

EU ETS - Last call before the doors close on the negotiations for the post-2020 reform

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SUMMARY

A window of opportunity to reform the EU ETS is currently open but closing soon: the EU ETS directive is currently being revised for its Phase IV (2021-2030), and trilogue negotiations between EU institutions, started in April 2017, will probably succeed in the fall.

- We find that the reform proposals from the EU Parliament and the EU Council are not sufficient to create an effective ETS in Phase IV (2021-2030). Indeed, GHG emissions reductions coming notably from energy efficiency and renewable energy policies are sufficient to respect the EU ETS target, and thus **the EU ETS is not a driver of decarbonisation in industry and energy sectors over its Phase IV.**
- In spite of the doubling of its withdrawal rate in the first years of its functioning (until 2021 for the Parliament and 2023 for the Council), **the Market Stability Reserve is not able to mitigate the effect of complementary policies on the EU ETS** while absorbing the historical surplus of allowances. On the contrary, from the early 2030s, further emissions reductions are needed and the cost of abatements to achieve the EU ETS target increases suddenly.
- The EU ETS current trajectory is aligned with the low end of EU long-term climate ambition. **Long-term EU climate objectives and the EU ETS trajectory should now be updated to integrate the objectives of the Paris Agreement**, and should aim at “net-zero” emissions by the second half of the century.
- **Anticipating the EU ETS long-term target is necessary to have a sustainable and politically acceptable decarbonisation pathway.**
- In that context, **an EU-wide price corridor on the EU ETS could be one solution to the lack of anticipation of ETS operators** and would lead to earlier mitigation efforts in ETS sectors.
- **A possible exit of the UK from the EU ETS** adds to the uncertainty of the current revision of the EU ETS directive. In that case, careful attention should be paid to the adaptation of the emissions cap and the MSR parameters.



This climate brief provides a synthesis of key results from the research program COPEC II (COordination of EU Policies for Energy and CO₂ by 2030). Launched in April 2017, this research program is jointly conducted by I4CE – Institute for Climate Economics, Enerdata and IFPEN - Institut français du pétrole et des énergies nouvelles. It aims at preparing policymakers for the revision of the 2030 climate and energy package.

The authors take sole responsibility for findings or ideas presented in this report as well as any errors or omissions. This report does not reflect the opinion of any governments or private companies. The authors would like to thank the sponsors of this research program for their financial support.



- Finally, the framework for free allocation to prevent carbon leakage risks in industrial sectors is a focal point in the negotiations on the EU ETS reform. **We find that the positions of the Council and the Parliament on the EU ETS reform will probably result in a Cross-Sectoral Correction Factor (CSCF) triggered at the end of Phase IV**, under conservative assumptions for benchmark decrease rates in major sectors covered by the EU ETS (refinery, cement, aluminum, steel).
- Quantifying the impact of EU ETS design parameters on free allocation enables to try and match the supply and the demand and thus avoid triggering the CSCF, keeping in mind that **free allocation should not result in windfall profits and was meant to be a transitional tool**.
- If the framework for the compensation of indirect costs in electro-intensive sectors were harmonized across the EU ETS, **we find that around 24% of EUAs auctioning volumes would be required over Phase IV to compensate indirect costs in the main eligible sectors**.
- Unless an unexpected proposal comes out of the trilogue negotiations, the revised EU ETS directive will not be sufficient to deal with overlapping policies. **The negotiations on other pieces of the climate and energy framework, and in particular on the proposed Governance Regulation, thus appear as an opportunity to create a consistent policy mix** and manage the interactions between the different policy instruments.

Introduction

Twelve years after the EU ETS was introduced as the cornerstone of EU climate policy to promote reductions of greenhouse gas (GHG) emissions in a cost-effective way, continued depressed prices are questioning its credibility. **A window of opportunity to reform the EU ETS is currently open but closing soon: the EU ETS directive is currently being revised for its Phase IV (2021-2030)**. Following a proposal for a revised directive by the European Commission in July 2015, trilogue negotiations between EU institutions started on April 4, 2017, with a focus in the negotiations on the strengthening of the EU ETS and on carbon leakage. Given the divergence of opinion on a number of elements, there is still uncertainty on the possible outcome of the trilogue negotiations, probably to be reached in autumn 2017. **This reform is the last chance for the EU ETS**: with another decade of depressed prices, the EU ETS would lose what is left of its credibility and would be replaced with fragmented national policies.

Following the adoption by the EU Parliament and the EU Council of their respective positions on the post-2020 EU ETS reform proposal in February 2017, I4CE,

Enerdata and IFPEN provide a new **qualitative and quantitative assessment of these positions**. Two other possible evolutions of the EU ETS during its Phase IV (2021-2030) are also analyzed: the implementation of **carbon price corridor** on the EU ETS and an **exit of the UK** from the EU ETS. The analysis considers the EU ETS with a **long-term perspective until 2040** (Figure 1), considering the implementation of **other pieces of the EU Climate and Energy package**. This policy brief provides a synthesis of key results from a report that will be published later in September 2017.

EU Parliament and Council reform proposals are not sufficient to create an effective ETS in Phase IV (2021-2030)

The proposals on the table today to strengthen the EU ETS fail to make it a driver of decarbonisation in energy and industry sectors over its Phase IV

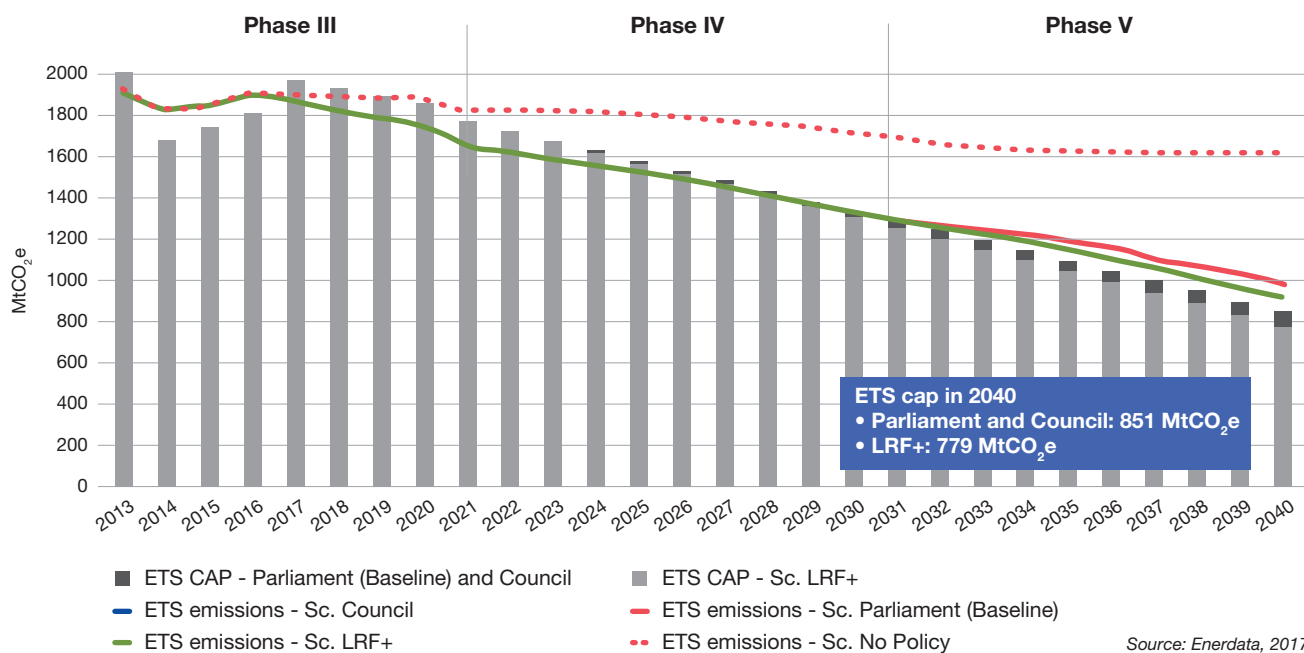
The reform of the EU ETS for the post-2020 period will probably be more ambitious than with the initial proposal from the Commission, with the Parliament

and the Council both in favor of a doubling of the Market Stability Reserve (MSR) intake rate in the first years and of a cancellation of allowances in the MSR. (Table 1)

However, **nor the Council proposal neither the Parliament's – even with an increase of the Linear Reduction Factor (LRF) of the cap to 2.4% in 2024-**

leads to an effective EU ETS during its Phase IV, despite the implementation of the MSR. Indeed, in Phase IV, GHG emissions reductions notably coming from energy efficiency and renewable energy policies are sufficient to respect the EU ETS target, and thus the EU ETS is not a driver of abatement.

FIGURE 1. THE EU ETS CAP AND GHG EMISSIONS IN THE THREE SCENARIOS



Notes:

- The report analyses scenarios which represent possible outcomes of the trilogue negotiations on the EU ETS reform: 1. The “Parliament scenario” which represents the Parliament’s amendments on the EU ETS reform; 2. “The Council scenario” representing the Council general approach on the EU ETS reform; and 3. “LRF + scenario” which also represents the Parliament’s amendments on the EU ETS reform but takes into account an increase of the LRF to 2.4% in 2024.
- The EU ETS cap represented in the graph does not take into account the effect of the MSR, except for the transfer of backloaded allowances.
- No Policy: counterfactual scenario without any objectives for GHG emissions reductions, renewable energy sources and energy efficiency.

TABLE 1. POSITIONS IN THE TRILOGUE ON OPTIONS TO STRENGTHEN THE EU ETS

	EU Commission's proposal/MSR decision	EU Parliament's amendments	EU Council General Approach
Linear Reduction Factor (LRF) 2021-2030	2,20%	2,20%	2,20%
Review of the LRF	/	Possibility to increase the LRF after 2024 to 2,4%	/
Withdrawal rate of the Market Stability Reserve (MSR)	12%	24% until 2021(incl.)	24% until 2023 (incl.)
Cancellation of allowances in the MSR	/	800 million in 2021	Yearly cancellation of allowances after 2024 above the number of allowances auctioned the previous year
Cancellation of allowances by Member States	/	Possibility to cancel a volume of allowances corresponding to the closure of electricity generation capacity in their territory due to national measures	/

Source: I4CE from EU Parliament, EU Council documents, 2017.

During Phase IV, the Market Stability Reserve is not sufficient to mitigate interaction effects between the EU ETS and renewable energy and energy efficiency policies

In spite of the doubling of its withdrawal rate in the first years of its functioning (until 2021 for the Parliament and 2023 for the Council), **the MSR is not able to mitigate the effect of complementary policies on the EU ETS while absorbing the historical surplus of allowances**, under the assumption that specific policies are implemented to meet the 2030 targets for renewable energy and energy efficiency. The scarcity of allowances is only restored by the end of Phase IV in the three scenarios. (Figure 2)

Furthermore, these results on the MSR do not take into account the possible implementation of national climate policies nor unexpected economic downturns or an overachievement of European renewable energy and energy efficiency objectives, which would increase the surplus of allowances. However, the MSR may have a psychological effect on the anticipations of stakeholders, which is not accounted for in the modelling.

Long-term climate targets need to be anticipated for a sustainable low-carbon transition

EU long-term climate ambition should be increased to integrate the objectives of the Paris Agreement

As currently discussed in the trilogue negotiations, the **EU ETS trajectory is aligned on the low end of long-term EU climate ambition**. Indeed, a LRF of 2.2% from 2021 corresponds to an 85% reduction of GHG emissions in 2050 compared to 2005, while the *Roadmap for moving towards a competitive low carbon economy in 2050* projected an average reduction of 90% for ETS sectors¹. **Increasing the LRF to 2.4% in 2024 would cumulatively reduce the cap by around 1,660 MtCO₂e until 2050 and would be consistent with a 90% reduction in ETS emissions in 2050 compared to 2005 emissions.** (Figure 3).

Furthermore, the Roadmap, drafted in 2011, describes a pathway only aligned with an 80% reduction in total GHG emissions in 2050 compared to 1990 levels. **Long-term EU climate objectives and the EU ETS trajectory should now be updated to integrate the objectives of the Paris Agreement, and should aim at “net-zero” emissions by the second half of the century.**

From the early 2030s, further emissions reductions are needed to achieve the EU ETS long-term target

Even though its trajectory is aligned on the low end of EU 2050 climate ambition, the EU ETS still requires a **drastic decrease of GHG emissions in the long term**. The cost of abatements required to respect the EU ETS target (taking into account the constraint set by the cap and the surplus on the market) becomes extremely significant in the early 2030s, under the assumption that supports for renewable energy and energy efficiency decrease after 2030.

If the constraint is not anticipated from today, EU ETS market prices would be too low to give the right low-carbon investments during Phase IV, and on the contrary would risk becoming socially unacceptable in Phase V, leading **policy-makers to alleviate the constraint set by the EU ETS, and thus decrease its ambition**.

With a proper anticipation of the EU ETS long-term target, the need for further GHG emissions reductions would appear from today and would result in a **sustainable and politically acceptable decarbonisation pathway**. **Reducing the myopia of EU ETS stakeholders beyond 2030** is necessary for an efficient carbon price to appear from today and make the decarbonisation sustainable. In this context, an **updated 2050 EU roadmap, integrating the objectives of the Paris Agreement**, would be necessary to give more visibility to all. This roadmap would need to be elaborated in a bottom-up way to account for the different sectors' specificities and to facilitate its acceptance.

Attention should be paid to the environmental integrity of the MSR on the long run

With the Parliament proposal, even with an increase of the LRF in 2024, there are still **more than 2 billion allowances in the MSR in 2040**, which could consequently release allowances until the 2060s, jeopardizing the environmental integrity of the EU ETS in the long run. As an order of magnitude, releasing 100 million allowances in 2050 corresponds to a **27% increase in the EU ETS cap with an LRF of 2.2% from 2021 – and 41% if the LRF increased to 2.4% in 2024**.

With the Council proposal, **more than 3 billion allowances are cancelled in total, and the MSR is empty in 2044**.

¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014SC0015&from=EN>, notes 55 and 122.

FIGURE 2. MSR STOCK AND EU ETS SURPLUS

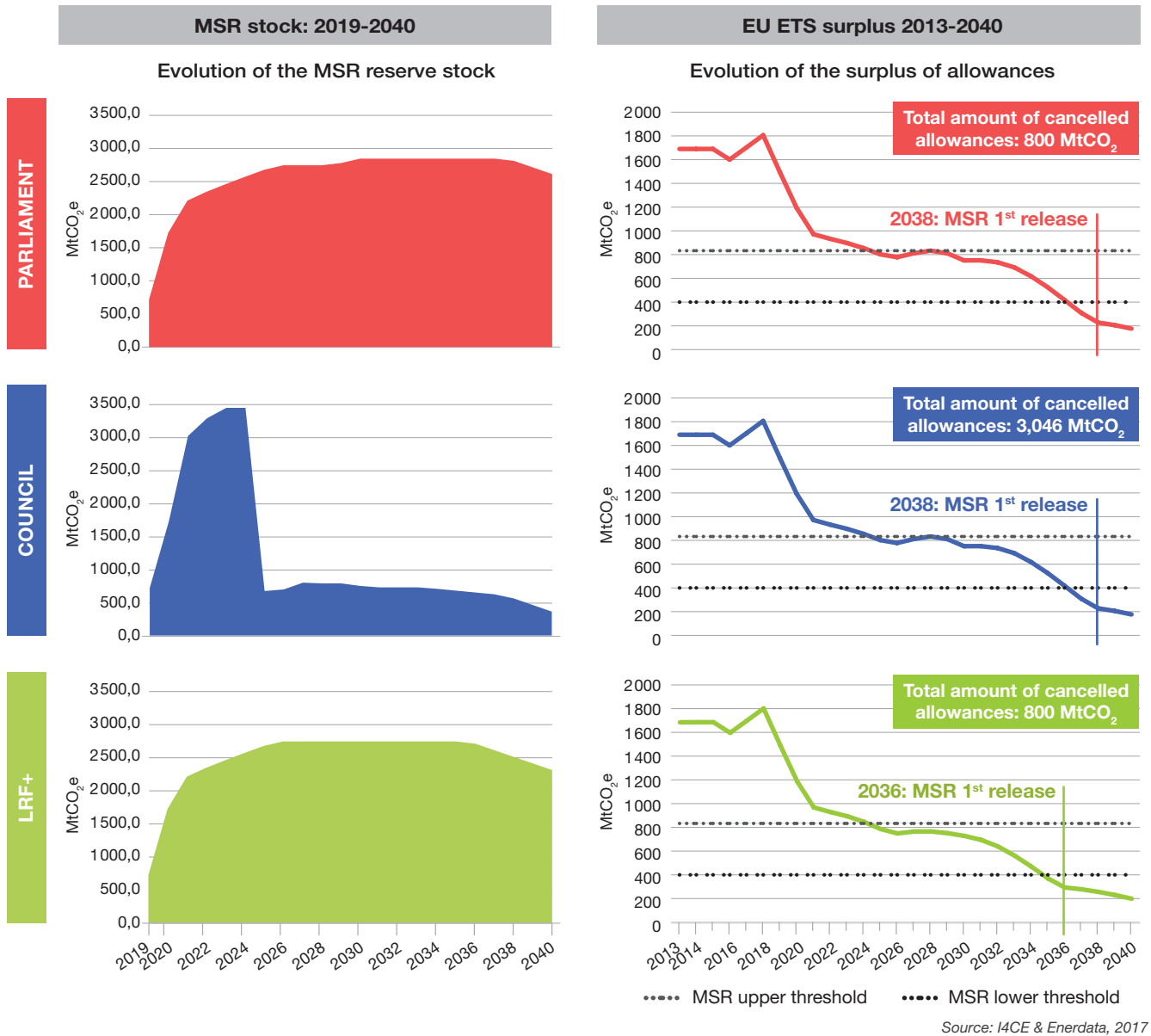
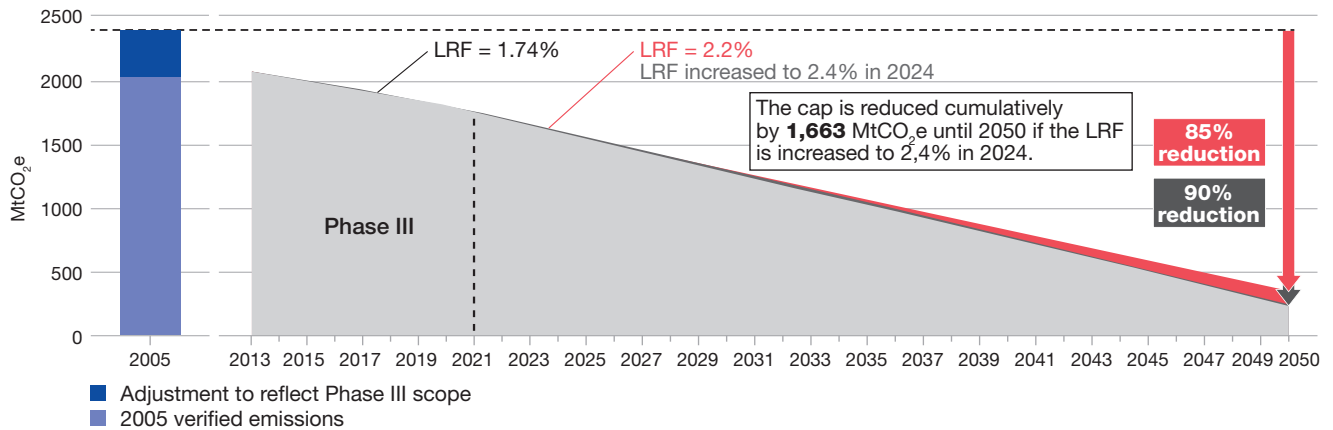


FIGURE 3. THE EU ETS CAP FOR FIXED INSTALLATIONS (2013-2050)



Interpretation of the graph:

The grey area represents the EU ETS emissions cap in the case where the LRF is increased to 2.4% in 2024. The red area represents additional emissions in the cap in the case where the LRF is equal to 2.2% from 2021.

Source: I4CE, 2017

An EU-wide price corridor on the EU ETS could be one solution to the lack of anticipation of ETS operators and would lead to earlier mitigation efforts in ETS sectors

A price corridor implemented through an additional reserve on the EU ETS

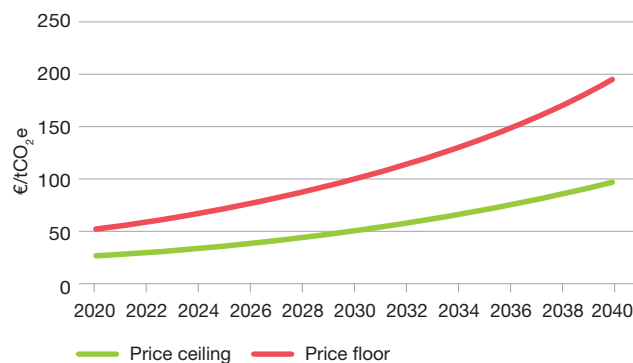
The analysis of the potential outcome of the negotiations on the EU ETS reform concluded that options currently discussed in the trilogue would not make the EU ETS a driver of emissions reductions in its Phase IV, unless its long-term trajectory is anticipated. The implementation of a price corridor on the EU ETS is one of the possible solutions to the lack of anticipation of ETS operators.

In this scenario, the objective is to lead the EU ETS carbon value² into a specific interval (Figure 4) through the implementation of a new reserve on the EU ETS, the Price Corridor Reserve (PCR). Auctions are cancelled until the ETS carbon value reaches the floor and corresponding allowances are transferred to the PCR. Allowances are released from the PCR when the carbon value is higher than the ceiling.

The implementation of a price corridor leads to earlier mitigation efforts in EU ETS sectors

The implementation of a price corridor leads to **earlier mitigation efforts in EU ETS sectors until 2040**, and in total reduces cumulatively GHG emissions by

FIGURE 4. TRAJECTORY OF EU ETS CORRIDOR PRICE



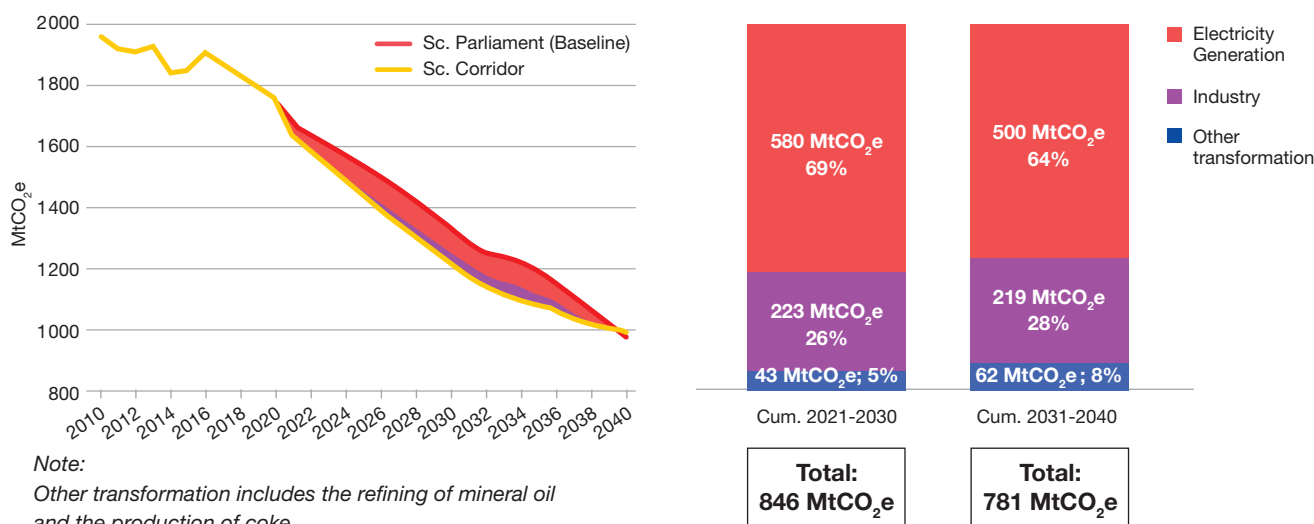
Source: I4CE and Enerdata, from Canfin P., Grandjean A., Mestrallet G. (2016)

846 MtCO₂e in Phase IV and by 781 MtCO₂e in Phase V. More **than half** of additional emissions reductions compared to the Parliament scenario are achieved in the power sector. (Figure 5)

The implementation of the carbon price corridor leads to the transfer of a significant number of allowances in the dedicated reserve and the surplus of allowances is thus very quickly absorbed. In 2020, due to the joint effect of the price corridor reserve and of the MSR, all auctions are cancelled, and in 2040, there are **4 billion allowances** in the price corridor reserve. In the same way as with the MSR, allowances stored in the PCR will have to be managed carefully, in order to ensure long-term climate targets are met.

² One of the outputs of POLES modelling is the carbon value in the different scenarios, which is **not** an EU ETS market price. The carbon value represents the **cost of emissions reductions required to respect the constraint set by the EU ETS considering a sliding carbon budget.**

FIGURE 5. SECTORIAL EU ETS EMISSIONS REDUCTIONS IN THE PRICE CORRIDOR SCENARIO COMPARED TO THE PARLIAMENT (BASELINE) SCENARIO



Note:
Other transformation includes the refining of mineral oil and the production of coke.

Source: Enerdata, 2017

A possible exit of the UK from the EU ETS adds to the uncertainty of the current revision of the EU ETS directive

Uncertainties around the Brexit and the EU ETS

The possible exit of the UK from the EU ETS raises many questions, which cannot be answered through modelling. It is not known yet whether the UK is actually exiting the EU ETS, and a fortiori it is not known when this transition would take place and how the EU ETS design parameters- such as the emissions cap or the MSR withdrawal and release rates and thresholds- would be adjusted. The behavior of markets participants which hold allowances in the UK, is also an unknown, as well as the amount of allowances that may come back suddenly to the market. Finally, without the UK voice, the balance in energy and climate negotiations will probably be modified.

In case of a Brexit, careful attention should be paid to the adaptation of the emissions cap and the MSR parameters

To design a Brexit scenario, some assumptions had to be made. In this scenario, the UK is considered to be no longer part of the EU ETS from the beginning of Phase IV and the ambition in the EU ETS is assumed to remain similar as with the current emissions reduction targets. The EU ETS emissions cap is adapted consequently.

This new EU ETS emissions cap defined in the Brexit scenario corresponds to **higher mitigation efforts for the rest of the EU ETS in the period post-2020**. As a consequence, **the Brexit impacts the decrease of the surplus and the MSR functioning**. Indeed, the surplus is resorbed faster than in the Parliament scenario and the MSR thresholds are reached sooner. As the **MSR starts releasing allowances sooner** in the Brexit scenario, and as **the increase of the EU ETS supply by 100 MtCO₂e has a more significant impact in a smaller market**, the constraint set by the EU ETS becomes less stringent than in the Parliament scenario from 2036. Resulting ETS emissions in the Brexit scenario are **4% higher** than in the Baseline scenario in 2040.

The results of the Brexit scenario **cannot be dissociated from the assumptions made for the adjustment of the EU ETS parameters**. In case the UK leaves the EU-ETS, careful attention should be paid to **the adjustment of the emissions cap and MSR design parameters**.

The framework for free allocation to industrial sectors is a focal point in the negotiations on the EU ETS reform³

In the trilogue, positions differ on a number of EU ETS design parameters which impact free allocation

Options to reform the EU ETS currently discussed in trilogue negotiations are not likely to lead to a stringent EU ETS in Phase IV, and the emergence of a price signal will be conditioned on the anticipation of long-term perspectives. However, the issue of carbon leakage and the competitiveness of EU industries is a major concern to decision-makers and is calling particular attention in the debates. The current approach of freely allocating allowances to industrial sectors deemed to be exposed to carbon leakage will go on. Besides, along with the EU ETS emissions cap, the free allocation cap will decrease. In this context, industries are worried that a cross-sectoral correction factor (CSCF) might need to be triggered, to adjust the total free allocation to the free allocation cap. Such a factor would reduce uniformly free allocation in all sectors, a concern for those most exposed to carbon leakage.

A number of parameters discussed in the trilogue negotiations influence either the free allocation cap or the calculation of the bottom-up preliminary free allocation and thus determine whether a CSCF will be necessary. Post-2020 EU ETS reform proposals from the EU Commission, the Parliament and the Council differ on a number of parameters which impact free allocation, as described in Table 2.

³ I4CE has built an online simulation tool to estimate free allocation in Phase IV depending on parameters discussed in the trilogue negotiations: https://www.i4ce.org/go_project/free-allocation-for-industries-in-phase-iv-of-the-ets-i4ces-simulation-tool/

TABLE 2. OPTIONS ON FREE ALLOCATION DISCUSSED IN THE TRILOGUE NEGOTIATIONS

	Parameters	EU Commission's proposal	EU Parliament's amendments	EU Council General Approach
Supply of free allowances	Linear Reduction Factor (LRF) 2021-2030	2.20%	2.20% and possibility to increase the LRF after 2024 to 2.4%	2.20%
	Funds fed with allowances from the FA share	400 million for the Innovation Fund	400 million for the New Entrants Reserve + 1% of allowances for a fund to compensate for indirect costs	400 million for the Innovation Fund
	Increase of FA share to avoid triggering CSCF	No adjustment	Reduction of up to 5 percentage points of the share of allowances to be auctioned by Member States over 2021-2030	Reduction of up to 2 percentage points of the share of allowances to be auctioned by Member States over 2021-2030
Demand for free allowances	Proportion of benchmarked-based allocation freely allocated	100% for sectors on CL list; 30% for sectors not on CL list	100% for sectors on CL list; 30% for district heating; 0% for others	100% for sectors on CL list; 30% for sectors not on CL list
	Annual benchmarks decrease rate (upper/lower limits)	1%/year (1.50% / 0.5%)	Based on actual improvement rates (1.75%/0.25%)	Based on actual improvement rates (1.5%/0.2%)
	Free allocation for electricity generation with waste gas	/	Full carbon content of waste gas used for electricity production taken into account in benchmark calculations	/
	Eligibility to CL list (limit for qualitative assessment)	Intensity of trade* emissions intensity > 0.2 (0.18)	Intensity of trade* emissions intensity > 0.2 (0.12)	Intensity of trade* emissions intensity > 0.2 (0.16)
Other	Application of CSCF	To every sector	Only to sectors with an intensity of trade with third countries below 15% or a carbon intensity below 7Kg CO ₂ /Euro of GVA	To every sector
	Implementation of a border carbon adjustment	/	If needed, this option will be assessed after the first review of the EU ETS	/

FA = free allocation; CL = carbon leakage; CSCF = cross-sectoral correction factor; GVA = gross value added.

I4CE, 2017 d'après Parlement, Conseil et Commission européenne

The positions of the Council and the Parliament on the EU ETS reform will probably result in a Cross-Sectoral Correction Factor (CSCF) triggered at the end of Phase IV

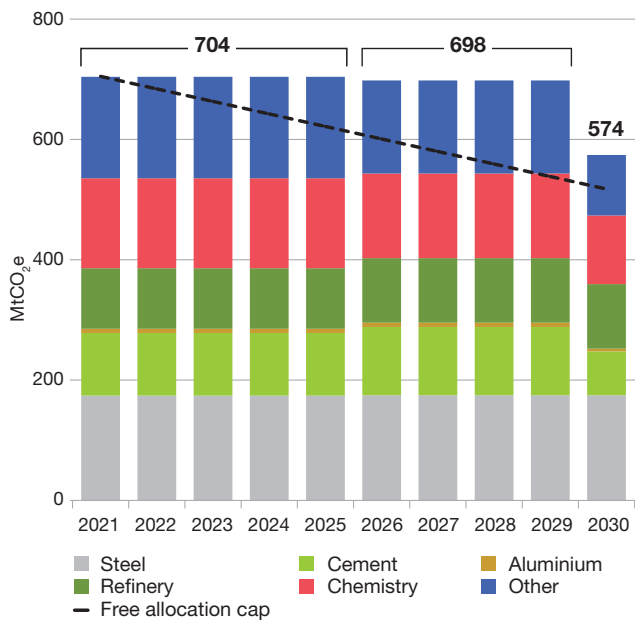
We estimate that with the Parliament amendments, **a CSCF of 64.2% would be triggered in 2030 for all sectors which meet the application criterion** (an intensity of trade with third countries below 15% or a carbon intensity below 7 kg CO₂/€). (Figure 6)

With the **configuration of the Council general approach**, we estimate that the CSCF would be triggered from 2028 and would be equal to 76.3% in 2030, reducing uniformly free allocation in all sectors. (Figure 7)

These results should be considered with caution, as projections on free allocation are **very sensitive to assumptions on future growth rates in industry and even more to assumptions on the allowed benchmark decrease rates by sector**. It should be noted that in this study, the lowest possible benchmark decrease rates have been used in each scenario (0.25% in the Parliament scenario and 0.20% in the Council scenario) for major sectors covered by the EU ETS (refinery, cement, aluminum, steel).

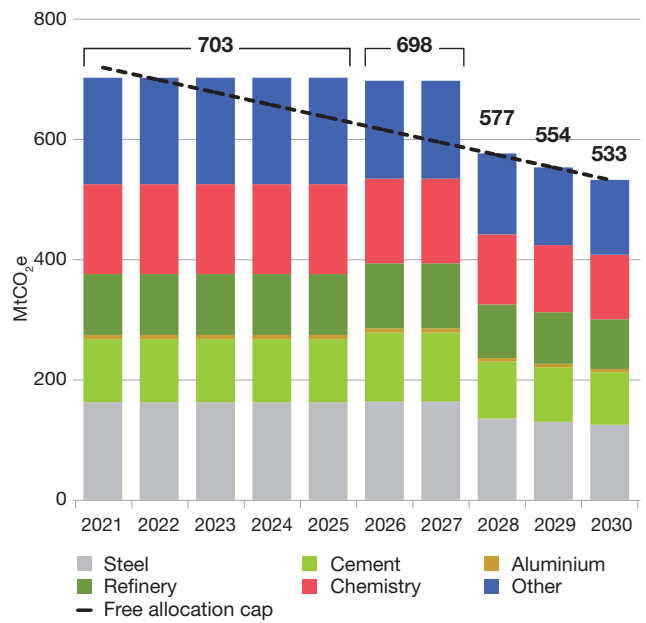
Figure 8 illustrates the opposite effects of the assumptions on future growth rates and benchmark decrease rates and shows the maximum average annual activity growth rate for which no CSCF is needed, as a function of the average benchmark annual decrease rate.

FIGURE 6. EU ETS PHASE IV FINAL FREE ALLOCATION BY SECTOR IN THE PARLIAMENT SCENARIO



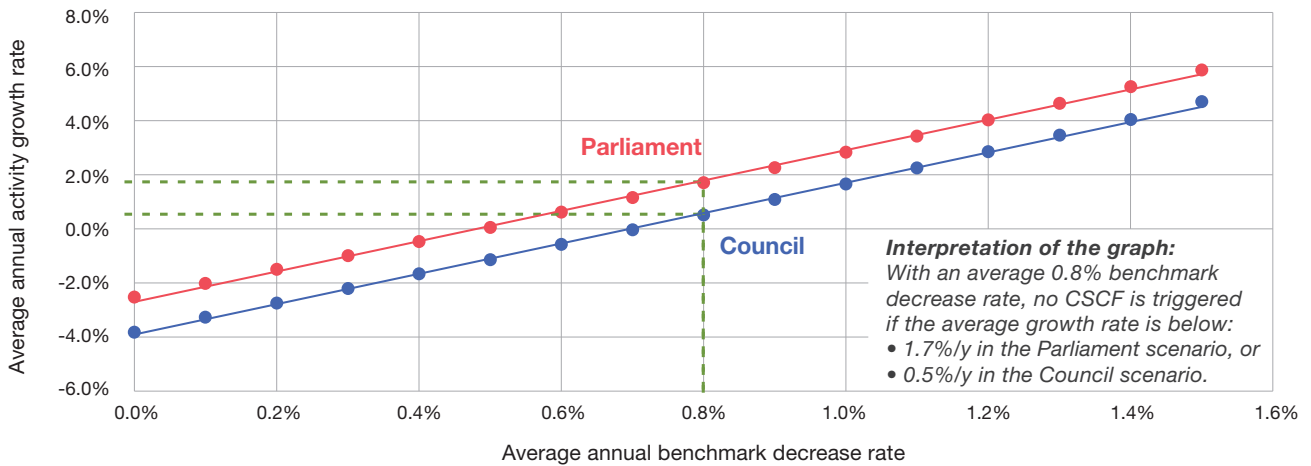
Source: I4CE, 2017

FIGURE 7. PHASE IV FINAL FREE ALLOCATION BY SECTOR IN THE COUNCIL SCENARIO



Source: I4CE, 2017

FIGURE 8. LIMIT VALUES OF THE AVERAGE ANNUAL ACTIVITY GROWTH RATE AND THE AVERAGE BENCHMARK DECREASE RATE FOR WHICH THE CSCF IS NOT TRIGGERED



Note: In this graph, benchmark decrease rates and activity growth rates are uniform across sectors.

Source: I4CE, 2017

Quantifying the impact of EU ETS design parameters on free allocation enables to try and match the supply and the demand, keeping in mind that free allocation should not result in windfall profits and was meant to be a transitional tool

The positions of the Council and the Parliament on the EU ETS reform differ on a number of elements which impact the **free allocation cap** or the calculation of the **bottom-up preliminary free allocation**. However, all in all, the effects of the different design parameters on the calculation of the bottom-up preliminary free allocation balance out and **the demand for free allowances is similar in the Council and the Parliament scenarios**. (Figure 9)

On the other side, **the Parliament's position results in a higher amount of free allowances for industry than the Council's**, even if the LRF is increased to 2.4% in 2024. (Figure 10)

The quantification of the impact of EU ETS design parameters on free allocation enables **to try and match the supply and the demand and thus avoid triggering the CSCF**. To this end, EU Council policy objectives regarding free allocation should be kept in mind: **avoiding undue carbon cost** for most efficient installations while **preserving the incentive to reduce CO₂ emissions** and **not giving rise to windfall profits and distortions**.

FIGURE 9. CUMULATIVE IMPACT OF EU ETS DESIGN PARAMETERS ON THE DEMAND FOR FREE ALLOWANCES (2021-2030)

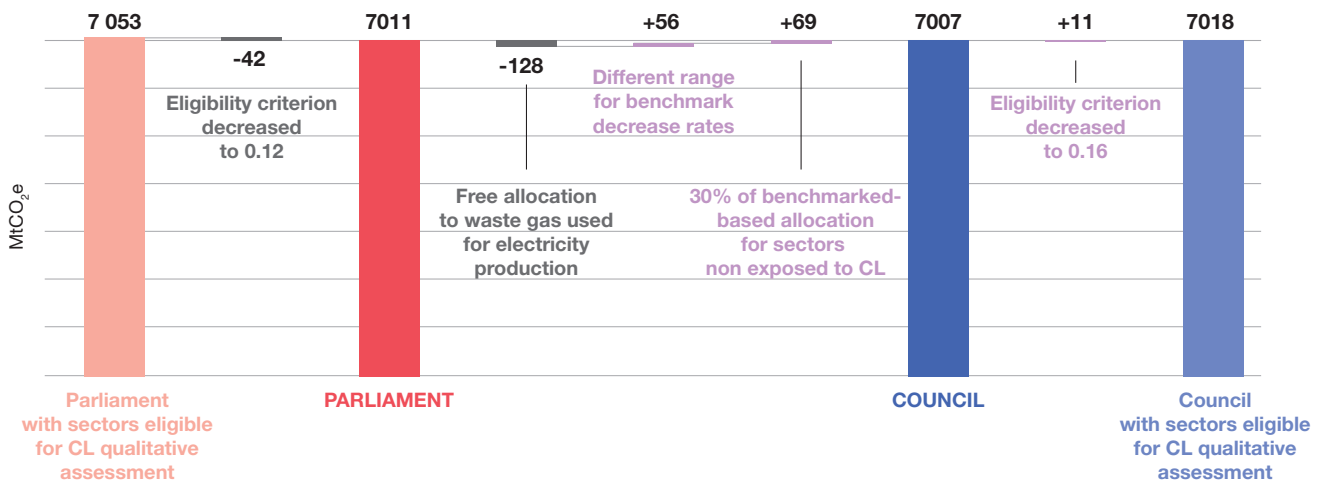
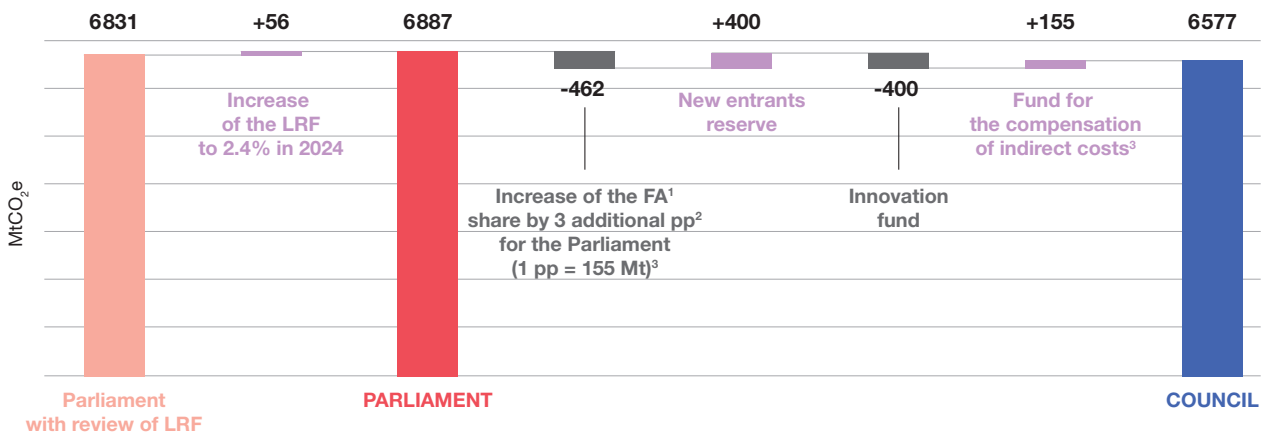


FIGURE 10. CUMULATIVE IMPACT OF EU ETS DESIGN PARAMETERS ON THE SUPPLY OF FREE ALLOWANCES (2021-2030)



Notes: 1. FA: Free allocation.
 2. pp: percentage points.
 3. For a LRF equal to 2.2% from 2021 to 2030.

Source: IACE, 2017

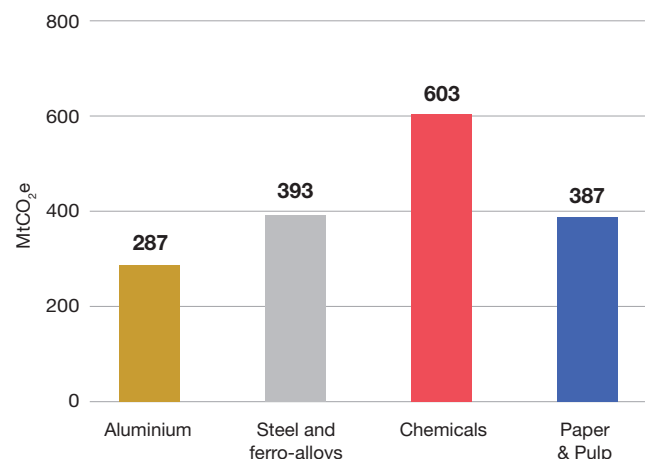
Around 24% of EUAs auctioning volumes would be required over Phase IV to compensate indirect costs in the main eligible sectors

Over Phase IV, with an aid intensity of **75% harmonized over the EU ETS**, an estimated 1,670 million allowances would be required to compensate indirect costs in the main eligible sectors. (Figure 11)

It represents around 12% of total allowances supply in Phase IV and **24% of auctioning volumes** - taking into account the EU ETS design parameters of the Parliament amendments.

Free allocation and compensation of indirect costs were meant to be transitional tools. We should start preparing the post compensation period for a smooth transition.

FIGURE 11. INDIRECT CO₂ EMISSIONS ELIGIBLE FOR COMPENSATION BY SECTOR (2021-2030)



Source: IACE, 2017

Conclusion

The negotiations on the EU ETS revision for its Phase IV are taking place at the same time as the negotiations on the other pieces of the EU 2030 climate and energy framework. In particular, the EU Commission published in November 2016 legislative proposals on renewable energy, energy efficiency, the organization of the electricity market and the governance of the Energy Union which are now under discussion both in the EU Parliament and the EU Council.

This study concluded that **the revised EU ETS directive will not be sufficient to mitigate the interactions of renewable energy and energy efficiency policies with the EU ETS**, unless an unexpected proposal comes out of the trilogue negotiations.

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The revision of other EU legislations thus appears as an opportunity to create a consistent policy mix and manage the interactions between the different policy instruments. In particular, **the Governance Regulation, which, as proposed by the EU Commission, aims at ensuring the achievement of EU targets while ensuring policy coherency, could be enhanced to specifically address overlapping policies with the EU ETS.**⁴

⁴ The research program COPEC II will now focus on interactions between the different pieces of the 2030 climate and energy framework. A specific report on this issue will be published in early 2018.