

EU ETS Phase IV CSCF application and market balance

**Comparison between the European Commission,
Parliament and Council phase IV proposals**

19/05/2017

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Objective of this study

The main objective of this study is to compare the impacts on the EU ETS cross-sectoral correction factor (CSCF) application and market balance of:

- The European Commission (EC) proposal of July 2015
- The European Parliament (EP) Amendments of February 2017
- The European Council General Approach of February 2017

Contents

This slide deck contains the following sections:

- Summary of key findings
- Outline model
- Comparison of the three Phase IV positions (Commission, Parliament, Council) on:
 - CSCF application: total free allowances unused/shortage at the end of Phase IV (2030)
 - CSCF application: impact of a hot metal benchmark update on the total free allowances unused/shortage
 - Market balance: total allowances in circulation
 - Market balance: total allowances in MSR
- Annex: modelling assumptions

Summary of key findings

All proposals show a free allowance shortage at a minimum benchmark (BM) update and unused free allocation at maximum BM update

- > A shortage would result in the cross sectoral correction factor (CSCF) being triggered, which could lead to even the best performing installations facing a shortage of free allowances.

The Parliament amendments show the lowest probability of a CSCF application

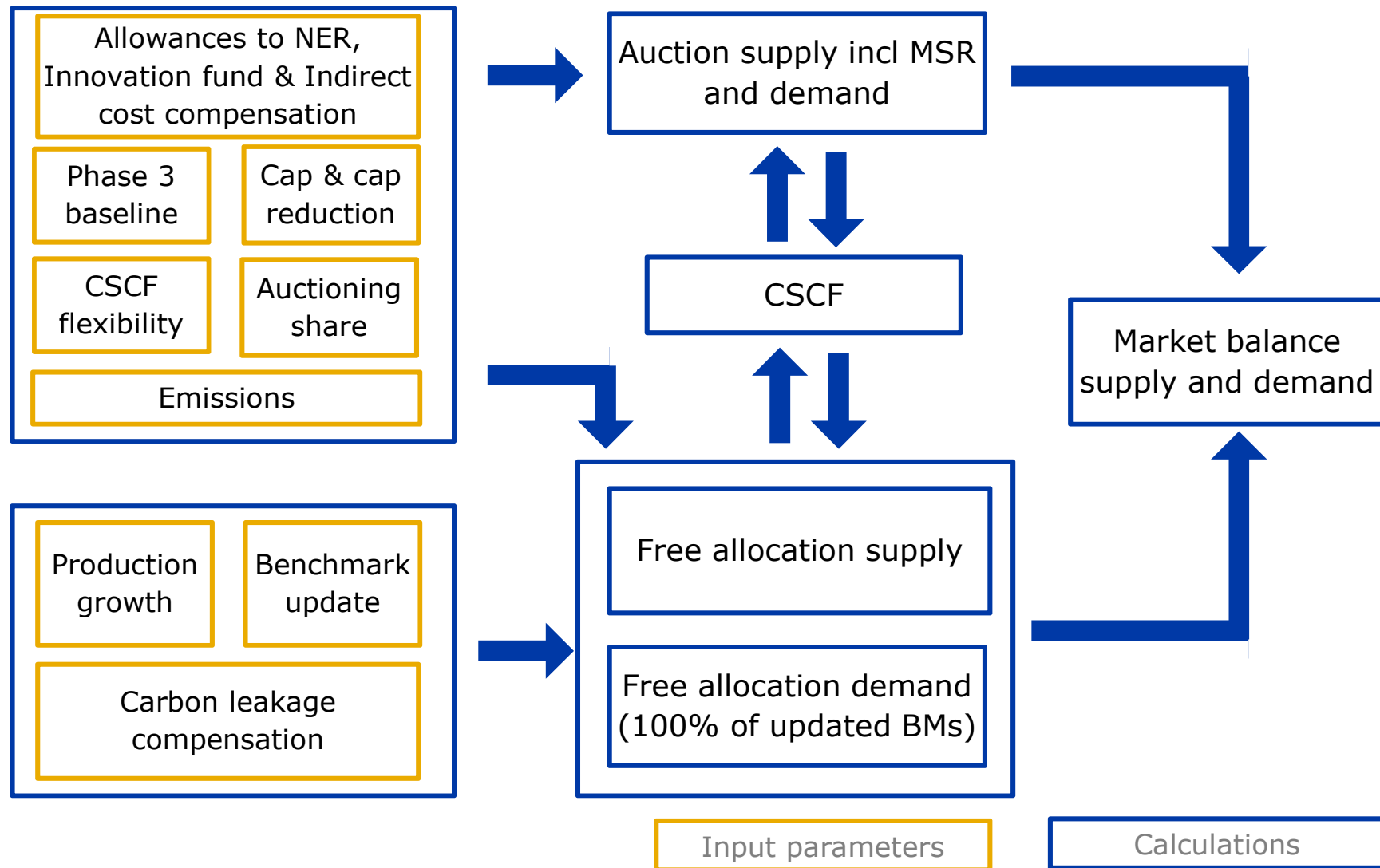
- > The CSCF flexibility to use up to 5% share of the cap for free allocation reduces the probability of the CSCF significantly compared to the other reform proposals.

Should the full carbon content of waste gases used for electricity production be included in the BM update, this increases the probability of a CSCF application

- > If the hot metal benchmark would increase by 10% due to full inclusion of waste gases, this would be equal to about 0.4% of the Phase 4 allowances (under a 1% BM update across all sectors). In turn, this leads to the total free allowances demand to allocate all installations up to their BM levels becoming higher, increasing the probability of a CSCF application.

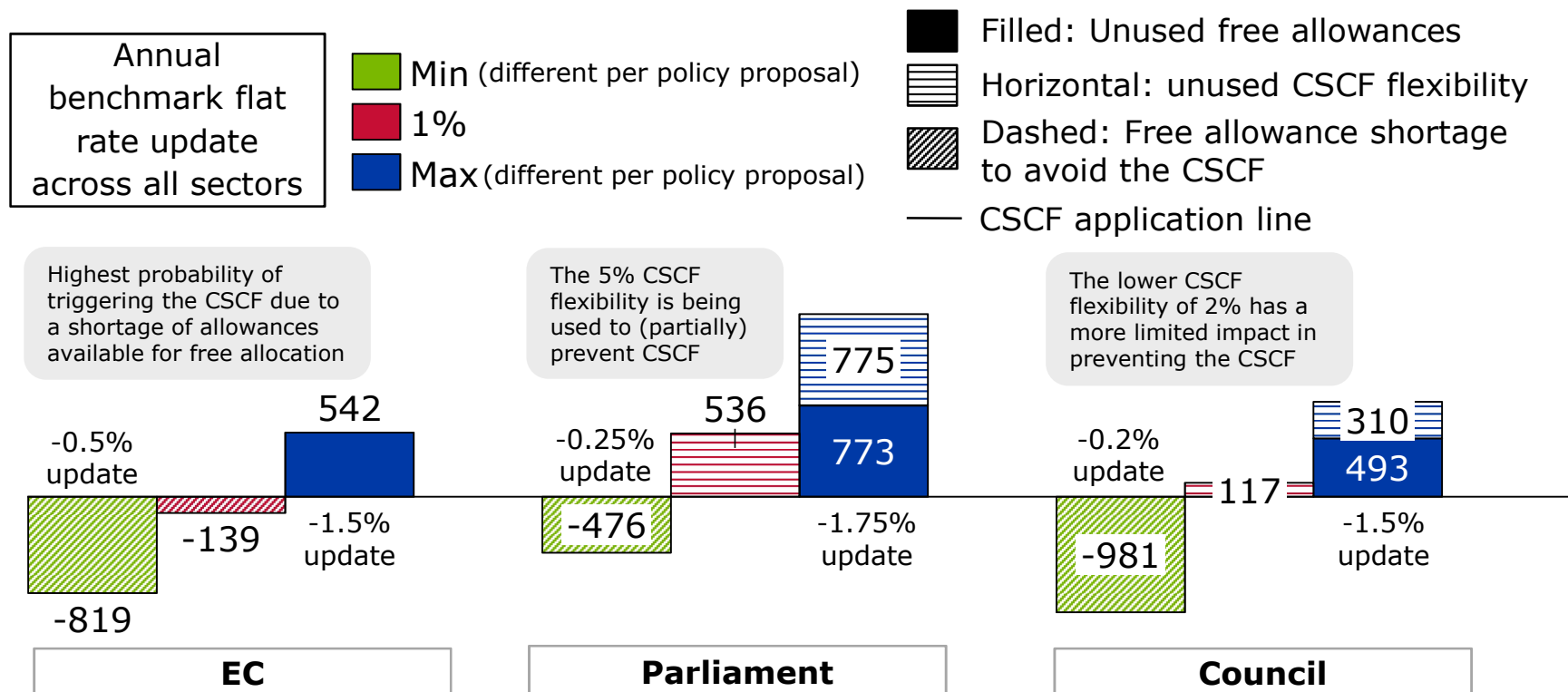
The Parliament amendments have the largest impact on lowering the surplus on the market by the end of 2030, whereas the Council General Approach cancels the most allowances from the MSR

The Ecofys E3C3 model calculates different components of the EU ETS to determine the CSCF and market balance



All proposals have an allowance shortage at a minimum BM update and unused allocation at maximum BM update

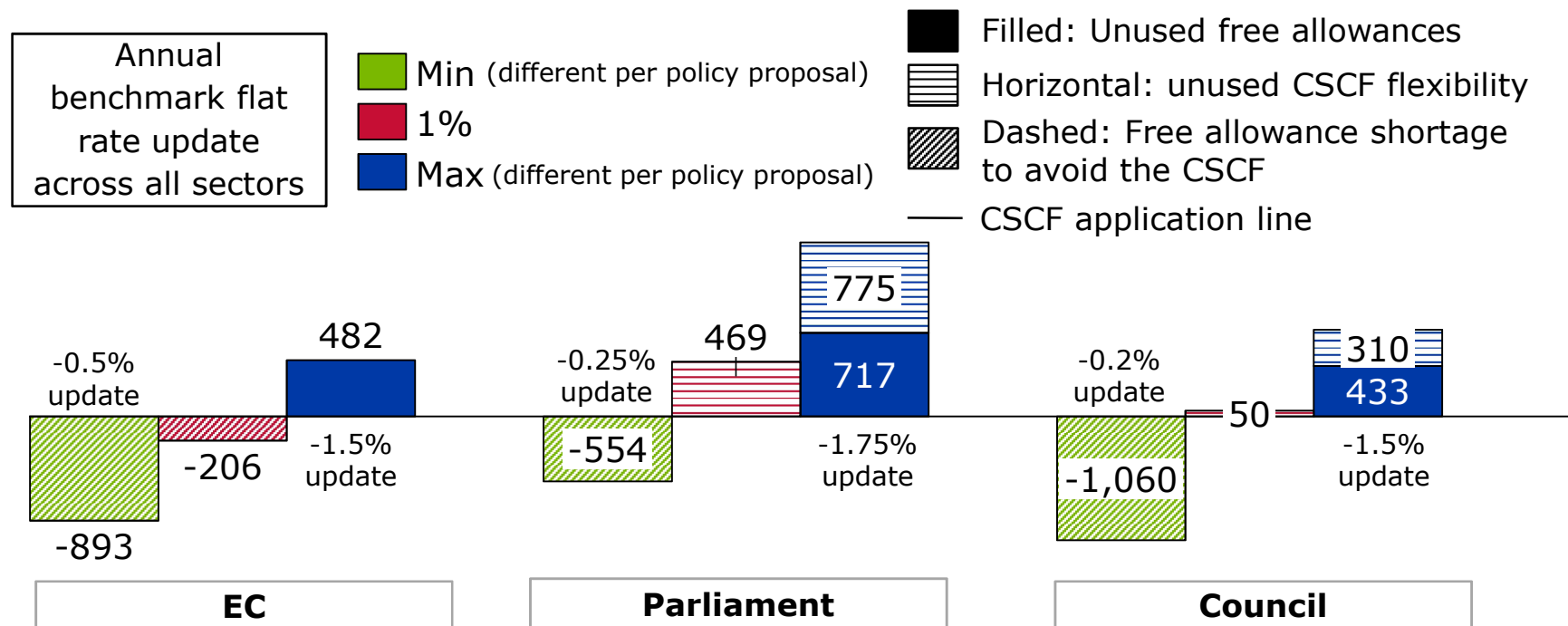
Free allowance unused/shortage at the end of Phase 4 (2030) under different policy proposals and BM update scenarios



- > Besides these allowances, there are also potentially unallocated allowances from the NER and the proposals do not specify what will happen with these allowances at the end of Phase IV → in the Parliament amendments where they come from the free allocation supply, these unused allowances decrease the available EUA supply, effectively reducing the ETS cap

Including the full carbon content of waste gases in the BM setting would increase the probability of the CSCF

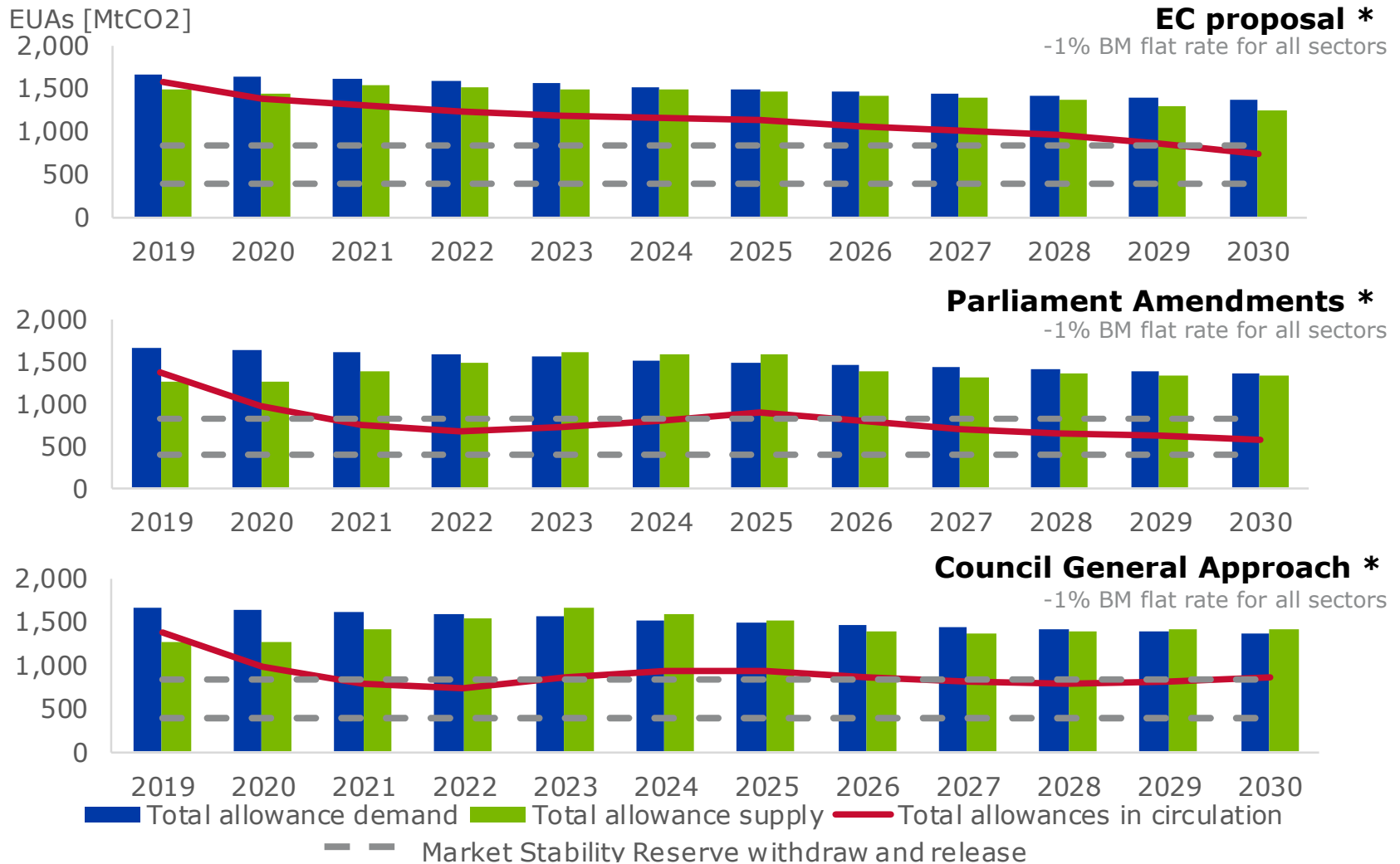
Free allowance unused/shortage at the end of Phase 4 (2030) under different positions and BM update scenarios with 10% higher hot metal BM



- > AM165 of the Parliament proposes to include the full carbon content of waste gases used for electricity production in the benchmark calculation
- > To illustrate this impact, if the hot metal benchmark would increase by 10%* with full inclusion of waste gases, this would equal to about 0.4% of the Phase 4 EUAs under 1% BM update

*Value based on <http://www.eurofer.org/News%26Events/Archives/Press%20releases/EUROFER%20Goes%20to%20Court%20on%20EU%20ETS.fhtml>

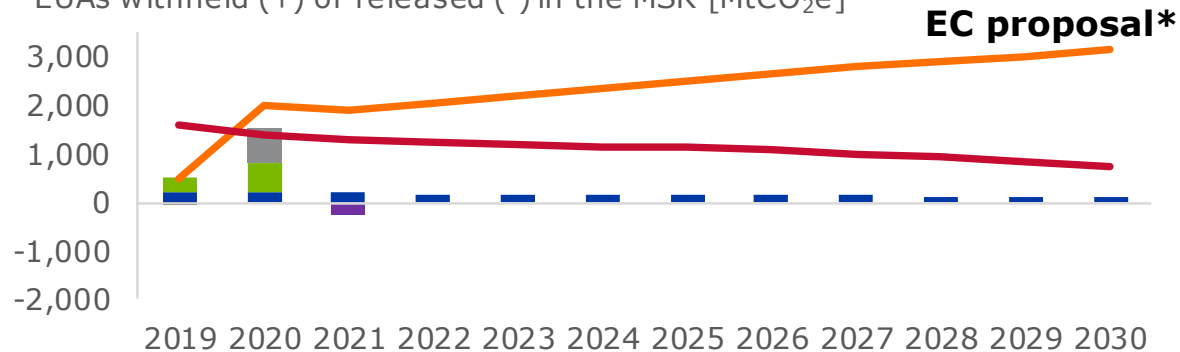
The Parliament amendments have the largest impact on lowering the surplus on the market



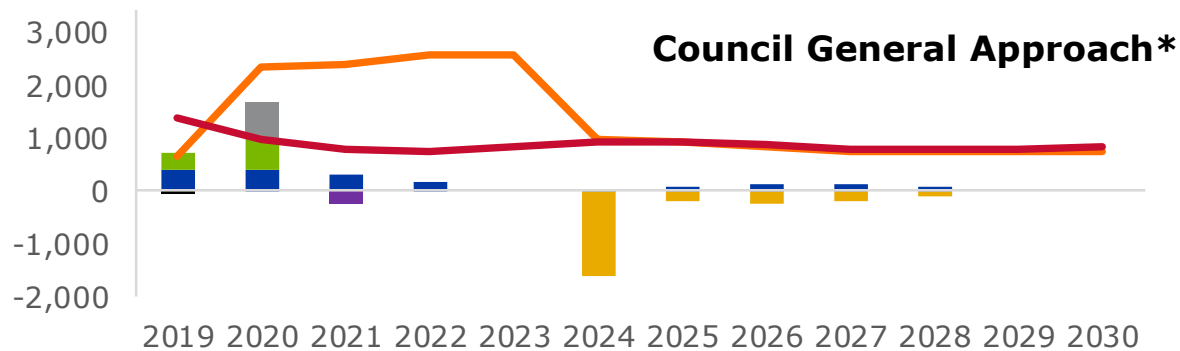
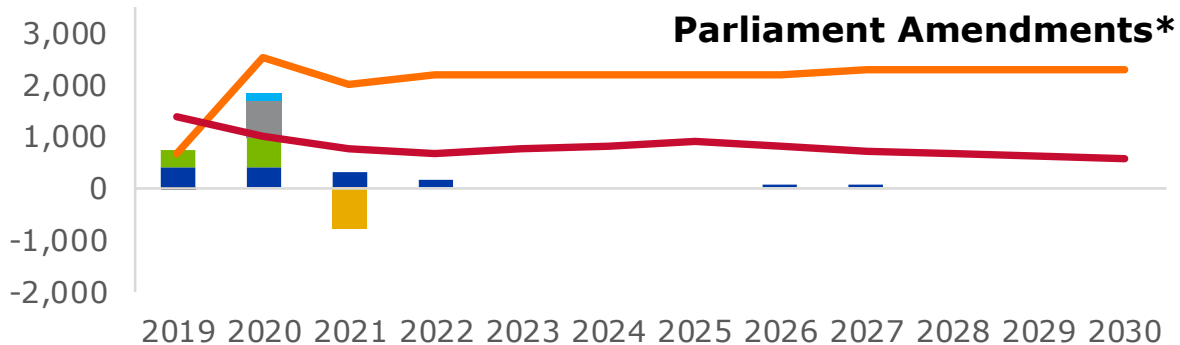
*Note: This is under the assumption that unallocated allowances in 2030 are not available to the market. The total allowance supply include the MSR effects. As specified in the MSR Decision, aviation allowances and emissions are not considered in the determination of the total allowance in circulation.

The Council General Approach removes a large amount of allowances from the MSR

EUAs withheld (+) or released (-) in the MSR [MtCO₂e]



- > Under the EC proposal, modelling results show that the MSR withdraws allowances throughout Phase IV
- > Under the Council General Approach, 2.3 billion EUAs** from the MSR have been cancelled by the end of Phase IV



- EUAs to the NER
- EUAs cancelled
- EUAs to the Innovation fund
- Leftover non-CL EUAs Phase III
- Unallocated EUAs Phase III
- EUAs from backloading
- Regular MSR mechanism
- Total EUAs in the MSR
- Total allowances in circulation

*-1% BM flat rate for all sectors
 **The expected allowances to be cancelled strongly depend on the underlying modelling assumptions

Annex – General modelling assumptions (1)

> EU ETS input parameters and growth rates

- The EU ETS emissions are a static modelling input
- The total allowances in circulation in 2016 published by the EC is used as the basis for future surplus calculations, i.e. 1,694 million EUAs¹
- Future EU ETS emissions are projected based on the PRIMES 2016 reference scenario beyond 2016 (-1.5% per year for 2016-2020 and -1.9% per year for 2021-2030)
- For consistency with the future emission projections, the PRIMES sector value added growth rates are used (except refineries based on fuel input), see table below.
- The sector value growth rates used as a proxy for production growth rates to determine the free allowances required to fully compensate all sectors up 100% of the benchmark values after application of the annual flat rate update. It should be noted that production growth rates are different from value added growth rates.
- For details on the modelling approach on the CSCF application, see <http://www.ecofys.com/en/news/ecofys-launches-eu-ets-carbon-cost-calculator/>

| Annual sector value added growth rates | '16-'20 | '21-'30 | Annual sector value added growth rates | '16-'20 | '21-'30 |
|--|---------|---------|--|---------|---------|
| Steel production | 0.6% | 0.5% | Chemicals production | 1.2% | 1.1% |
| Cement production | 0.6% | 1.2% | Other industries | 0.8% | 1.0% |
| Refineries production | -1.3% | -0.6% | | | |

¹ Source: https://ec.europa.eu/clima/sites/clima/files/ets/reform/docs/c_2017_3228_en.pdf

Annex – General modelling assumptions (2)

> **Cap and auctioning**

- Linear cap reduction factor of 2.2% per year in Phase IV
- Before taking the CSCF flexibility into account, auctioning share of 57%
- The EUAs to be auctioned from the different funds are assumed to spread out over Phase IV in line with the stationary installation cap.

> **Market stability reserve**

- Backloading of 300 million EUAs in 2019 and 600 million EUAs in 2020.
- Unallocated Phase 3 allowances from (partial) cessation, closures and leftover NER EUAs are assumed to be 700 million¹, going in the MSR at the end of 2020.
- 50 million allowances from MSR auctioned for Innovation Fund before 2021.

> **New Entrant Reserve (NER)**

- A decrease or increase of at least 10% in production expressed as a rolling average of verified production data for the two preceding years is adjusted with a corresponding amount of allowances by placing allowances into, or releasing them from the NER. The result is that in the model a large part of the NER allowances remain unallocated by the end of Phase IV

¹ Based on communication with EU ETS market analysts

Annex – Policy proposal specific modelling assumptions (1)

| Parameter | EC Proposal | Parliament Amendments | Council General Approach |
|--|-------------|-----------------------|--------------------------|
| CSCF flexibility as % of total cap | 0% | 5% | 2% |
| Indirect cost compensation from free allocation as % of total cap | 0% | 1% | 0% |
| Innovation fund from free allocation share [million EUAS] | 400 | 0 | 400 |
| NER from free allocation share [million EUAS] | 0 | 400 | 0 |
| Compensation factor for non-CL installations other than district heating | 30% | 0% | 30% |
| CSCF exemption - threshold trade intensity | N/A | 15% | N/A |
| CSCF exemption - threshold emission intensity [kgCO ₂ e/€ GVA] | N/A | 7.00 | N/A |
| Unallocated allowances from MSR for NER Phase IV | 250 | 0 | 250 |
| Max additional EUAs cancelled from auction share that are not used for the CSCF flexibility [million EUAS] | 0 | 200 | 0 |

Annex – Policy proposal specific modelling assumptions (2)

- > **Leftover non-CL allowances** from the CSCF calculation are assumed to be 145 million¹:
 - Going into the MSR at the end of 2020 under the EP Amendments
 - Going into the NER at the end of 2020 under the EC proposal and Council General Approach
- > **The MSR withholding quantity** doubles from 12% to 24% of the total allowances in circulation:
 - In the first four years of the start of the MSR (2019) under the EP Amendments
 - In the first five years of the start of the MSR (2019) under the Council General Approach
- > **The MSR release quantity** doubles from 100 million to 200 million EUAs in the first five years of the MSR operation (2019) under the Council general approach
- > **The quantity of allowances in the MSR are cancelled:**
 - 800 million EUAs in 2021 under the EP amendments
 - The difference between the EUAs in MSR in a certain year and the auction volume of the previous year from 2024 onwards under the Council general approach

¹ Source: https://ec.europa.eu/clima/sites/clima/files/ets/revision/docs/impact_assessment_en.pdf

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