis is likely to have a significant impact on the implementation of the Commission's work program for 2020 and some elements of the EGD may need to be granted additional time.

²⁵ 2019 European Parliament election results: <https://www.europarl.europa.eu/election-results-2019/en>

²⁶ chapter 9 is dedicated to the analysis of the EU green deal implications on the EU ETS

²⁷ European Parliament, Resolution of 15 January 2020 on the European Green Deal (2019/2956(RSP)): https://www.europarl.europa.eu/doceo/document/TA-9-2020-0005_EN.html

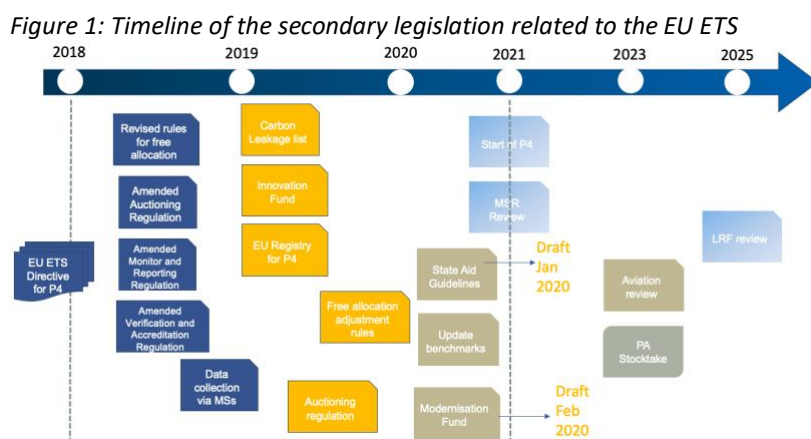
Secondary legislation related to the EU ETS

Started in 2018, work on the secondary legislation to implement the provisions in Phase 4 of the EU ETS has continued in 2019. Five important pieces of legislation were adopted in 2019, which can be seen in Figure 1.

The first measures completed in 2019, included the establishment of the Innovation Fund and the new Carbon Leakage List for Phase 4. For the latter, the list of eligible sectors was reduced from 165 to 63. However, this translates in a reduction of only 4% in the share of emissions covered by free allocation (an estimated 94% of industrial emissions are still covered, down from 98% currently)²⁸.

Other measures finalized in 2019 include the revision of the Free Allocation Adjustment rules for 2021-2030, ensuring a closer link between changes in production levels and free allocation, which will improve the ability of the ETS to respond to changes in activity levels compared to Phase 3.

The Auctioning Regulation amendment for phase 4 of the EU ETS was also adopted, and provides for the use of the common auction platform to monetize the allowances from ETS related Funds, a template for voluntary allowances cancellation, and the alignment with the financial market legislation and market oversight regime (MiFID2).



Source: ERCST, 2020

The remaining implementing rules are envisaged to be adopted before the start of the new trading period in January 2021.

Brexit

One political development that has had, and will continue to have, consequences for the EU ETS is Brexit. The UK is the second-largest emitter in Europe, and British companies are among the largest buyers of EUAs. The EU and the UK have found an agreement on their future political relationship in January 2020²⁹, which also provides a clarification on a transition period until the end of 2020. New rules will take effect on 1st January 2021.

²⁸ European Commission. (2019). Implementing regulation revising the rules for free allocation in the EU Emissions Trading System. https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-1523713_en.

²⁹ EU and UK withdrawal agreement: <https://www.consilium.europa.eu/en/press/press-releases/2020/01/30/brexit-council-adopts-decision-to-conclude-the-withdrawal-agreement/>

The decision was that during the transition period from 1st February 2020 to 1st January 2021 the UK would remain a full participant in the EU ETS and compliance obligations apply for 2019 and 2020 emissions.

2020 will also be the year to design a future UK carbon pricing scheme. Four options are on the table: a carbon tax, stand-alone UK emission-trading scheme, UK scheme linked to the EU ETS; and staying in the EU ETS least through Phase 4 (2021-30). The UK government seems to support the option of a linked UK-ETS.

Market Stability Reserve implementation

2019 was the first year of operation of the Market Stability Reserve which aims to provide a long-term solution to what was referred to structural imbalance and initial design issues. The MSR provides flexibility on the supply side of the EU ETS, by adjusting the supply of allowances to be auctioned, as a function of the market surplus.

In the context of the revision of the EU ETS, two important changes were made to the MSR: the percentage of allowances to be placed in the reserve from 2019 to 2023 has been doubled from 12% to 24% in order to increase the pace of reducing the surplus; from 2023 on, allowances held in the MSR exceeding the previous year's auction volume will no longer be valid.

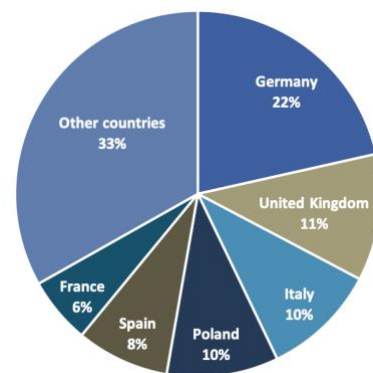
In May 2019, the TNAC was published for the third time and resulted in a reduction in auction volumes in 2019 by almost 397 million allowances, corresponding to 24% of the surplus. Auction volumes in 2020 will also be reduced in a corresponding manner.³⁰

The MSR has a first review scheduled 2021, and several analyses demonstrate that the MSR will not be able to cope with the surplus that will be generated by new events such as ambitious RES and EE targets, the German coal phase out, or other kind of CO₂ abatements.³¹ Bringing the TNAC within range of the MSR thresholds in case of new events would require review to the MSR parameters in 2021 and current sentiment is that MSR parameters will need to change.³² This does not even take into account the impact of the economic downturn as a result of the COVID-19 crisis.

National Energy and Climate Plans and changes in Member States' ambition

The Governance regulation of the Energy Union adopted in 2018 aims at helping the EU meet its climate and energy policy goals until 2030, and beyond. Chapter 2 of the Governance Regulation requires Member States to submit National Energy and Climate Plans (NECPs) for the period 2021-

Figure 2: Member State contributions to the Market Stability Reserve in 2019



Source : EU Commission, 2019

³⁰ The volume of EUAs to be added to the MSR for the period 1 January - 31 August 2020 was determined by the 2019 publication of the TNAC and amounts to nearly 265 million allowances. The remaining volume to be added to the MSR in 2020 will be determined by the 2020 publication of the TNAC.

³¹ A. Marcu. et al. (2019). 2019 State of the EU ETS Report. <https://ercst.org/wp-content/uploads/2019/05/2019-State-of-the-EU-ETS-Report.pdf>

³² See chapter 5 – Market Sentiment Survey

2030.³³ Draft versions of the NECPs were to be submitted by the end of 2018, and Member States had to submit their final NECP by the end of 2019.

The national plans outline how Member States intend to address the five dimensions of the Energy Union. NECPs could have significant impacts on the EU ETS functioning if Member States take additional actions to reduce emissions in ETS sectors. Likewise, the RES and EE targets, especially the renewable target, will contribute to additional CO₂ reductions in EU ETS sectors. By April 2020, twenty-three Member States have submitted their final NECPs.³⁴

Moreover, in the framework of the Governance Regulation, Member States were also required to develop national, mid-century, long-term strategies by 1st January 2020. By April 2020, only fifteen Member States had submitted their national long-term strategies.³⁵

Without clarifications provided by those reports, the potential impact on EU ETS of those Member States who might take additional actions in sectors covered by the EU ETS remain unclear, and difficult to estimate.

Some of the measures in these plans may include coal phase-out policies with consequences for EUA demand. In 2019, twelve Member States have adopted legally binding phase-out plan. Among those countries, public attention is mainly focused on Germany, Europe's largest electricity producer from hard coal and lignite.

Also, several Member States announced in 2019 more ambitious national targets: Finland's new target is to be carbon neutral by 2035, Austria aims to become carbon neutral by 2040, whereas France voted to be carbon neutral by 2050. Without additional clarifications about the national policies that will be implemented to achieve those targets, potential impacts on the EU ETS remains unclear.

Aviation under the EU ETS and CORSIA

Aviation has been covered by the EU ETS since 2012, although it has its own allowances (EUAAAs) and a separate auctioning calendar, where only 15% of the historical aviation emissions³⁶ are auctioned in Phase 3.

While the initial Directive incorporated all flights within, from and to the European Economic Area (EEA), following a political storm from other countries, the EU decided to defer to ICAO which set up its own program, CORSIA. Therefore, since 2014, the scope of EU ETS has been limited to flights within the EEA.

³³ Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R1999&from=EN>

³⁴ Submitted final NECPs can be found here: https://ec.europa.eu/info/energy-climate-change-environment/overall-targets/national-energy-and-climate-plans-necps_en

³⁵ Submitted national long-term strategies can be found here: https://ec.europa.eu/info/energy-climate-change-environment/overall-targets/long-term-strategies_en

³⁶ Historical aviation emissions equal to 95% of the average emissions between 2004 and 2006.

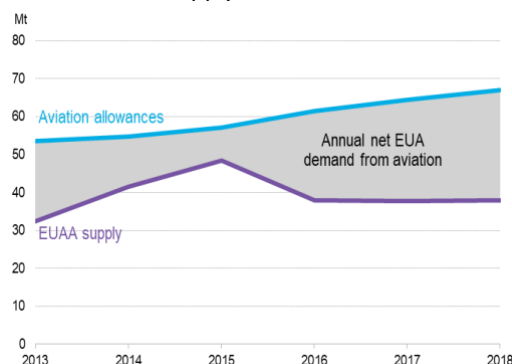
From 2013 to 2018, some 1,400 EU aircraft operators covered by the EU-ETS emitted 358 MtCO₂ and the sector was in a shortfall position of 122 MtCO₂.

Beyond 2020, in the EU ETS Phase 4, the level of constraint for the aviation sector will increase through a Linear Factor of Reduction of -2,2% and the Commission announced the intention to reduce the amount of free allowances for aviation over time.

The other measure impacting aviation, CORSIA, will cap aviation emissions at the average level of CO₂ emissions from international flights in 2019 and 2020, and establishes, from 2021 onwards, a global market-based mechanism (MBM) to offset, through international credits, CO₂ emissions exceeding that average.

How CORSIA is going to work alongside the EU-ETS remains to be clarified. Developments in CORSIA, especially its ambition and environmental integrity are currently being closely monitored by European institutions. The EU Commission is preparing a report, which will be released at the end of 2020, on how the two schemes could function together, and whether the CORSIA ambition is in line with the EU ambition.

Figure 3: Aviation sector in the EU ETS: CO₂ emissions and supply - 2013-2018



Source: BloombergNEF 2019.

International climate change policy

In September 2019, the UN Secretary General called the Climate Action Summit urging countries to present “concrete, realistic plans to enhance their nationally determined contributions by 2020, in line with reducing greenhouse gas emissions by 45% over the next decade, and to net zero emissions by 2050”. Currently, 123 countries have pledged to cut GHG emissions to zero by the year 2050, including Canada, Chile New Zealand, Mexico and South Korea.³⁷

In this context, in December 2019, COP 25 focused on the increase in ambition as well as on Article 6 (which deals with voluntary cooperation between Parties, notably through carbon markets), which is the last part of the Paris Agreement rulebook that remained to be resolved.

However, outcomes regarding increased ambition at COP 25 were very limited. Among major economies, no announcements of higher ambition were made.

The Article 6 rulebook was one of the long-awaited outputs, but negotiators failed to agree in the final hours of COP 25. There seems to be continued concerns, especially in the EU Parliament, regarding the use of international cooperation through market mechanisms and it is unclear if even a ‘super-stringent’ Article 6 would sway the EU to use international credits.

In the context of the measures put in place to address COVID-19, prospects to achieve an agreement on Article 6 are not on the horizon for 2020. COP26, which was set to take place in Glasgow in November, has been postponed until sometime in 2021.

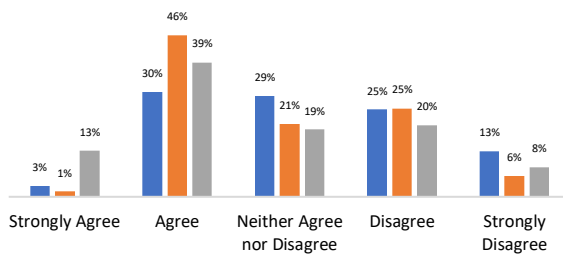
³⁷ For a full overview, including the legal status of these pledges, see: <https://eciu.net/netzerotracker>

5 Sentiment Market Survey

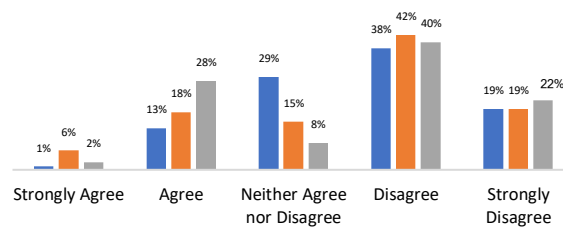
Historically market sentiment has played an important role, some may say, more so than fundamentals, in the behavior of the EU ETS. For the third year, the Report carried out a Market Sentiment Survey. A short survey was sent out to stakeholders whom the authors believe are “players & opinion makers” in the EU ETS. The sample³⁸ includes policymakers, industrial operators, traders, and civil society and is not intended to be statistically representative.

Figure 4: Sentiment Market Survey - Results

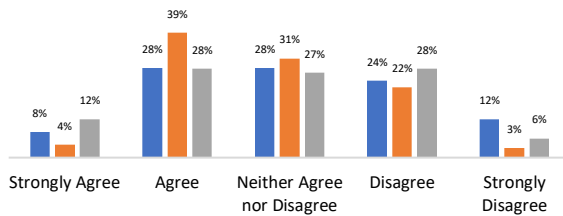
1. The EU ETS governance will provide a stable and predictable framework for an investment signal.



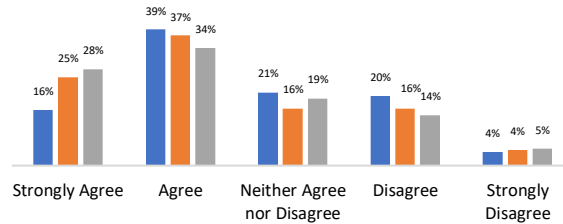
2. The EU ETS Phase 4 parameters will lead to price patterns in 2020-2030 which are commensurate with an investment trajectory necessary towards the 2050 climate target.



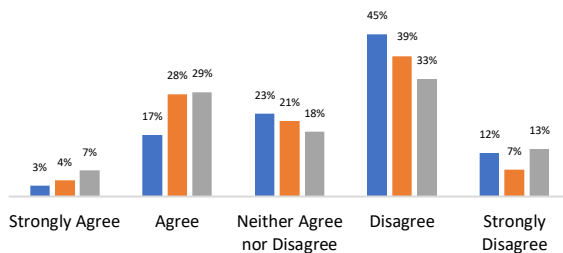
3. The EU ETS will provide a first mover advantage for the EU business community.



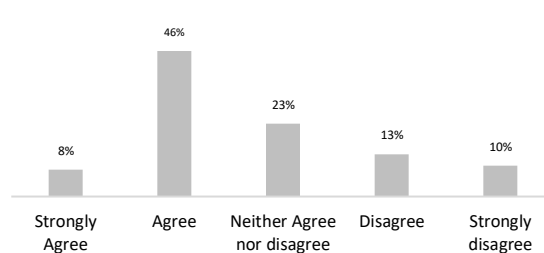
4. The EU ETS will require significant changes to the MSR after the 2021 review.



5. The mechanisms in place in the EU ETS are able to address the impact of Member State policies that overlap with the EU ETS.



6. The EU ETS can drive EU climate change policy post-2030



A first, general observation is that for many of the questions we see a slight polarization in responses.

³⁸ 197 – response rate of 42%

For the first time, a majority of respondents now think that the EU ETS governance will provide a stable and predictable framework for an investment signal. However, 64% of respondents believe that current price patterns are not commensurate with the 2050 climate neutrality goal.

Close to half of the respondents feel that the EU ETS is currently not equipped to deal with the effects of overlapping policies, and 62% thinks significant changes will have to be made to the MSR parameters during its review next year.

Finally, 54% of respondents believe that the EU ETS will be able to drive EU climate change policy post-2030. This is concerning as it may seem to point to some questioning of the long-term role of the EU ETS in decarbonizing the EU.

6 Environmental delivery

The EU ETS needs to be seen as an instrument of delivering price discovery for EUAs within the scarcity created by the cap on GHG emissions. The power of an ETS is in the cap. If the EU ETS is to be considered successful, the environmental delivery, or delivery against the cap, is key.

However, this delivery must be seen as being multi-faceted, in that it needs to be examined for delivery in the trading period, as set out by the Directive, as well as the achievement of the long-term climate change objectives to which the EU has subscribed. This latter condition is not explicitly expressed in the EU ETS Directive and can be seen as being a political decision in terms of the timing (milestones) of the effort to reach the long-term EU de-carbonisation goals. The long-term goal and milestones are also important given the goal of economic efficient decarbonization that the EU ETS is to deliver.

6.1 Delivery against the trading period target

In this case, the issue is straightforward: does the EU ETS deliver against its current trading period target for 2020 of -21% (vs 2005)? A longer-term view, but also a clear target, brings a second question: is it on-track to deliver against the agreed target for the next trading period, a reduction of 43% by 2030 (vs. 2005)?

The 2020 ETS target was already reached in 2014, and emissions have continued to decline since. The official numbers from the European Environment Agency (EEA) show that by the end of 2018, emissions from stationary installations had already decreased by 29% compared to 2005.³⁹ EEA official data is not yet available for 2019.

The preliminary data published on April 1, 2019 by DG Climate Action show that emissions from stationary sources decreased sharply in 2019, by 8.9%. This is the largest year-on-year decrease in emissions ever, aside of 2009, when industry was hit hard by the 2008/2009 financial crisis. What the drivers were behind this decrease in emissions will be further explored in chapter 7.

³⁹ <https://www.eea.europa.eu/data-and-maps/dashboards/emissions-trading-viewer-1>

COVID-19 and Phase 4 outlook

Previous iterations of this report had shown that we could expect verified emissions to also remain below the cap during Phase 4. However, given the current health and ensuing economic crisis, it is difficult to make assumptions for the future pathway of emissions.

According to the latest IMF World Economic Outlook the COVID-19 pandemic is expected to affect the global economy much worse than the 2008/2009 financial crisis. Current projections expect that 2020 will show the largest fall in CO₂ emissions ever recorded.

An initial impact assessment⁴⁰ of the impact on the EU ETS, based on initially available data, and assuming a relatively smooth economic recovery towards the end of 2020 for power demand (and by mid-2021 for industrial production), estimates that CO₂ emissions covered by the EU ETS could decline by about 390 MtCO₂ for the period 2020 and 2021 (combined).

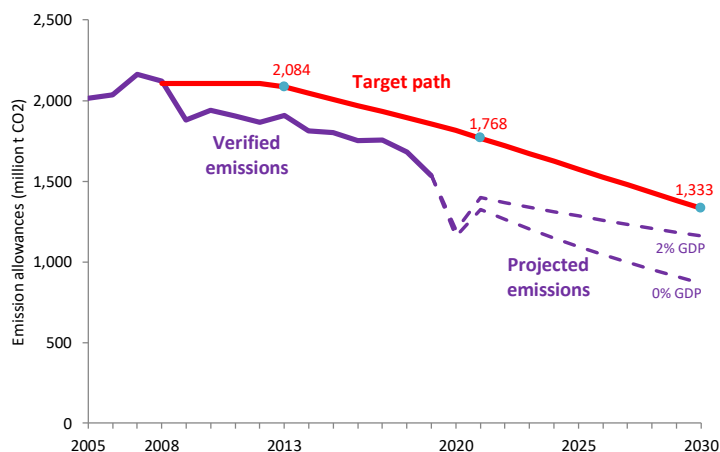
Figure 5 shows a projection for emissions to 2030, based on a COVID-19 scenario, and a statistical model projecting forward the historical dynamics between emissions and GDP.

In this scenario, we expect a 20 percent drop of emissions in 2020 and a 95 percent recovery towards the projected corridor based on annual GDP growth rates between zero and two percent.

Under these assumptions, emissions are expected to stay well below the current target path until 2030. The corridor of these emission projections based on GDP growth can even be considered conservative, as it only looks at the recent decoupling trend between GDP and emissions, and does not model further expected emission reductions delivered by climate and energy policies.

Moreover, the Commission is expected to come forward with a proposal to increase the 2030 target to 50% (maybe 55%), later this year, as part of the implementation of the EGD. The implications for the EU ETS are explored in-depth in chapter 8 of this Report.

Figure 5: Verified emissions, cap and projected emissions under a potential COVID-19 scenario.



Source: Wegener Center elaborations on EEA, 2020, and EUTL, 2020

⁴⁰ M. Ferdinand. (2020). European power and carbon markets affected by COVID-19 – an early impact assessment. ICIS. <https://www.icis.com/explore/resources/news/2020/03/27/10487371/european-power-and-carbon-markets-affected-by-covid-19-an-early-impact-assessment>

6.2 Emission and decarbonization trends

Absolute emissions

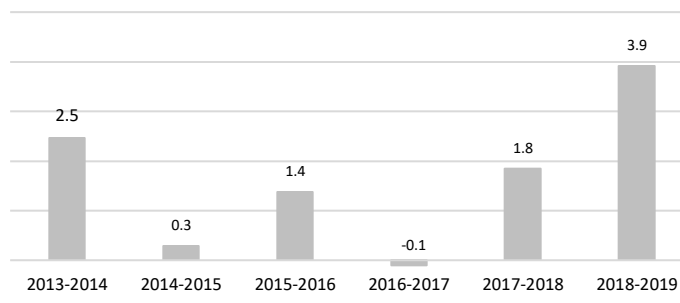
Total emissions have been declining, on average, by 62 Mt per year during Phase 3, considerably faster than the cap, which declines by 36 Mt per year. In 2019, emissions decreased almost four times faster than the cap (see Figure 6).

While emissions covered by the EU ETS are decreasing rapidly, there is a big difference in the contribution of different sectors, as can be seen in Figure 7 showing the evolution of absolute emissions over Phase 3.

During Phase 3, emissions from power installations have decreased on average by 5.6 % per year, emissions from industrial heat installations decreased on average by 2.5%, and industrial emissions have remained more or less flat, only decreasing by 0.4% on average. **In 2019, power emissions decreased by an estimated 13,9%, industrial heat by 5% and industrial emissions by 1,8%.**

Disaggregating the further for industrial emissions, Figure 8 shows an index of total verified emissions for some of the large emitting industrial sectors. It provides an indication for the variation between industrial sectors: emissions from the cement have risen by about 7% over Phase 3, while glass emissions rose by 2.8%; other sectors show emission reductions of 5% to 8% over the last 6 years.

Figure 6: Ratio of the annual variation in emissions to the annual variation in the cap



Source: ERCST elaborations on data from the EEA, 2020 and EUTL, 2020

Figure 7: Index of emissions

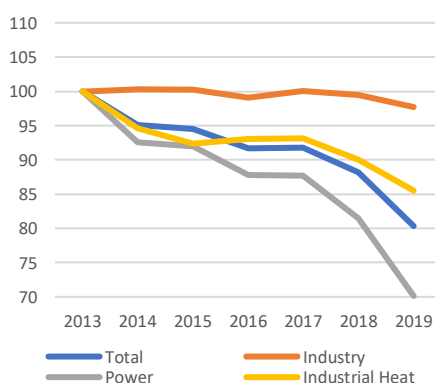
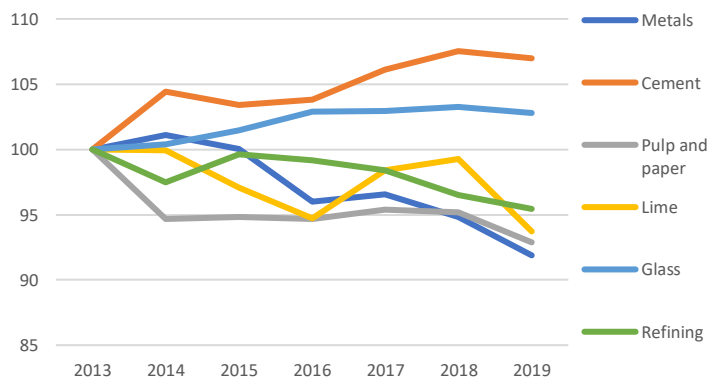


Figure 8: Index of emissions for selected industrial sectors



Source: BloombergNEF and ERCST elaborations on EUTL, 2020

Emission intensity

It is important to keep in mind that absolute emission reductions only tell part of the story. Indeed, emissions are closely linked to changes in activity levels, and decreasing emissions due to falling activity levels are not a desired outcome – the aim is to have a strong industrial Europe. Ideally, emissions and activity levels should increasingly become decoupled, meaning the EU economy is truly decarbonizing.

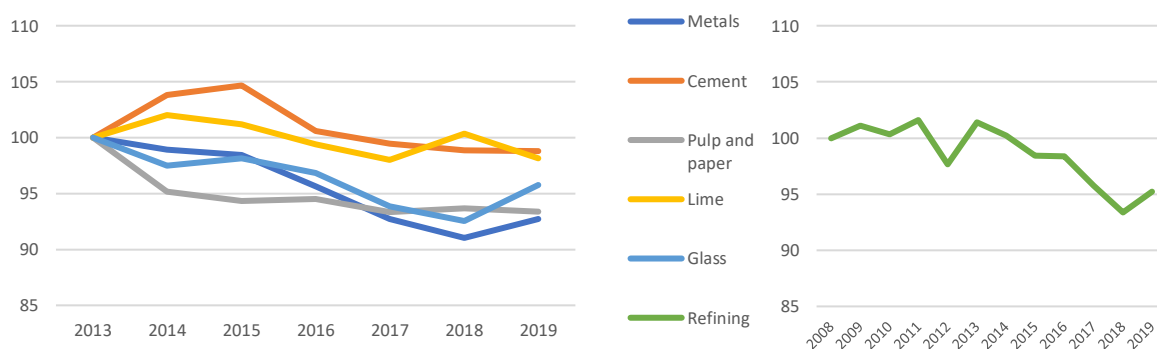
However, data showing carbon intensity of production is challenging to obtain, as it is not always publicly available for independent researchers – and when available, it is often at aggregated levels. In previous editions of this report, intensity data was shown for those (limited number of) sectors whose sectoral associations made it available.⁴¹

In an attempt to include more sectors in our analysis, we weighed verified emissions data by the “volume index of production”⁴², a dataset from Eurostat which is an important indicator for industrial production in Europe. In Figure 9, the resulting index is shown for the main industrial sectors, which can be interpreted as a proxy for how the CO₂ intensity of these sectors has evolved in recent years.

This index should be seen as an approximation, as the “volume index of production” dataset is a value-adjusted indicator and calculating the emissions intensity of industrial production is inherently more complex than presented here. It is in no way intended to replace the data provided by associations showed in previous editions of this report.

This data seems to indicate that the CO₂ intensity of sectors like glass, metals, refining, and paper & pulp are decreasing, contrary to others like cement and lime, for which the trend over Phase 3 remains largely flat.⁴³

Figure 9: Index of emissions for selected industrial sectors, weighed by “volume index of production”.



Source: BloombergNEF and ERCST elaborations on EUTL, 2020 and Eurostat, 2020

6.3 Delivery against EU long-term domestic environmental commitments

To what extent does the trading period target lead the EU to deliver on its longer-term goals and commitments? As discussed in previous editions of this Report, EU domestic climate change targets are expressed in a number of documents. The “2050 Roadmap” mentions a number of intermediate GHG reduction targets for the EU as a whole (40% by 2030, 60% by 2040, and 80%-95% by 2050 (vs. 1990)), and proposed a reduction of 90% for ETS sectors compared to 2005.⁴⁴

⁴¹ A. Marcu. et al. (2019). 2019 State of the EU ETS Report. <https://ercst.org/wp-content/uploads/2019/05/2019-State-of-the-EU-ETS-Report.pdf>

⁴² sts_inpr_a

⁴³ The refining sector is shown starting from 2008, to smoothen out for the years 2012-2013 which are considered to be “abnormal” and starting in this year would overestimate the intensity improvements made by the sector.

⁴⁴ European Commission (2011). <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0112:FIN:EN:PDF>

The more recent Commission communication entitled the “Clean Planet for All”⁴⁵, included two carbon neutrality scenarios - 1.5 LIFE and 1.5 TECH – respectively envisaging a reduction of 95% and 102% in EU ETS emissions by 2050, compared to 2005 levels.

With the publishing of the EGD, and the endorsement by the European Council and European Parliament of the climate neutrality goal, these documents are essentially outdated.

However, contrary to the “Clean planet for all” and “2050 Roadmap”, there is currently little indication of what contribution is exactly expected from the EU ETS post-2030. This question is further explored in chapter 9.

7 Economic delivery

The EU ETS has been presented, and is thought by many, to be the main driver of EU climate change policy. Its stated goal is to “*promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner*”. This creates the expectation that EUA prices will drive decarbonisation, which is considered to be the most economically efficient way. This chapter looks at whether the EU ETS delivers in this respect, and also discusses other areas where the EU ETS contributes to economic efficient decarbonisation, such as financing the transition through the use of auctioning revenues.

As part of the drive towards decarbonisation, one other indicator of the economic impact of the EU ETS is the total costs incurred by the installations covered by the ETS to meet the cap. These costs, both direct and indirect, are also an indicator of the risk of carbon leakage, as they can lead to a loss in competitiveness for covered sectors and installations, compared to operators in jurisdictions with less stringent or no carbon constraints. In this context, providing protection against the risk of carbon leakage is another area where the EU ETS must deliver. **Not avoiding carbon leakage will detract from the credibility of the EU achieving the crucial environmental goals.**

7.1 Is the EU ETS a driver for change?

Interaction with other policies

As previously discussed, emissions covered by the EU ETS decreased significantly over the last years. However, it is unclear to which extent this decrease, and a decrease in carbon intensity, were driven by the EU ETS, or by changes in levels of production and investment, or through incentives provided by other policies. If the EU ETS is not the driver, then we are off the most efficient path for decarbonization.

There are indeed other policies, some explicitly aimed at decreasing GHG emissions, others aimed at achieving other objectives, such as deploying renewable energy sources and increasing energy efficiency, which also lead to reductions in emissions from EU ETS sectors. An overview of EU-level policies that impact the functioning of the EU ETS is shown in Figure 10.

⁴⁵ European Commission (2019). https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf

National policies at Member State level may also have an impact on the functioning of the EU ETS. In recent years, the most prominent examples include national coal phase-out schemes which may have considerable impact on the functioning of the EU ETS due to the high share of emissions from coal-fired power installations.

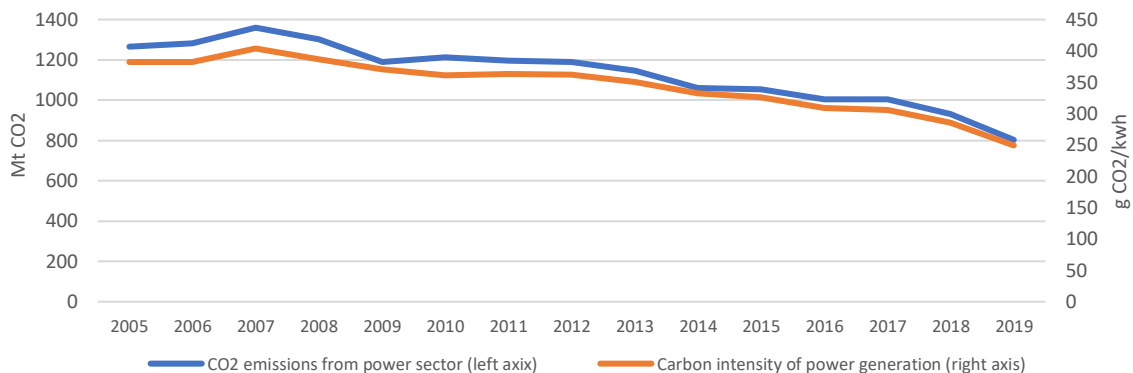
Given the complexity of what has been outlined, the impact of the EU ETS and of other policies on emissions reductions may be difficult to assess. In addition, not only other climate and energy policies need to be considered, but other factors as well, such as changes in economic activity.

This makes the attribution of emission reductions an exercise that is very complex and challenging.

Focus on the power sector

To better understand the role of the EU ETS in driving down emissions, a good example is provided by an analysis of the power sector (electricity generation only). Since 2005, CO₂ emissions from the power sector decreased by an estimated 36.6%. During the same period, the carbon intensity of power generation decreased by 35%.

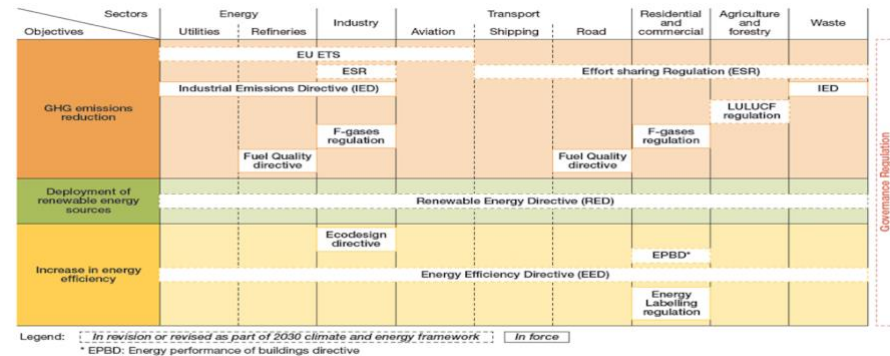
Figure 11: CO₂ emissions from the power sector and carbon intensity of power generation (2005-2019)



Source: ERCST and BloombergNEF, data from Eurostat, 2020 and EUTL, 2020.

A quantitative analysis by I4CE of the contribution of different drivers to the variation in emissions from the power sector⁴⁶ shows that the deployment of renewable energy sources was the most

Figure 10: Landscape of climate and energy policies



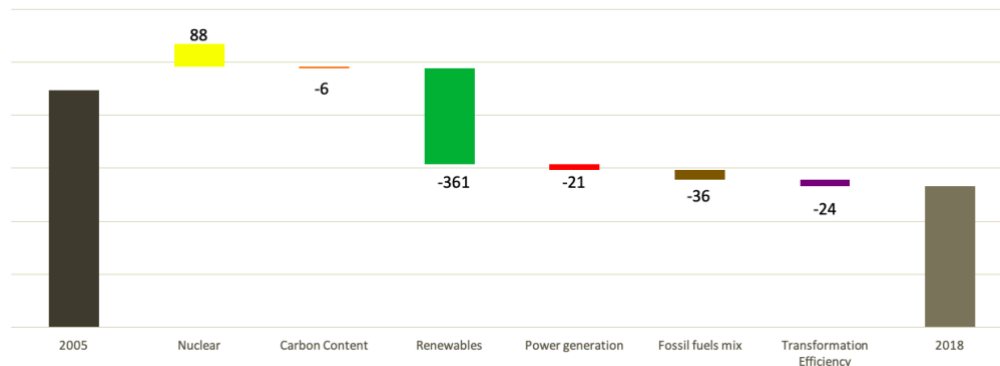
Source: I4CE and Enerdata, 2018, based on a visual concept of Ecologic

⁴⁶ This analysis is based on those installations whose “main activity is producer of electricity” only.

important driver in decreasing CO₂ emissions from the power sector over 2005-2018, equivalent to a decrease in CO₂ emissions of 361 MtCO₂.

Other factors that contributed to the overall decrease in emissions during this period include a decrease in total power generation (-21 MtCO₂); the evolution of the fossil fuels power mix (-36 MtCO₂), mainly a switch between coal and gas for power generation; the improvement of the average transformation efficiency of power plants (-24 MtCO₂), and the evolution of the carbon content of the different fossil fuels⁴⁷ (-6 MtCO₂). On the other hand, the decrease in the share of nuclear power contributed to increase emissions over the period (88 MtCO₂).

Figure 12: Drivers of GHG emissions variations in the power sectors in the EU (2005-2018)



Source: I4CE, data from Eurostat, 2020

While the EU ETS has played a role in the deployment of renewable energy sources, it is not sufficient on its own, and has historically not been the main driver, but one of the contributors. However, with EUA prices rising in recent years, and prices of renewables continuing to drop, the EU ETS is becoming an increasingly important factor.

EUA prices are often seen as a potentially effective trigger for a switch from carbon-intensive fuels to less carbon-intensive ones, as is the case for coal-to-gas switch. To better understand the role of the EU ETS in the coal-to-gas switch, Figure 13 shows the EUA price superimposed on a range of CO₂ switching prices⁴⁸ for different thermal efficiencies.

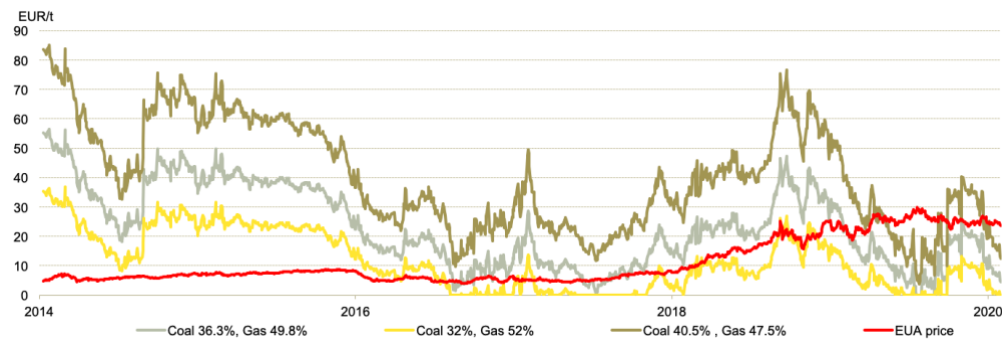
While the EUA price (red line) was only higher than the low-efficiency switching price before 2019, we can see that during 2019, it was also constantly above the medium-efficiency switching price, and for part of the year the EUA price was even higher than the high-efficiency switching price.

This indicates that fuel switching likely contributed heavily to the large emission reductions witnessed in 2019, and that the EUA price played an important role in this.

⁴⁷ This variable does not reflect a switch from one fuel to the other (i.e. a coal-to-gas switch), but the variation in the average carbon content of each fuel, for example due to variations in the quality of gas.

⁴⁸ The CO₂ switching price is the CO₂ price that would make equal the prices of producing electricity from gas and from coal power plants, which depends on the relative gas and coal prices, and on the efficiencies of power plants.

Figure 13: switching price for different thermal efficiencies, compared to the EUA price



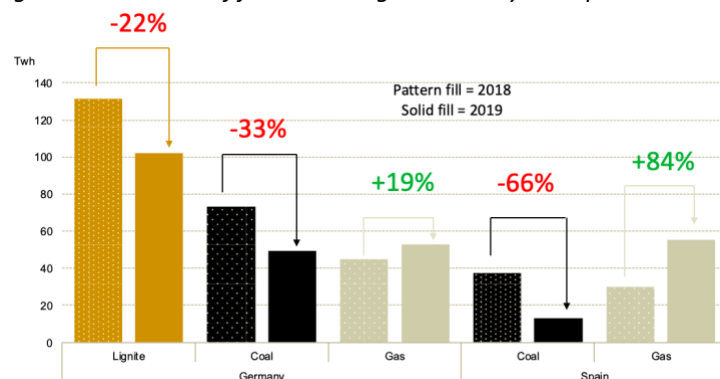
Source: BloombergLP, BloombergNEF

To illustrate this further, we looked at Germany and Spain in Figure 14. In both countries, power generation from coal dropped, and power generated by gas increased, substantially.

In the EU as a whole, power generated by coal dropped by 25% in 2019 compared to 2018, to 431Twh, while power generated by gas increased by 17.6% to 520Twh.⁴⁹ This provides further evidence of the magnitude of fuel switching that took place in 2019.

In conclusion, power sector emission covered by EU ETS have so far decreased by over 36.5% during Phase 3. Of course, it is hard to attribute this evolution solely to the EUA price – especially since renewables penetration can be attributed to other policies. Looking back at 2019, the unprecedented emission reductions we witnessed can be attributed to:

Figure 14: evidence of fuel-switching in Germany and Spain



Source: ISE Franhauser, REE

- a large amount of fuel switching due to higher carbon pricing combined with historically low gas prices;
- a continuation of renewable penetration in the EU power mix;
- good conditions for renewables, leading to significant increases in output from renewable sources beyond what can be attributed to the additional capacity of renewables installed;
- 2019 being a relatively warm year, leading to a decrease in overall power consumption.

It will be interesting to follow these trends in 2021 and observe if EUA prices will be able to continue supporting fuel switching – also taking into account that much of the fuel switch has already taken place.

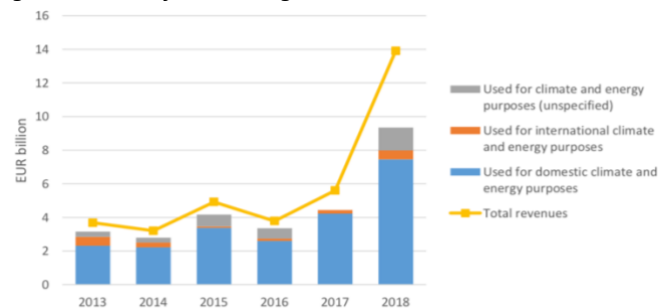
⁴⁹ EnAppSys. (2020). European Electricity Fuel Mix Summary.

Use of auctioning revenues

The EU ETS can also play a role in speeding up the transition to a low-carbon economy through the use of auctioning revenues, as Member States (Article 10 of the EU ETS Directive) are expected to use at least half of the revenues for climate and energy related purposes.

In 2019 the auctioning volume decreased substantially due to the start of the Market Stability Reserve (by 397 million EUAs), and the fact that the United Kingdom did not auction any allowances. Regardless, the increase in the volume-weighted price from €15.3 to €24.6 meant total auctioning revenues increased to €14.6 billion, from €14.2 billion in 2018.⁵⁰

Figure 15: use of auctioning revenues, 2013-2018



Source: European Commission, 2019

According to the Commission, over the period 2013-2018, close to 80% of auction revenues were spent for climate and energy purposes, mainly within the EU (see Figure 15). In 2018, the last year for which data is available, close to 70% of auction revenues were used for climate related purposes.

Why 2018 saw a relative drop compared to the average is difficult to detail. One possible explanation is that budgets are often decided upfront and capped to a certain level, meaning that an increase in auctioning revenues is not automatically (fully) reflected in an increase in spending. Moreover, many Member States do not earmark revenues to expenses, making this analysis very tedious. Whether this is a trend which continues in the future will have to be monitored.

7.2 Monetary impacts and carbon leakage

The monetary impact faced by industrial installations to meet EU ETS obligations can be seen as an indicator for the risk of carbon leakage. These monetary impacts are of three types:

1. Direct costs, which is the amount of allowances that needs to be bought on the market multiplied by the EUA price;
2. Indirect costs, which are the costs of compliance for energy generators that are passed through to their customers, which is especially relevant for energy intensive industries;
3. Administrative costs, which are largely considered to be relatively small, in the order of a few eurocents per ton of product.

Direct Costs

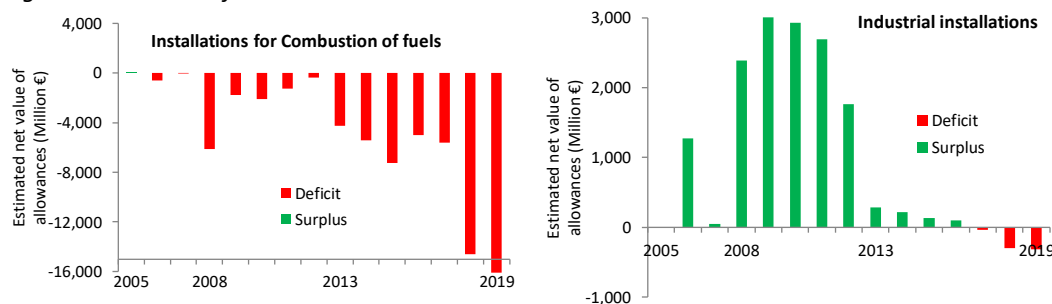
Free allocation is the instrument currently used to mitigate the risk of carbon leakage from direct costs. This could change in the future as the EU is exploring the option to introduce a Carbon Border

⁵⁰ ERCST elaborations on EEX. EUA Primary Market Auction Reports. <https://www.eex.com/en/market-data/environmental-markets/auction-market/european-emission-allowances-auction/european-emission-allowances-auction-download>

Adjustment Measure, which is seen as an *alternative* to free allocation (exact relationship between the two to be determined).⁵¹

Direct costs are the costs that an installation faces to comply under the EU ETS and is the difference between its verified emissions and free allocation multiplied by the EUA price. Figure 16 shows the estimate of the yearly direct costs for the combustion of fuels installations, largely represented by electricity generation, and industry sectors (as defined by EUTL activity codes).⁵²

Figure 16: net cost of allowances



Source: Wegener Center elaborations on EEA, 2020, and EUTL, 2020

This shows that the power sector has been short since 2006, while the industry as a whole historically did not face any costs and can be seen as largely having been protected from carbon leakage. However, the situation has changed significantly, and the year-to-year position of industrial sectors has been decreasing over phase 3 due to tightening benchmarks and the gradual phase-out of free allocation for industrial sectors not deemed at risk of carbon leakage. 2019 was the third year in which industry as a whole faced direct cost.⁵³

It is also important to highlight that the recent increase in costs is not only due to the increase in EUA prices, but also due to coverage. In 2018 and 2019 free allocation covered 96.8% and 97.5% of industrial emissions, respectively, down from 98.8% in 2017.

Data shows that the industrial sector as a whole received up to 624 million free allowances more than their verified emissions over Phase 2 and Phase 3. To give a more detailed picture of the position of some of the main industrial sectors, the net supply of free allowances (as a percentage of the verified emissions) and the resulting cumulated surplus (in million tons of CO₂) since 2008 was broken down by sector for steel, refineries and cement – the three biggest emitting activities, which together account for almost two thirds of industry emissions.

Figure 17 shows the cumulative surplus for these three sectors. Refining shows a negative cumulative surplus, having consistently experienced a shortage over Phase 3, effectively using up the net surpluses cumulated over Phase 2. The steel sector received considerable overallocation during Phase 2, a trend

⁵¹ In chapter 9, section 9.3, the potential CBAM is further discussed

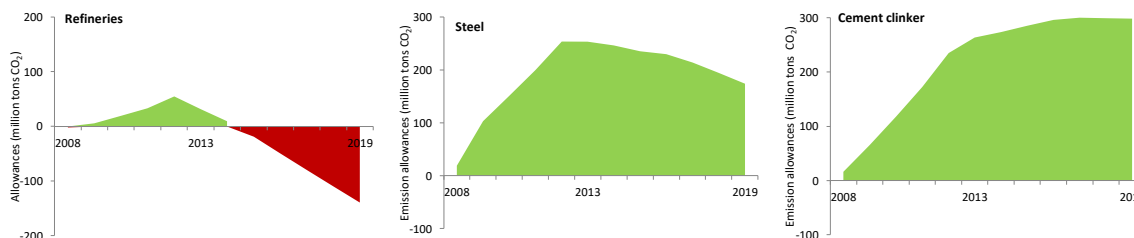
⁵² For the EUA price, ICE closing prices for December delivery of the same year were used.

⁵³ Note that this calculation is done at installation level based on EUTL activity codes. Electricity/heat is often generated on-site of industrial plants, but are classified to the “combustion sector” rather than the “industrial sector”. If it was possible to allocate the emissions (and free allocation surplus/deficit) from combustion installations to the various industry sectors as a whole, the picture would be different.

which also reversed during Phase 3. Interestingly, the cement sector saw its cumulative surplus decrease for the first time in 2018.

The picture for the other industrial sectors is similar: most of them cumulated big amounts of surplus over Phase 2, a trend which is slowly being reversed over Phase 3.

Figure 17: cumulative surplus of free allowances – Refining, Steel and Cement clinker



Source: Wegener Center elaborations on EEA, 2020 and EUTL, 2020

While many industrial installations have historically been over-allocated, it is important to note that they do not necessarily still “hold” these excess allowances in their accounts. For example, some have sold a large share of these allowances in the aftermath of the 2008/2009 financial crisis in order to survive.

In summary, the data suggests that direct costs were so far rather not significant or even negative for most industrial activities. However, it is clear that the trend of overallocation is being reversed for most sectors over Phase 3 and their positions are changing.

Indirect costs

Indirect costs are the other important aspect in assessing the economic impact of the EU ETS and the risk of carbon leakage. One thing that is clear is that some electricity intensive industries may experience high indirect costs, especially with EUA prices on the rise and expected electrification of industry.

Contrary to direct costs, there is no harmonized approach for compensation of indirect costs: only partial and regressive compensation is available at the discretion of Member States, and subject to state aid guidelines. Currently, Member States can compensate for up to 75% of the calculated indirect costs, down from 80% for the period 2016-2018, and 85% for 2013-2015.

Currently, twelve Member States have approved schemes for the compensation for indirect costs. Poland was the most recent scheme to be approved by the Commission in the summer of 2019, and will for the first time compensate for the costs incurred in 2019. In addition, political agreements have recently been reached in the Czech Republic and Italy to start compensating for indirect costs, and discussions are ongoing in Romania and Bulgaria. On the contrary, Finland has decided to not compensate indirect costs anymore during Phase 4.

Table 1: Indirect costs compensation and total EUA auction revenues – 2017 and 2018 shows the most recent data available on the amount of compensation given by Member States for costs incurred in 2017 and 2018. This is compared with the percentage of auction revenues as, according to the revised EU ETS Directive, Member States should seek to compensate for maximum 25% of their auctioning revenues.

Table 1: Indirect costs compensation and total EUA auction revenues – 2017 and 2018

Member State	Compensation paid for 2017 (€ million)	Auction revenues 2017 (€ million)	Percentage	Compensation paid for 2018 (€ million)	Auction revenues 2018 (€ million)	Percentage
Finland	26.75	95.26	28.08%	29.1	251.8	11.55%
Flanders	31.72	76.14	41.67%	35.94	201.26	17.86%
France	98.73	313.40	31.50%	102.08	829.56	12.31%
Germany	202.21	1,146.82	17.63%	218.5	2 581.65	8.46%
Greece	12.44	198.03	6.28%	16.76	523.53	3.20%
Lithuania	0.24	15.39	1.54%	0.26	80.37	0.32%
Netherlands	36.9	190.71	19.35%	**	504.21	**
Slovakia	10	87.06	11.49%	6	229.92	2.61%
Spain	66.64	493.55	13.50%	172.23	1 306.04	13.19%
UK	17.16	566.48	3.03%	**	1 626.80	**
Luxembourg	3.4	6.87	49.50%	4.5*	18.29	24.6%
Wallonia	7.5	68.17	11.00%	7.5	180.21	4.16%

*Note: For Luxembourg only a preliminary estimate is available at the time of writing

**Note: data for the UK and the Netherlands was not yet available at the time of writing.

Source: ERCST elaborations on Member States reports on indirect costs compensation, 2020

The table shows significant differences between Member States, which can be largely explained by the fact that auctioning revenues are based on the relative amount of emissions Member States had in the period 2005-2007, and are thus skewed towards those Member States that had an emission-intensive power sector. This can lead to big variations in the percentage of auction revenues used for indirect costs compensation, as the amount of compensation given is a function of how energy-intensive a Member States' industry is.

Overall, the amount of compensation given increased marginally for most Member States in 2018 compared to 2017⁵⁴, while the percentage of auctioning revenues used decreased considerably. This can be explained by the fact that the volume weighted average EUA price in 2018 was €15.3, while the EUA forward price for 2018, which is used to calculate the amount of eligible costs for compensation, was €5.9.

The large increase in the EUA price in 2018 explains this large drop in the percentage of auction revenues used for indirect costs compensation.

For the coming years, we can expect this percentage to increase again, as the EUA forward price will be closer to the actual EUA price and the total auction volume will decrease due to the functioning of the MSR.

For Phase 4, the state aid guidelines for indirect costs compensation are being revised, and the draft guidelines were published on 8 January 2020.⁵⁵ They include a number of changes and new provisions, including:

- Stricter eligibility criteria, resulting in fewer sectors being eligible for compensation;

⁵⁴ This is not true for all Member States. For example, Spain increased its budget for indirect costs compensation considerably last year, explaining the large increase in the absolute amount of compensation given. On the contrary, Wallonia has voluntarily capped the total amount of compensation to €7.5 million per year.

⁵⁵ https://ec.europa.eu/competition/consultations/2020_ets_stateaid_guidelines/draft_ets_guidelines_en.pdf

- The aid intensity factor will be made constant at 75% of the costs incurred, contrary to the digressive aid intensity factor used during Phase 3;
- The formula used to calculate the amount of costs eligible for compensation is to be made more “dynamic” by using actual output levels and, possibly, annual decreasing energy efficiency benchmarks;
- The possibility for Member States to grant additional aid for those sectors facing high indirect costs relative to their Gross Value Added (GVA);
- Conditionalities are being introduced for installations that receive compensation, e.g. carrying out energy efficiency improvements suggested through mandatory energy audits, or investing part of the compensation received towards direct emission reductions.

It is important to note that the draft guidelines can be seen as operationalizing a new concept, that of a “genuine risk of carbon leakage”, introduced in the Phase 4 review of the Directive. It operationalizes it by making the eligibility criteria more stringent than those set out in the EU ETS directive to assess the risk of carbon leakage for industrial sectors. This seems to indicate a move towards a “tiered” risk assessment of carbon leakage. If this development is intentional, it should be carefully fleshed out and clarified by the Commission as we approach the upcoming revision of the EU ETS directive in 2021.

Next to a tiered risk assessment, one could also interpret the possibility of granting additional aid for those sectors facing high indirect costs compared to their GVA also as a step into the direction of “tiered compensation” of costs. Again, if this is indeed the intention of the Commission, this should be fleshed out carefully, and spelled out.

8 Market functioning

8.1 Market functioning trackers

The EU ETS needs to deliver good price discovery in order to deliver efficient decarbonization, and with that, environmental and economic benefits. To do this, the market requires good market functioning which includes liquidity in the secondary market and active participation in auctions. It also needs to deliver transparency, access to relevant data and ease of access to the

Table 2: Market Functioning Tracker

Indicator	2018/2017	2019/2018
Volumes	Improving	Stable
Open interest	Improving	Worsening
Auction participation	Improving	Worsening
Auction coverage	Improving	Worsening
Auction versus spot spread	Worsening	Stable
Ask-bid spread	Worsening	Improving
Cost of carry	Improving	Worsening
Volatility	Worsening	Improving

Legend	
Improving	Stable
Worsening	

market. This report looks at eight KPIs to evaluate whether the EU ETS is functioning optimally, or if there is room for improvement. While the indicators are useful by themselves, it is crucial to put them into context with historical developments and market sentiment. This provides a true picture of how well the market is functioning, and if it is improving or getting worse in terms of economic delivery.

Overall, the market had a relatively calm year, at least if 2018 is used as a baseline. Most of the KPIs moved in a negative direction, but that is not a cause for concern, as 2018 was exceptionally active year, as new financial players entered the market and old ones ramped up activity.

Volumes

Traded volume is crucial when determining liquidity. A liquid market allows market participants to open and close positions (get in and out of the market) when they want, without unduly impacting the market, and allows them to be confident that the future is priced at its true value.

In 2019, there was a 6% year-on-year increase in total traded volume, but no quarter reached the volume seen in Q4 2018, which had extreme volatility, therefore presenting opportunities for traders. More futures contracts changed hands in the second half of the year than in the first, as financial players liquidated their positions due to Brexit uncertainties, and a general bearish sentiment in the market.

Overall, it is encouraging to see traded volume stay high. This is especially true as there was tepid activity from utilities due to a mild Q1 and high levels of fuel-switching reducing power sector emissions. This left many utilities over-hedged, reducing their need to enter the market for future hedges.

The real test will come in 2020, however, as supply and demand was expected to be reasonably balanced (before the covid-19 situation). Demand could cool in 2020 as lower emissions from both industrials and utilities impact market participants' buying needs. This is further exacerbated by even more fuel-switching than we saw in 2019.

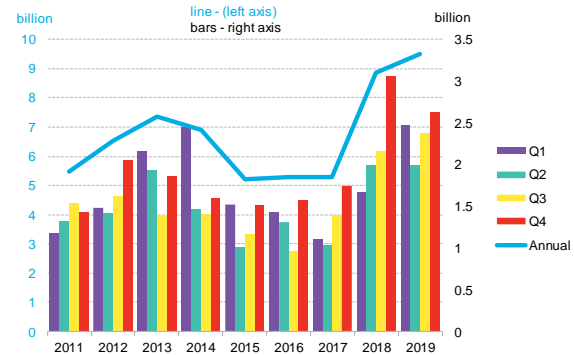
Open Interest

Open interest⁵⁶ denotes the total number of open contracts in a market, and is therefore another KPI that can be used to measure liquidity in the market. For EUA futures, it is often used as an indicator of utility activity, as they are the single largest actor in the market.

Open interest dropped significantly in 2019 despite traded volume going up. This is not yet a worry because 2018 was an exceptional year. As such, it should not have been a surprise to see open interest drop back to 2016-17 levels.

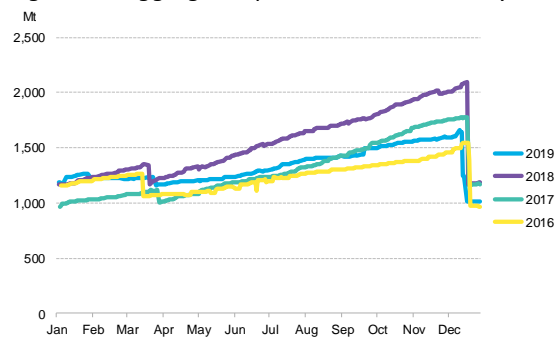
Lower open interest is consistent with the behaviour seen in the market in 2019. Mild weather in Q1, coal-to-gas fuel switching, and record levels of renewable generation drove emissions from the

Figure 18: traded EUA volumes



Source: ICE, EEX, BloombergNEF

Figure 19: aggregate open interest seasonality



Source: ICE, EEX, BloombergNEF

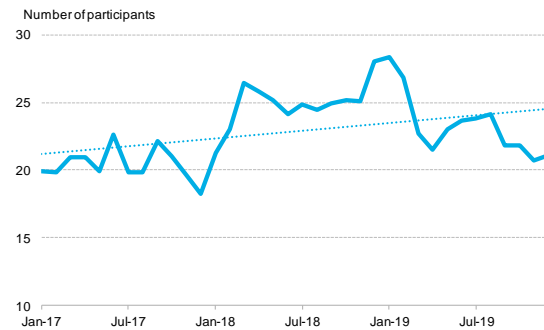
⁵⁶ Open interest is the total number of outstanding contracts that are held by market participants at the end of each day. Another way of putting it is that it measures contracts that have been bought or sold without completion of the transaction by subsequent sale or purchase, or by making or taking actual delivery of the financial instrument or physical commodity. It is one measurement of activity levels in the futures market. Generally, the higher the open interest, the more a particular contract is traded and hence the higher is the level of liquidity.

power sector down by around 14%, leading to less hedging demand. In fact, it could be argued that lower interest as a result of fuel switching is a good thing, as it shows that the market is delivering environmentally. In addition, a number of financial players entering the market in 2018 liquidated their positions in the second half of 2019, damping open interest.

Auction participation

This KPI shows the number of participants in daily auctions on EEX. Auction participation shows how many participants are bidding into auction, thus reflecting interest in primary supply. Participation declined by 2.5 in 2019, to an average of 23.2 participants per auction. While a year-on-year decline is not optimal, it is also not surprising given reduced activity from utilities. The number is higher than participation in 2017.

Figure 20: Auction participation

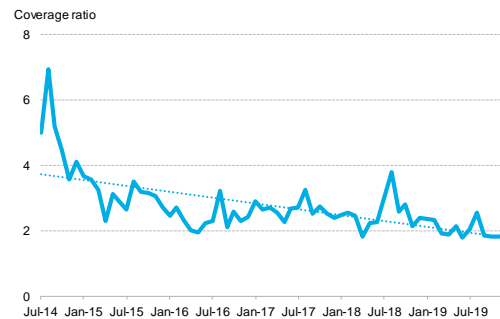


Source: EEX

Auction coverage

Auction coverage ratio is the total number of bids in an auction in relation to the number of available EUAs. This indicator tells us what actual auction demand is when compared to supply on the primary market. The coverage ratio continued its downward trend, with an average ratio of 2.03 in 2019. There could be reason to be concerned about the continued decline, especially as auction volume was lower in 2019 due to market stability reserve injections. It is possible that a coverage ratio well below 2 could make it possible for some market participants to exercise market power or game auctions.

Figure 21: Auction coverage ratio

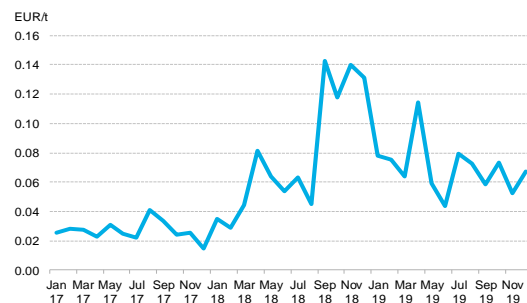


Source: BloombergNEF

Auction-spot differential

The auction-spot differential KPI measures the difference in the EUA price in auctions and on the secondary market. A low difference is preferable as a high difference could indicate an ability of market participants, particularly speculators, to exercise market power. The auction spot differential went down in 2019 when compared to the extremely high figures in 2018, which is a welcome sign. It remains higher in **absolute** terms than it was in 2015-17, but that is to be expected as the price of EUAs is also much higher. An auction-spot differential of 0.07 at a carbon price of 5 euros could be reason to worry, but it is much less dramatic if the price is 22 euros.

Figure 22: Monthly average difference between auction and spot price



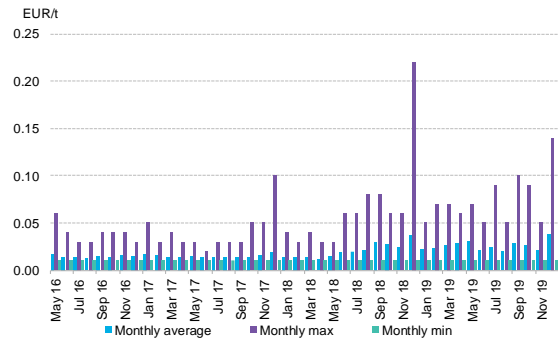
note: negative values in the original data are counted as positive

Source: EEX, BloombergNEF

Ask-Bid spread

This KPI shows the difference between the lowest ask price and the highest bid price in the market at market close. The average ask-bid spread continued to increase in 2019, suggesting some speculative activity, but the maximum never reached the heights seen in 2018. The lower maximum ask-bid spread could be expected as 2019 had fewer spikes than 2018, and was overall a quieter year for the market. The fact that the ask-bid spread stays relatively low is a good indication of reasonable liquidity in the market, as there is a risk of a widening spread if there are fewer bid or ask prices.

Figure 23: Ask-bid spread on ICE



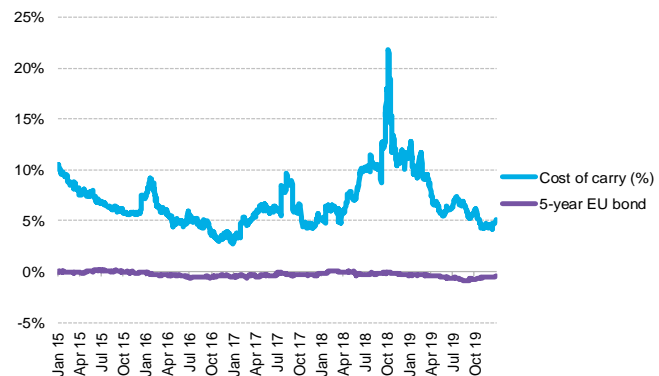
Source: ICE, BloombergNEF

A continued upward trend could be an expression of higher risk as it indicates a larger difference in the price the bidder is willing to pay today, and the price sellers expect to receive. The year-on-year difference is so marginal, however, that no clear conclusion can be drawn from the change.

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 on the spot market and futures with delivery in the future, and therefore tells us the premium the market places on future contracts. The cost of carry went down in 2019, meaning market players put a smaller premium on future price developments. Taken in isolation, we could interpret that as a less positive sentiment for EUAs. In this case, it should not be seen as cause for alarm, however. The price on the spot market was on average a lot higher in 2019 than in 2018. That means a lower cost of carry does not have to reflect lower price expectations for the future, but that spot contracts are valued higher in comparison.

Figure 24: Cost of carry – EUA vs. AAA EU 5-year bonds

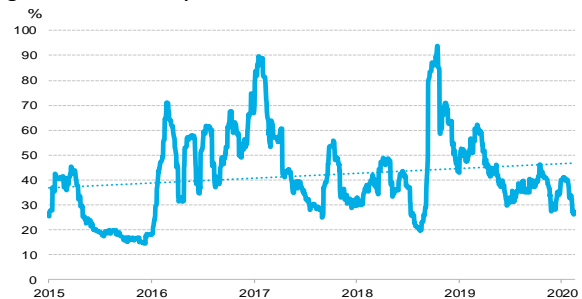


Source: ICE

Volatility

Volatility represents how much prices move around the mean price. High volatility is not positive for compliance entities as utilities and industrials need to be able to trust in a price signal if they are going to base long-term investments on it. In contrast, high volatility may be positive for traders and other financials wanting to make profit from the price changes.

Figure 25: volatility



Source: BloombergNEF

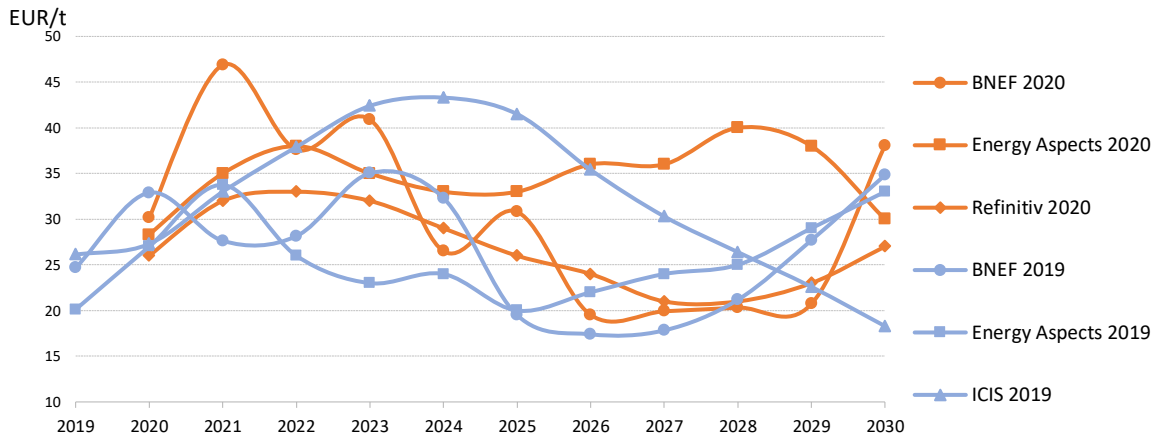
Volatility has dropped in 2019, compared to 2018. This is mostly considered a good thing and points to a more stable market. A higher degree of volatility is always expected in the EU ETS when compared to other energy commodities, as it is a smaller market and does not respond only to fundamentals.

External factors, such as changes in government or policy announcements, have the potential to move the EUA price on a day-to-day basis.

8.2 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 26: EUA price forecasts



Source: BloombergNEF, Energy Aspects, ICIS, Refinitiv

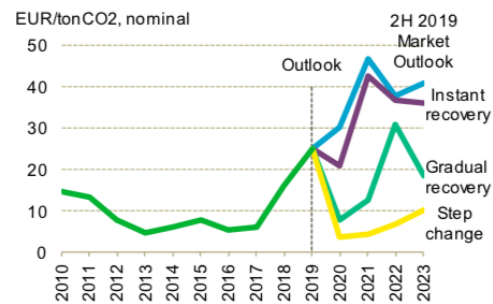
Figure 26 shows 2019 and 2020 forecasts collected from various analysts. The 2020 updates to analyst forecasts did not show as strong a consensus as it did last year, when all forecasts generally moved upward. Though the forecasts collected may vary from year to year and methodologies may change, they give an impression of market sentiment.

Nevertheless, all three 2020 forecasts have an expected increase in the price of carbon in the early 2020s, illustrating that undersupply is expected in those years. The magnitude of that increase and decrease varies amongst the forecasts.

These forecasts were made before the current health crisis started, and do not take into account the information we currently have regarding the economic consequences and related impact on emissions.

BloombergNEF modelled the price impacts of three different scenarios: a swift recovery to baseline emissions by October 2020, a gradual recovery to baseline by January 2023, and a “step-change” scenario with no recovery to baseline emissions. These divergent scenarios again underline the degree of uncertainty we are currently facing, and that the future outlook is unclear.

Figure 27: EUA price forecasts under 3 COVID-19 scenarios



Source: BloombergNEF

9 The EU ETS in the European Green Deal

This chapter will explore some of the main aspects of the EU ETS which are likely to need to be reviewed under the EGD, and some of the implications that would seem to emerge.

9.1 Increased 2030 and 2050 targets

One of the core elements of the EGD was the firm commitment to a higher level of ambition, both within a 2030 and 2050 timeframe. For the 2030 target, the Commission is preparing an impact assessment which will inform its proposal to raise the headline target for 2030 to 50% or 55%, compared to 1990 levels, to be proposed by September 2020. Subsequently, legislative proposals to change the existing 2030 climate, energy and transport framework, including the ETS Directive, will be published by the summer of 2021. One additional element that has been mentioned for the EU to be, and be seen, as a leader is to re-introduce a budgeting approach to the EU ambition. This could be a game changer.

After an agreement has been reached on the new 2030 headline target, it will have to be translated into a new target for the EU ETS. At this point, it is unclear whether the percentage contributions expected from the ETS and ESR sectors will remain unchanged, or whether additional efforts will be expected from the EU ETS covered sectors. Other decisions, most notably the potential inclusion of additional sectors, would also greatly impact the discussion on the emission reductions to be delivered by the EU ETS.

Another important question is the timing of the review, and when the new will LRF kick in. Obviously, a new LRF cannot possibly start at the beginning of Phase 4, as the Commission proposal for a new 2030 EU ETS target is only expected to come out in June 2021.

The Commission will have to take into account the amount of time it will take to reach an agreement, as well as the time required to implement any secondary legislation. Noting that the last revision cycle took over 2.5 years to complete, a proposal to start the new trajectory before the mid-twenties seems unlikely.

Lastly, some stakeholders have argued to not only change the LRF, but also to “rebase” the EU ETS cap to levels better reflecting the actual emission levels, which in 2019 were already 17.8% below the actual cap. Entertaining this option would greatly impact the cumulative amount of emissions allowed to be emitted, and influence other provisions in the Directive, including the size of the Modernisation Fund, and the amount of free allocation available.

Figure 28 and Figure 29 shows the implications for the LRF of a 50% and 55% target by 2030. In these two scenarios, the cap is not rebased, the share between ETS and ESR remains constant and we assume that the new LRF will be applied from the second part of Phase 4 onwards (in 2026), in tandem with other mid-phase updates, such as the benchmarks and historical allocation levels used to determine the amount of free allocation given to installations.

The scenarios show that the LRF needed to reach the new 2030 targets of 50%/55% will have to increase in 2026 to 4.31% and 5.31% respectively.

However, it is important to note that actual emissions will have to decrease at much lower rates, equivalent to a rate of 1.72% and 2.22% respectively, in order to reach the 2030 targets (50% or 55%). This is due to the fact that since actual emissions are currently far below the cap, they will effectively have to decrease at a slower pace than the LRF.

Figure 28: LRF necessary for reaching a 50% target + possible scenarios beyond 2030.

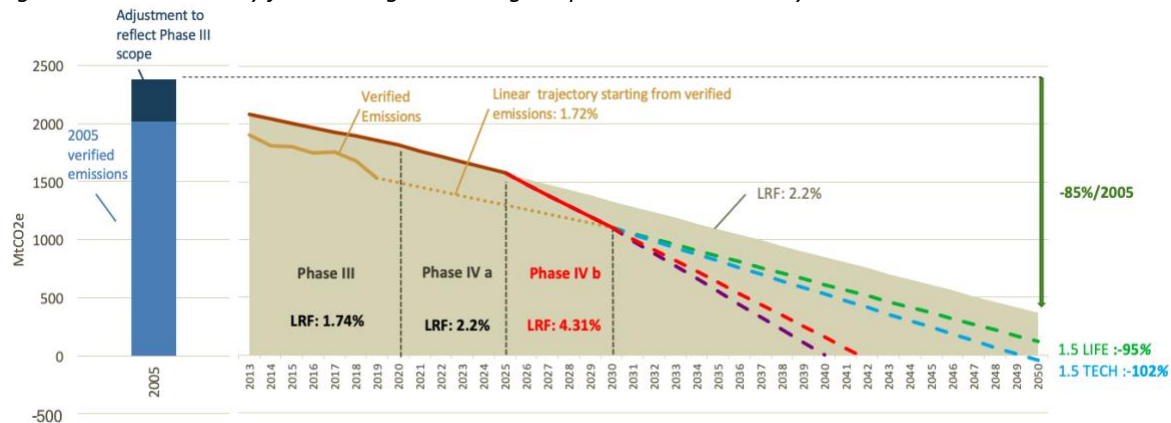
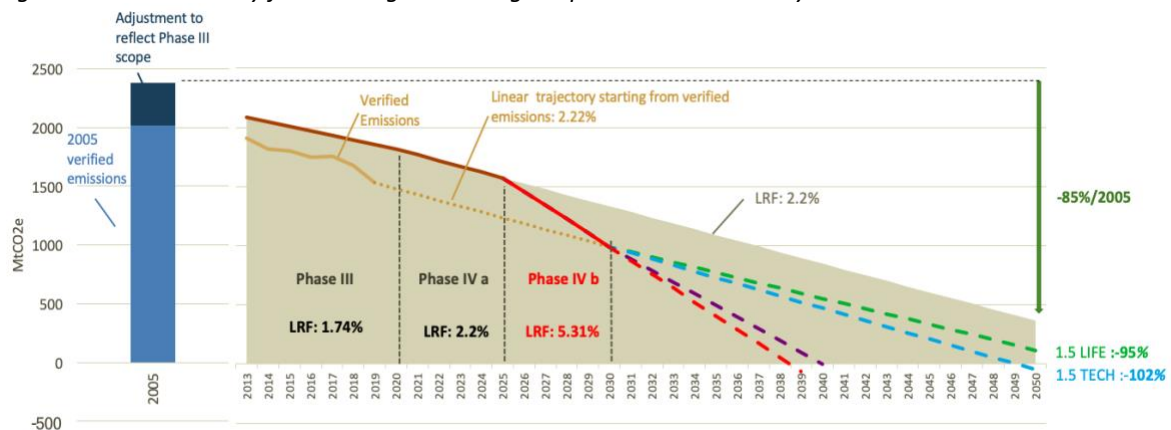


Figure 29: LRF necessary for reaching a 55% target + possible scenarios beyond 2030.



Source: ERCST

Looking beyond 2030, several scenarios are possible, as it is unclear what role of the EU ETS will be in delivering the 2050 target. Figure 28 and Figure 29 show four potential pathways beyond 2030, and the corresponding LRFs for these pathways are shown in Table 3:

- As the EU ETS does not have a specific “sunset clause”, some argue that the LRF would continue after 2030, unless decided otherwise. This would result in the EU ETS reaching net-zero emissions in 2042 and 2039 respectively;
- As some high-level officials have made comments that reaching climate neutrality by 2050 would imply reaching carbon neutrality “as early as 2040”, the second pathway shows what this would mean for the LRF;
- The third and fourth possible pathways are based on the two decarbonisation scenarios aimed at reaching net-zero emissions by 2050 included in the Commission’s “A clean planet for all” communication from 2018 – 1.5 LIFE and 1.5 TECH, which would require a 95% and 102% GHG emission reduction by 2050 compared to 2005 emissions, respectively, for ETS sectors.

Table 3: LRF after 2030 – 4 scenarios

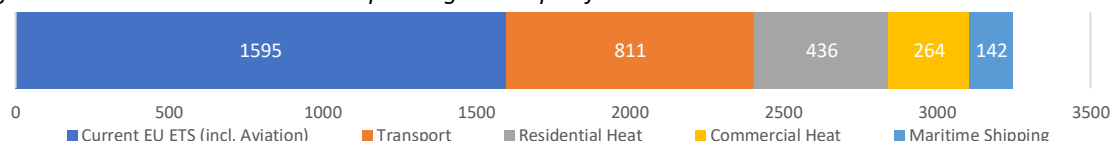
	50% scenario LRF after 2030	55% scenario LRF after 2030
LRF maintained after P4	4.31%	5.31%
Net-zero by 2040	5.01%	4.51%
1.5 LIFE	2.33%	1.98%
1.5 TECH	2.61%	2.36%

Source: ERCST

9.2 Increase in the scope of the EU ETS

In the EGD the door is opened to exploring the possibility of extending the EU ETS to a number of new sectors, including maritime transport (shipping), road transport and buildings. The inception impact assessment for the 2030 climate target plan reiterates that this possibility will be assessed. Including all of these sectors could potentially more than double the total volume of emissions covered by the EU ETS, as shown by Figure 30.

Figure 30: volume increase due to expanding the scope of the EU ETS to other sectors



Source: ERCST and BloombergNEF, data from the European Commission

If internal shipping is to be included in the EU ETS, it risks creating a new international diplomatic row similar to the one we saw for international aviation. Notwithstanding this, the idea to include maritime shipping seems to enjoy the support from the European Parliament, which is considering the inclusion of maritime shipping into the EU ETS via an amendment proposal to the “monitoring, reporting and verification of CO₂ emissions from maritime transport regulation”, which is currently being discussed in the ENVI committee.⁵⁷

One advantage of including new sectors would be the increase in amount of EUAs, which in the scenario of a high LRF would rapidly decrease, leading to loss of market liquidity that could be of concern. It could also impact the discussion on free allocation and CSCF, in section 9.3.

9.3 Free Allocation and Carbon Border Adjustment Measure

An increased target for 2030 would make it more likely, under certain scenarios, to put the current system of free allocation under pressure, resulting in the application of the cross-sectoral correction factor (CSCF). shows the value of the CSCF in 2030 under two different demand scenarios and three different emission reduction targets. This analysis does not consider the economic impact due to COVID-19, and the associated reduction in emissions.

If the legislators were to decide to rebase the EU ETS cap, the total quantity of allowances available throughout Phase 4 would be limited further, increasing the likelihood of triggering the CSCF.

One of the policy initiatives announced in the EGD was the exploration of a CBAM for certain sectors, in order to reduce the risk of carbon leakage. A CBAM has a similar goal as free allocation in that it would also seek to alleviate the negative effects of asymmetrical climate policies under the Paris Agreement.

Table 4: CSCF value in 2030 under 2 demand scenarios for 3 possible targets

	Conservative demand scenario	High demand scenario
Current target	100%	100%
50% by 2030	100%	72%
55% by 2030	100%	65%

Source: BloombergNEF

⁵⁷ [https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2019/0017\(COD\)&l=en](https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2019/0017(COD)&l=en)

At this time, few details are available about the upcoming CBAM proposal, outside of the recently published “Inception Impact Assessment Roadmap”. One aspect that has emerged is that it can be expected that the focus may be on the extension of the EU ETS to imports.

This option raises several immediate questions, including whether allowances would be taken from the existing cap, or whether other provisions would be put in place, such as the creation of a “virtual” pool of allowances, to cover imports.

Another possible aspect is that a CBAM could be an *alternative* to free allocation. This also raises several questions, including how the transition from free allocation towards a CBAM will happen in practice (e.g. will free allocation for sectors covered by the CBAM be gradually substituted, or rescinded immediately?).

One side-effect of the introduction of a BCA as an alternative to free allocation is that it would lower the risk of the CSCF being triggered for those sectors still receiving free allocation.

9.4 Use of auctioning revenues

Any increase in ambition will lead to higher upfront investment costs needed to reach the new targets. How the EGD will be financed is one of the key policy questions, and the Commission has outlined its €1 trillion investment plan in January.⁵⁸

As part of this investment plan, the Commission is looking at how to (better) earmark auctioning revenues for climate action. Several options seem to be on the table, including:

- In the EGD, the Commission mentioned allocating 20% of the auctioning revenues to the EU budget (so called “own resources”)⁵⁹;
- The draft conclusions of the European Council meeting held on 14 February 2020 included a similar proposal for a source of own resources for the EU, by allocating any revenues generated by the EU ETS exceeding the average annual revenue per Member State generated by allowances auctioned over the period 2016-2018. This would be significantly more than the 20% proposed by the Commission. However, no agreement could be reached.
- The Commission has also repeatedly mentioned the intention to strengthen the role of the Innovation and Modernisation Fund;
- Lastly, the revenues generated by a BCA could also be earmarked to e.g. the Innovation and/or Modernisation funds.

Of course, it remains to be seen how willing Member States will be to give up revenues that until now went to their national budgets, especially when additional domestic efforts are also necessary to achieve the higher ambition level.

⁵⁸ European Commission (2020). https://ec.europa.eu/commission/presscorner/detail/en/fs_20_48

⁵⁹ European Commission (2019). https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf

9.5 Review and future role of the Market Stability Reserve

The full implementation of the EGD could decrease the risk of oversupply, by reducing the overall supply through a higher LRF. Simultaneously, it could increase that risk by introducing additional overlapping policies.

The first review of the MSR, which is scheduled in 2021, has received a lot of attention in the last few years, as many analysts consider that the current parameters may not be sufficient to absorb expected sources of future surplus “within a reasonable amount of time”.⁶⁰

However, we are in a different world now, and the entire existing 2030 climate, energy and transport framework is to be revisited. The issue that now emerges is how to undertake an MSR review in 2021 when many other EU ETS aspects are being reviewed under the EGD, and the final outcome of that review will have a great impact on the supply/demand balance.

It is likely that the mandated 2021 MSR review will become an “empty shell”, with changes to the MSR parameters, if any, to be proposed as part of a coherent policy package for the EU ETS as a whole in June 2021.

9.6 The EU ETS post-2030

While the EGD will surely have a great impact on the EU ETS within the 2030 timeframe, it remains unclear what role the EU ETS will have beyond 2030. As was highlighted in Figure 28 and Figure 29, the trajectory after 2030 is at this point uncertain.

While the ETS Directive does not have an explicit sunset clause, some stakeholders question whether there will still be enough liquidity left to ensure proper market functioning in the 2030s. Expanding the scope of ETS could be one way of ensuring sufficient liquidity.

Creating incentives for deploying negative emission technologies has not received much attention in the EGD, but is a policy issue that is becoming increasingly important and is increasingly finding its way into the climate policy debate. While CCS is currently covered by the EU ETS, it should be explored what role a strengthened EU ETS could play in its deployment.

In a world where the EU has an increasingly higher ambition and other Parties to the Paris Agreement might not follow at the same pace, assessing and comparing climate efforts by other countries is becoming increasingly important, including through the consideration being given to a BCA. Article 30 of the ETS Directive deals exactly with this issue, but has never been triggered, nor operationalised. This is something which will have to be looked at.

Lastly, in order to deliver on this high ambition in a flexible and cost-efficient way, a new debate is warranted regarding the possibility to use credits generated by EU domestic projects and/or international projects. Linking the EU ETS with other trading systems is one option that the EU has pursued, but cost containment through international credits is another option that should not be discarded without further exploration.

⁶⁰ A. Marcu. et al. (2019). 2019 State of the EU ETS Report. <https://ercst.org/wp-content/uploads/2019/05/2019-State-of-the-EU-ETS-Report.pdf>

10 Policy issues to monitor in the future

A number of issues should be monitored in the coming years in order to ensure that the EU ETS is 'fit for purpose' and is prepared for future reviews and challenges. However, the current COVID-19 situation could have some implications of the legislation process related with the EGD, the EU ETS and also with the international climate policies timeline.

Table 5: Policy issues to monitor

Policy issues to monitor...	In 2020	In 2021 and beyond
Related to the EU Green Deal	Proposal and negotiations for a Just Transition Mechanism, including a Just Transition Fund, and a Sustainable Europe Investment Plan: January 2020	Proposals for revisions of relevant legislative measures (EU ETS, ESR, etc..) to deliver on the increased climate ambition: June 2021
	Proposal and negotiations on a European 'Climate Law' enshrining the 2050 climate neutrality objective: March 2020	Proposal for a carbon border adjustment mechanism for selected sectors in 2021
	Communication: EU industrial Strategy: March 2020	
	Proposal to update the EU climate 2030 target to be aligned with the carbon neutrality target: September 2020	
Related to the EU ETS	Update of the benchmark values for free allocation for 2021-2025	Market Stability Reserve Review in 2021
	EU ETS State Aid guidelines: Q4 2020	Linear Reduction Factor Review in 2025
	Establishment of the Modernization fund	
	CORSIA implication on the EU ETS: December 2020	
Related to international climate policies	ICAO CORSIA decision on offset projects eligibility: March 2020	UNFCCC COP26 postponed in 2021 and its implication on the EU climate ambition and the Article 6.
	China-EU summit and its implication on the carbon border tax adjustment: September 2020.	UNFCCC Paris agreement stocktake in 2023