EU ETS reform: Comparative evaluation of the different options

Presentation for BusinessEurope

Executive Summary

Fabien Roques, Guillaume Duquesne

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A series of economic and political factors have led to a surplus of ETS allowances.

- The cumulated surplus of allowances resulted from a combination of :
  - Significant **imports of international credits** ;
  - The **reduction in industrial demand during the recession** that followed the 2008 crisis ; and
  - The implementation of EU and national **overlapping policies** to support e.g. renewables and energy efficiency that have decreased emissions outside the ETS market.

EU ETS emissions (stationary installations)

Source: http://www.eea.europa.eu/data-and-maps/data/data-viewers/emissions-trading-viewer

This study aims at assessing quantitatively the impact of different ETS reform propositions, and their effect on the industrial sectors.

Objectives of the study

- Use proprietary **model of the ETS market** to evaluate the impact of the possible reforms.
- Assess **potential effects** of the EC, Parliament and Council positions on:
  - The supply of free allowances for sectors on the carbon leakage list and the impact of the CSCF.
  - The carbon price, taking into account the potential strategic behaviour by market participant.
  - The evolution of the allowances in the MSR in Phase IV.

Deliveries

- Clear **understanding of reform options** on the table and associated trade offs.
- **Provide fact-based evidence** by modelling the impact of different positions on ETS reform, based on in-house proprietary models.
- Assessment of **support mechanisms** and **carbon leakage mitigation measures**.

Key findings of the study

1 The (temporary) **doubling of MSR intake rate** from 2019 envisioned by the Parliament and the Council positions as well as the BusinessEurope preferred compromise **would lead to higher carbon prices as early as 2017**, favouring coal-gas switching in the power sector.

➡ The (temporary) doubling of MSR intake rate would facilitate the market re-balancing as early as 2017 with agents taking speculative positions in anticipation of higher carbon prices in the future.

2 In all scenarios, irrespective of changes regarding increased flexibility of free allowances or changes to the MSR, **emission reductions will stay in line with the EU decarbonisation targets trajectory**.

➡ The (temporary) doubling of MSR intake rate would facilitate the market re-balancing.

3 The **carbon leakage framework envisioned by the EC and Council would trigger the CSCF before 2030**, implying allowances cuts even for best performers over Phase IV and **therefore additional costs (€20.8b and €11.0bn respectively)**, whilst the Parliament position and the BusinessEurope preferred compromise would not lead to the CSCF activation before 2030.

➡ A higher share of (free) allowances to be entitled for carbon leakage protection would not alter supply and demand and would have no impact on carbon prices, but it would limit the burden on industrial sectors.

4 The **cancellation of allowances envisioned by the Council and Parliament would limit the growth of the MSR** in the long term, but it would have only a limited impact (if any) on prices and emissions over Phase IV.

➡ MSR would not release allowances before 2030.

Note: MSR = Market Stability Reserve.

European Commission, Parliament and Council have different views on how to set the key features of the ETS for phase 4.

		Key features	EC proposal	Parliament position	Council position
Restore demand/ supply balancing		**Higher Linear reduction factor**	2.2% from 2021	≈ 2.2% from 2021 with option for 2.4% from 2024.	= ★ 2.2% from 2021.
Restore demand/ supply balancing		**Doubling of MSR intake rate and cancellation**	12%, starting in 2019, • 12% of oversupply (>833 million) to be withdrawn ; • 100 million to be release if oversupply <400 million.	≠ Doubling to 24% until the market balance has restored, starting in 2019. 800 million allowances cancelled in 2021. Only (temporary) doubling ★	≠ Doubling to 24% for 5 years, starting 2019. Starting 2024, allowances in the MSR above allowances auctioned during the previous year no longer valid.
Mitigating carbon leakage risk and preserving competitiveness	Structural measures	**Ratio of auction vs. free allocation share**	57%, no shift.	≠ ★ 57% up to 5% from auctioned to free allowances if the binary CSCF is triggered.	≠ 57%, up to 2% shift if CSCF is triggered.
Mitigating carbon leakage risk and preserving competitiveness	Structural measures	**Carbon leakage list**	Binary approach. Narrowing to 50 sectors (from 177 initially).	≠ No tiered approach. 30% is gone except for district heating.	≈ ★ Binary approach. 30% sectors are included.
Mitigating carbon leakage risk and preserving competitiveness	Structural measures	**Benchmarks**	Subject to the average improvement rate = 0.5% - 1.5% depending on industry. No caps.	≠ Subject to the average improvement rate compared to the past performance. With caps: 0.25% and 1.75%.	≠ ★ Same as Parliament, but with lower caps: 0.2% and 1.5%. But not convince of flat rate
Mitigating carbon leakage risk and preserving competitiveness	Support funds + NER	**New Entrance Reserve (NER)**	250 million allowances from MSR, plus unallocated Phase III allowances.	≠ 400 million, taken from free allowances under Phase IV.	= ★ 250 million from MSR, plus unallocated Phase III allowances.
Mitigating carbon leakage risk and preserving competitiveness	Support funds + NER	**Indirect costs**	No EU fund. To be compensated through optional national State Aids.	≠ ★ EU fund : 465 million allowances funded with auctioned (2/3) and free (1/3) allowances. Continuous degression of notational indirect cost compensation. Optional national top-up.	= Same as EU proposal.
Mitigating carbon leakage risk and preserving competitiveness	Support funds + NER	**Innovation Fund**	400 million funded with free allowances, plus 50 unallocated allowances MSR.	≠ ★ Increase from 400 to 600 million, paid from auctioned allowances.	= Same as EU proposal, 400 million funded with free allowances, plus 50 unallocated allowances MSR.
Mitigating carbon leakage risk and preserving competitiveness	Support funds + NER	**Just Transition Fund**	Not mentioning.	≠ 2% of auction revenues.	= No mentioning.
Mitigating carbon leakage risk and preserving competitiveness	Support funds + NER	**Modernisation Fund**	2% of auctioned allowances.	= 2% of auctioned allowances.	= ★ 2% of auctioned allowances.

KEY: ★ BusinessEurope's preferred compromise | ≠ Different from EC proposal | = Same as EC proposal | ≈ Roughly the same as EC proposal

We have assessed quantitatively each ETS reform option, using eight indicators.

Main assumptions

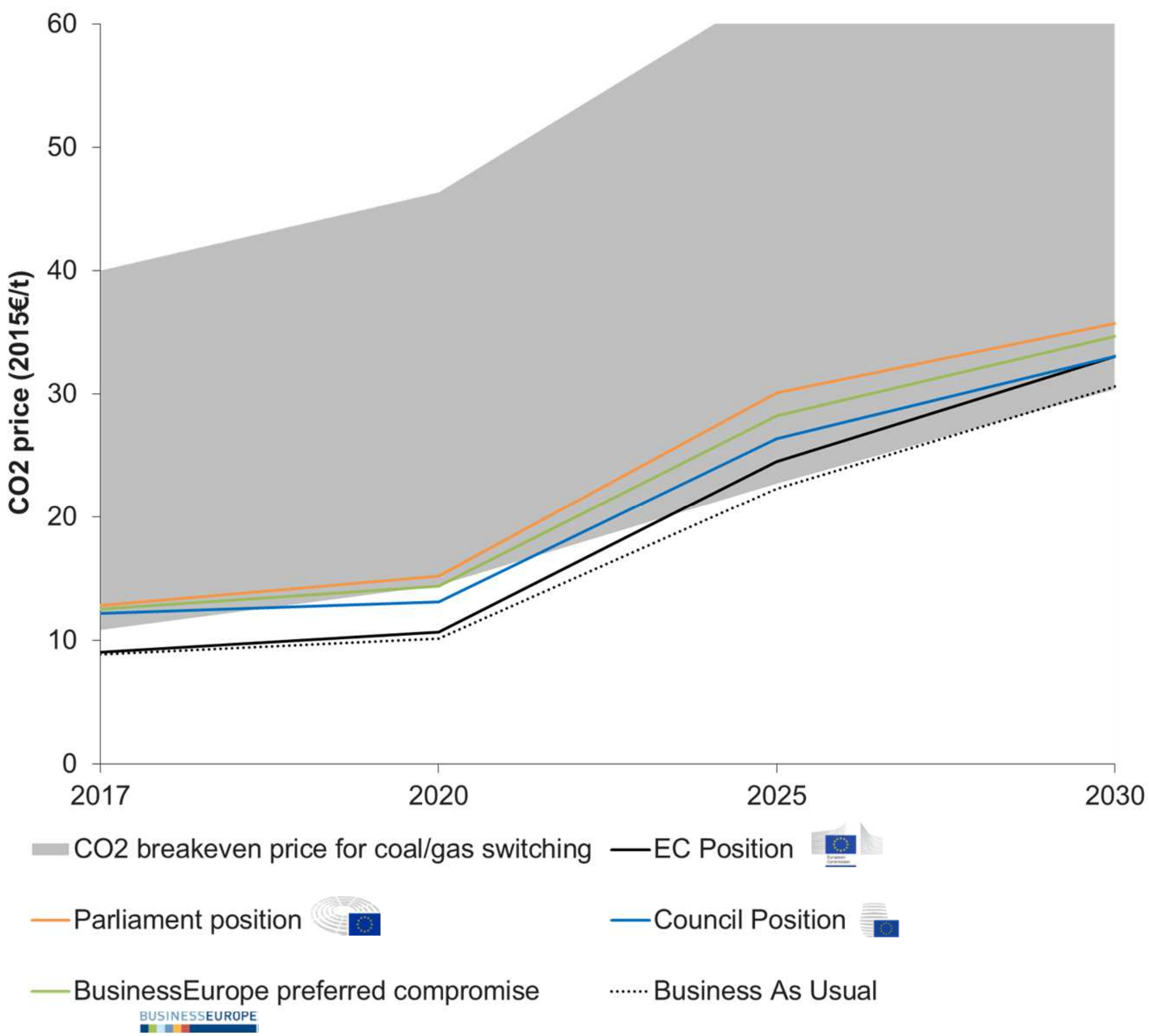
- Growth 1% p.a, aggregated view of the industrial sectors.
- Benchmark average flat rate: 0.5% p.a; parliament position without waste gas inclusion.
- No regulation overlap impact.
- Hedging behaviour taken into account.
- No Brexit effects.
- Out of the scope:
  - Qualitative assessment
  - Dynamic allocation
  - PRODCOM vs. NACE
  - Degressive nature of indirect costs
  - Small emitters
  - Borders adjustments

Concerns at stake	Indicators
1 Restore supply/demand balance	EU ETS carbon prices
	Emissions under EU ETS
	Surplus
	MSR
2 Mitigate carbon leakage risk and preserve competitiveness	Free allowances to industrial sectors
	Cross-sectoral Correction Factor (CSCF)
	Support funds + NER
	Costs for industrial sectors

A doubling of MSR intake rate would lead to higher carbon prices until 2030, favouring coal-gas switching in the power sector.

- The doubling of MSR intake rate envisioned by all positions (but EC position) would **lead to higher carbon prices until 2030**, favouring coal-gas switching.
  - The speed at which carbon **prices increase depends on the level of MSR intake rate**, i.e. speed at which the market rebalances.
  - The EC position may lead to some coal-to-gas switching after 2025, but only for the least efficient installations.
- The **higher carbon prices in the Parliament position and BusinessEurope preferred compromise are due to difference in funds and NER**.
  - In the Parliament position, the **NER is furnished with free allowances that are in the market, taken from Phase IV budget**, while in Council and EC positions as well as BusinessEurope preferred compromise unallocated allowances from Phase III. The ETS market is thus tighter for the Parliament position.
  - Parliament and BusinessEurope envision an EU indirect costs fund and a larger innovation fund, which affects the amount of allowances available in the market each year.
- The **ratio of auction vs. free allocation share has no material impact on the evolution of carbon prices.**
  - Parliament and BusinessEurope propose to increase allowances available for free allocation by 5 percentage points (Council 2%) to avoid the use of the CSCF. This **does not alter the balance between supply and demand**, but only the distribution of allowances.

EU ETS carbon price (real 2015)

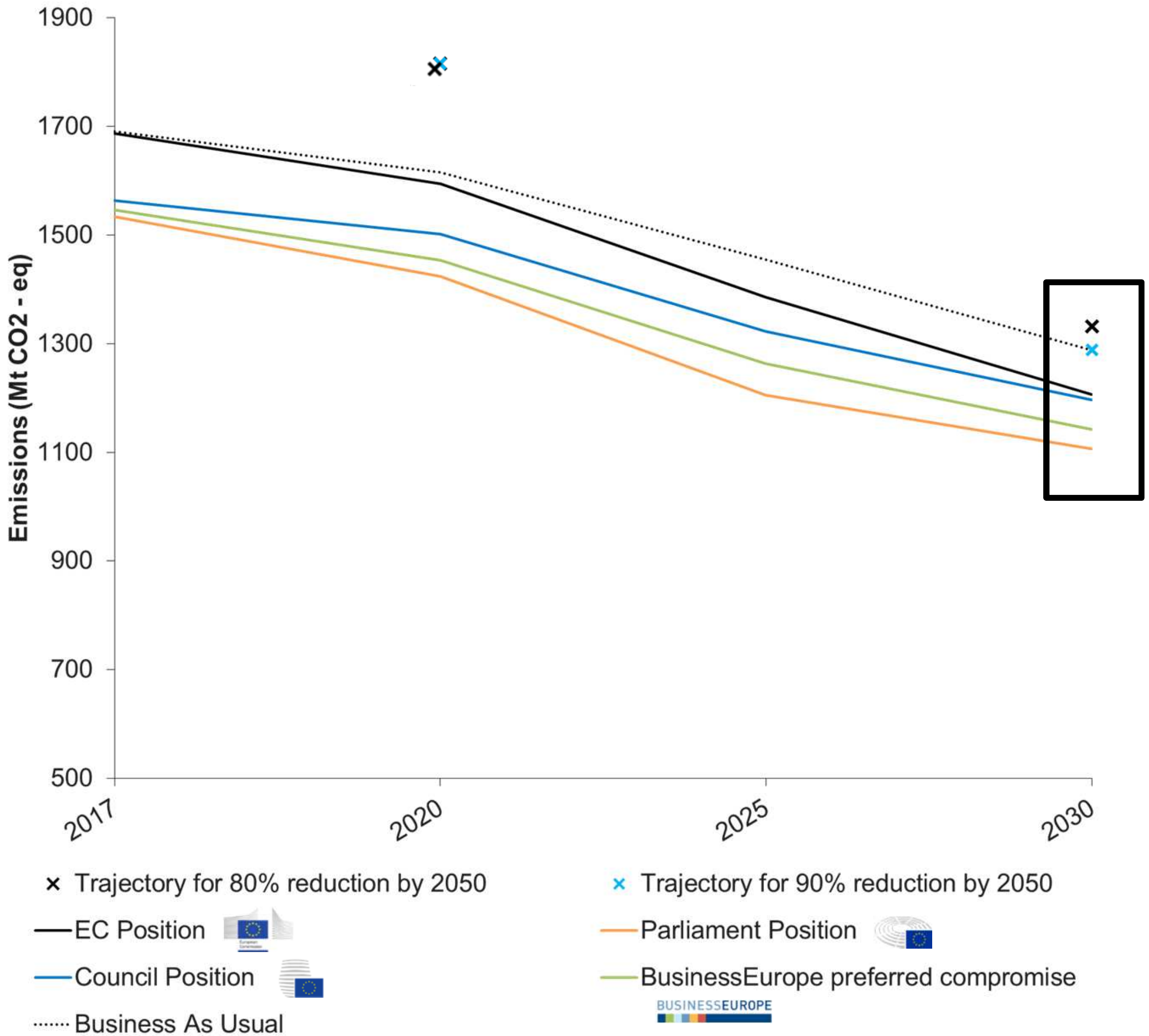


Note: (i) CO2 breakeven price for coal-gas switching is represented by a price range due to the range of efficiencies of existing plants. (ii) MSR under Parliament is considered permanent (until market balance has restored) and temporary under Council position and BusinessEurope preferred compromise. (iii) Business As Usual : same as EC but for LRF = 1.74%.

In all options, emissions reductions would stay in line with the ambitious trajectory for 90% reduction by 2050.

- **All options meet the ambitious EU emissions reduction targets** in 2020 and 2030.
  - **Market participants** anticipate higher prices and buy additional credits for future use which drives price up and emissions down.
- The **lower emissions levels in the Parliament position and BusinessEurope preferred compromise is due to difference in funds and NER**.
  - In the Parliament position, the **NER is furnished with free allowances that are in the market, taken from Phase IV budget**, while in Council and EC positions as well as BusinessEurope preferred compromise unallocated allowances from Phase III are used. The ETS market is thus tighter for the Parliament position.
  - Parliament and BusinessEurope envision an EU indirect costs fund and a larger innovation fund, which affects the amount of allowances available in the market each year.
- The **ratio of auction vs. free allocation share has no material impact on evolution of emissions.**
  - The increase in allowances available for free allocation **does not alter the balance between supply and demand**, but only the distribution of allowances.

Overall emissions under the ETS



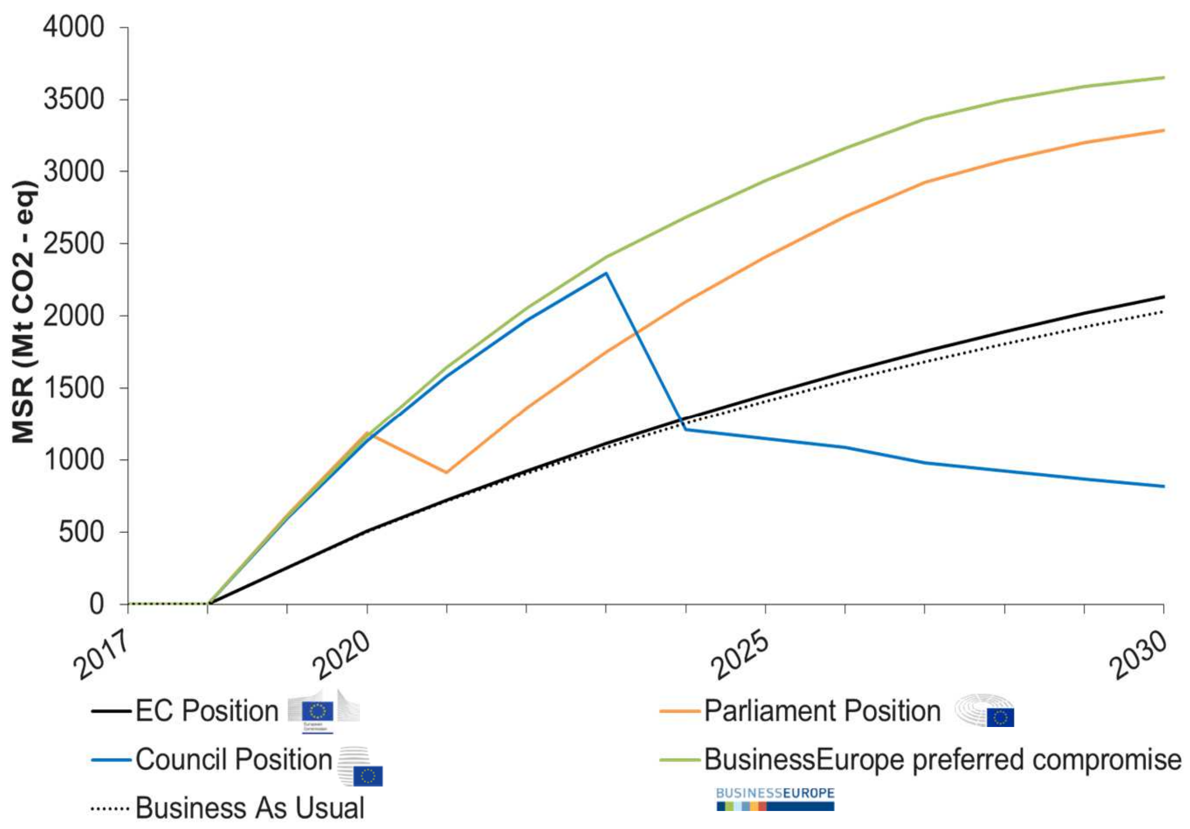
Note : (I) EU ETS targets calculated based on the verified emissions for ETS sectors as of 2005, and the EU emissions reduction targets expressed in % 2005 emissions reduction. (ii) Business As Usual : same as EC but for LRF = 1.74%.

Source: European Commission, "Impact assessment 2014 - A policy framework for climate and energy in the period from 2020 up to 2030", p. 105, footnote 122.

In all ETS reform options, but the Council position, the MSR will quickly grow to several billion allowances.

- **In all reform options, the MSR would still be activated by 2030.**
- The **cancellation of allowances** envisioned by the Council and to some extent the Parliament would **limit the growth of the MSR**.
- The **size of the MSR has however no impact** (before 2030) as no allowance would be released to the market before 2030 .
- The doubling of MSR intake rate envisioned by the Parliament and the Council positions as well as BusinessEurope preferred compromise leads to a **more pronounced increase of the MSR before 2025**, because a **greater number of allowances is removed from the market**.

MSR



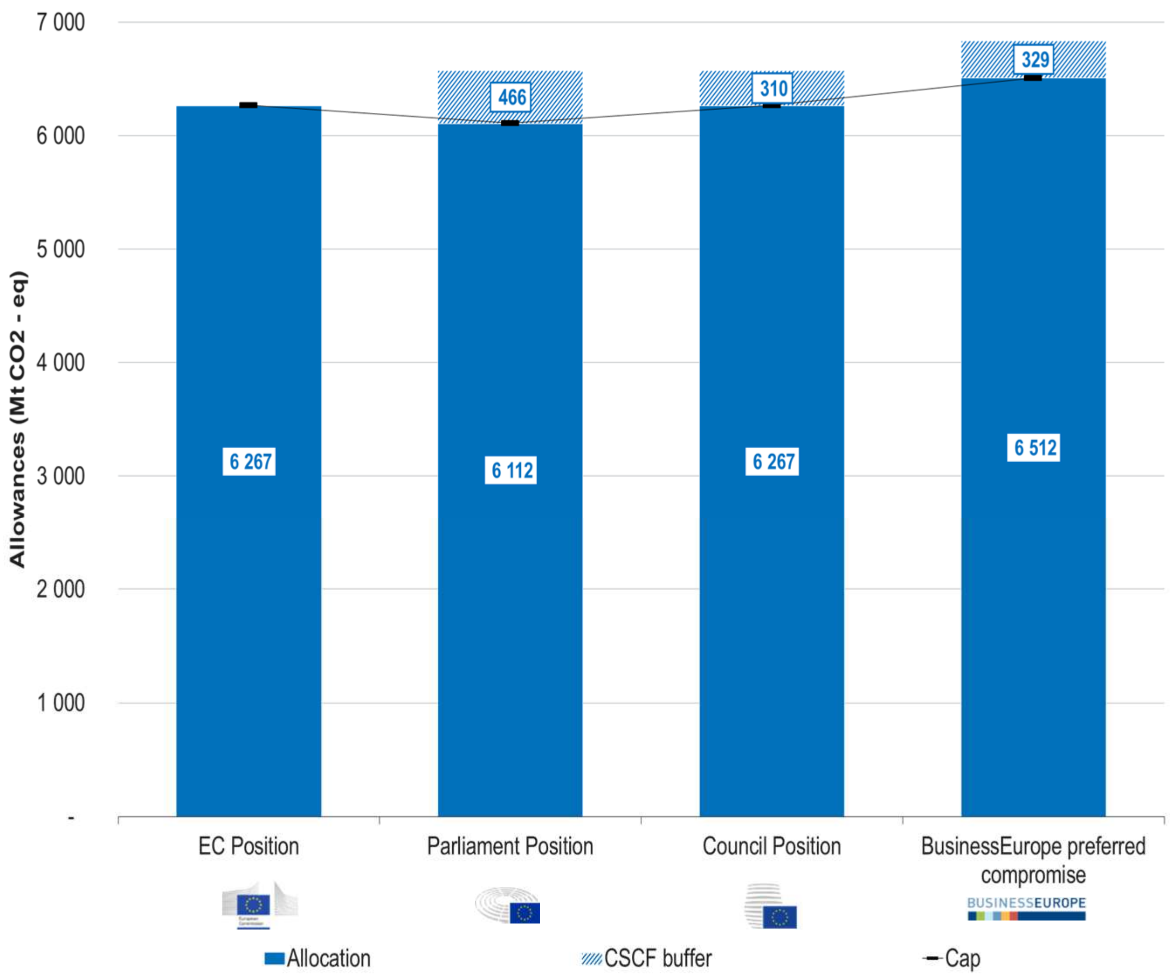
Note : (i) Parliament position provides for cancellation of 800 allowances in 2021. Council position provides for recurrent cancellation from 2024. (ii) Business As Usual : same as EC but for LRF = 1.74%.

2 Mitigate carbon leakage risk and preserve competitiveness : free allowances

Over phase IV, up to 6,841 million of allowances would be allocated for free to stationary installations.

- Up to **6,841 million of allowances are to be allocated for free over Phase IV**:
  - **EC proposal**: 6,267 million of free allowances + 700 million funds (excl. modernisation fund) and NER.
  - **Parliament position**: 6,578 million of free allowances including used CSCF buffer + 1,465 million funds (excl. modernisation fund) and NER.
  - **Council position**: 6,577 million of free allowances including used CSCF buffer + 700 million funds (excl. modernisation fund) and NER.
  - **BusinessEurope preferred compromise** : 6,841 million of free allowances including used CSCF buffer + 1,315 million funds (excl. modernisation fund) and NER.
- **Ratio of auctioned vs. free allocation shifts up to** 2 percentage points for Council, 5 percentage points for Parliament and BusinessEurope.
  - **This delays the application of the CSCF** (and free allowances cut), increasing the number of allowances to be allocated for free.
- The way **funds are funded may reduce the number of free allowances allocated** to industrial sectors.
  - Innovation fund are funded with auctioned allowances for Parliament; free allowances for Council and EC (reducing the amount available for industrial sectors).
  - No indirect costs funds for EC and Council positions.
  - Within the Parliament position, NER furnished with free allowances from Phase IV, so it reduces allowances available for industry.

Free allowances under Phase IV, Stationary installations



Note : (i) Industrial growth : 1%; Benchmark updates : 0.5%. (ii) CSCF buffer = Allowances to be effectively shifted from auctioned to free. (iii) We do not model the qualitative assessment which could increase the entitlements for free allowances. Therefore, the figure here are lower bounds.

2 Mitigate carbon leakage risk and preserve competitiveness : CSCF and Costs for industrial sectors

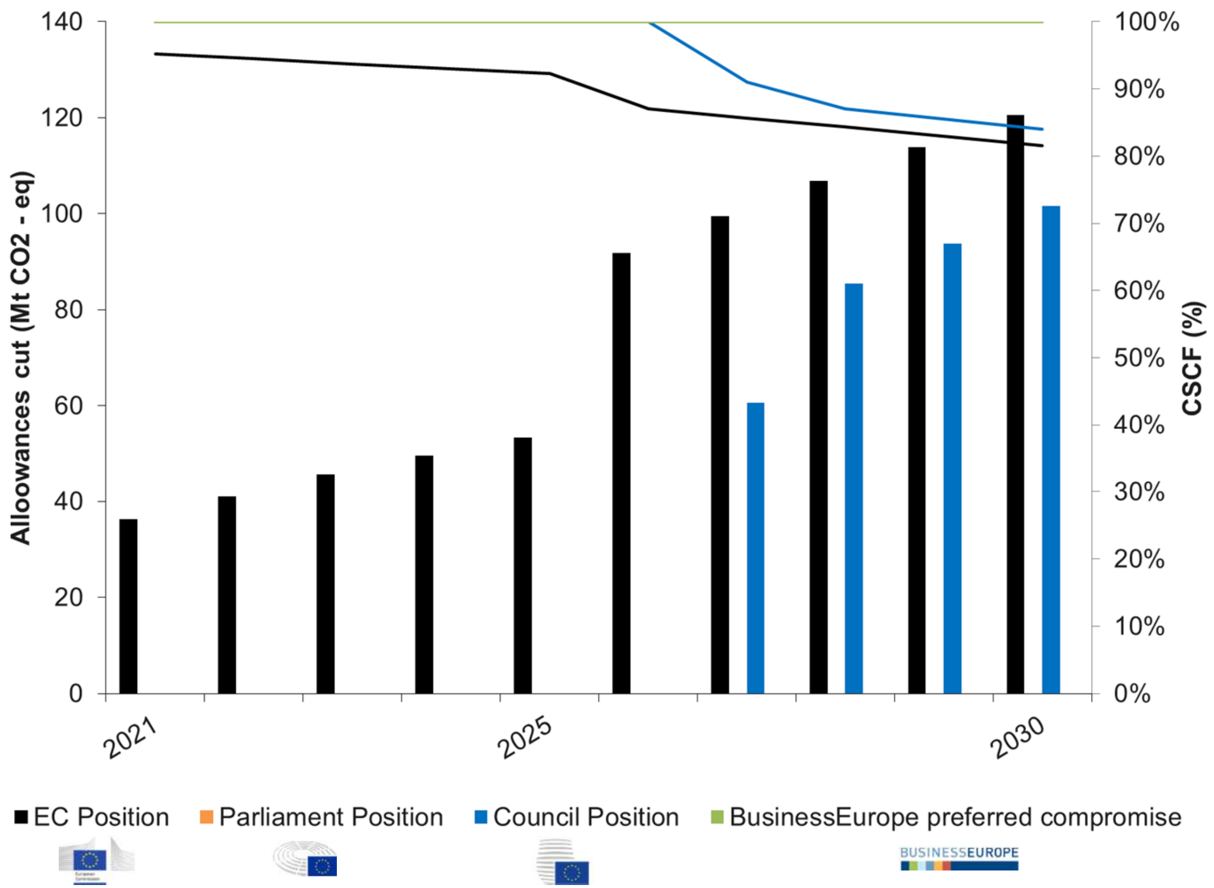
EC and council positions would trigger the CSCF before 2030, implying allowances cuts even for best performers over Phase IV.

- Up to **758 million of allowances to be cut over Phase IV**:
  - **EC proposal**: 758 million of allowances.
  - **Parliament position**: 0 million of allowances.
  - **Council position**: 341 million of allowances.
  - **BusinessEurope preferred compromise** : 0 million of allowances.

- The Parliament position **prevents a cut in free allowances.**
  - **Auction vs. free allocation share ratio shift** up to 5 percentage points for Parliament **prevents the application of the CSCF** and therefore free allowances cuts.
  - **Mid-term benchmark update** based on actual performances of best performers would **offset the need to trigger the CSCF**.

- EC and Council positions **cause additional costs due to allowances cuts for stationary installations of 20.8 billion € (EC) and 11.0 billion € (Council)** respectively over Phase IV(ii).

Allowances cut under Phase IV, Stationary installations



Note : (i) Industrial growth : 1%; Benchmark updates : 0.5%. (ii) Calculated as the sum product over Phase IV of annual allowances cuts and corresponding annual carbon price. Not expressed as a net present value – i.e. no discounting.

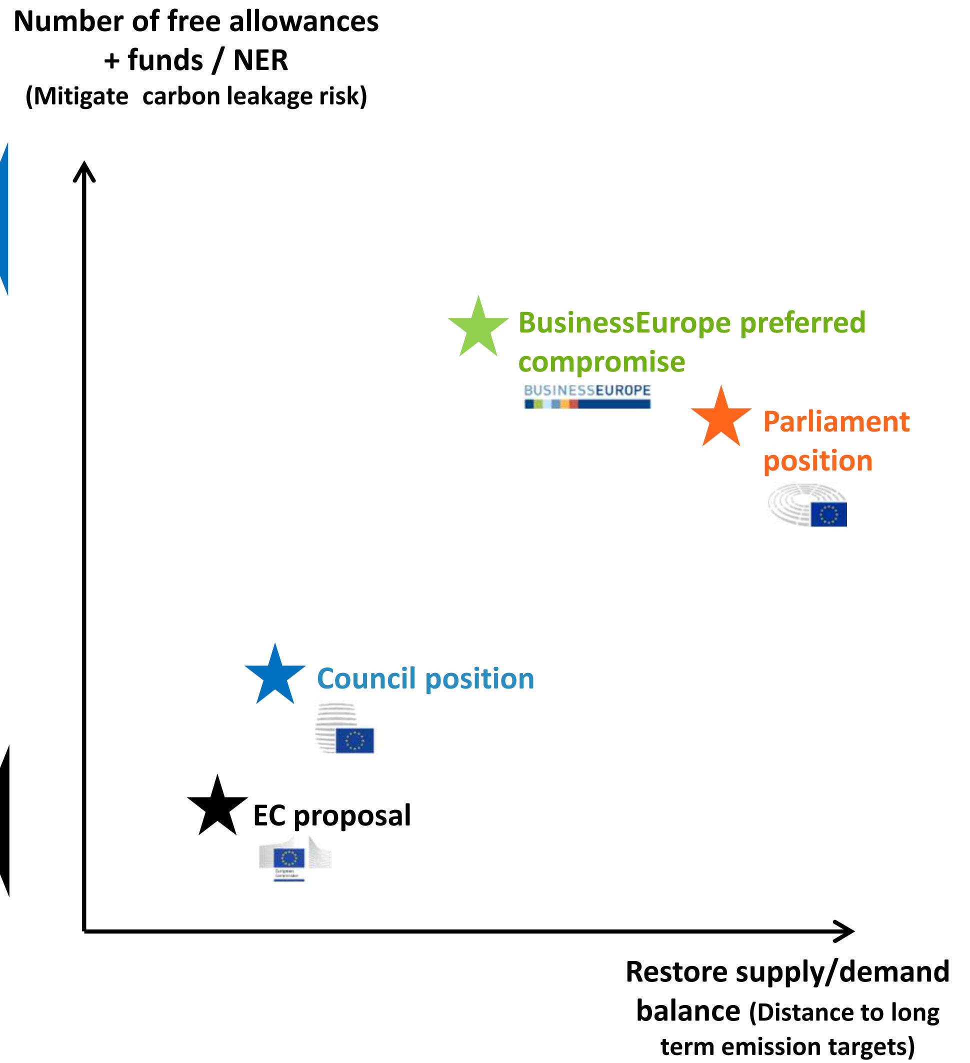
Summary

Council position

- **Meets the EU emissions reduction targets** in 2020 and 2030.
- **6,577 million of allowances** to be allocated for free over Phase IV. (42% of emissions cap)
- Funds (excl. modernisation fund) +NER: **700 million of allowances.**
- Additional cost: **11.0 billion €.**

EC position

- **Meets the EU emissions reduction targets** in 2020 and 2030.
- **6,267 million of allowances** to be allocated for free over Phase IV. (40% of emissions cap)
- Funds (excl. modernisation fund) +NER: **700 million of allowances.**
- Additional cost: **20.8 billion €.**



BusinessEurope preferred compromise

- **Meets the EU emissions reduction targets** in 2020 and 2030.
- **6,841 million of allowances** to be allocated for free over Phase IV. (44% of emissions cap)
- Funds (excl. modernisation fund) +NER : **1,315 million of allowances.**
- Additional cost: **0€.**

Parliament position

- **Meets the EU emissions reduction targets** in 2020 and 2030.
- **6,578 million of allowances** to be allocated for free over Phase IV. (42% of emissions cap)
- Funds (excl. modernisation fund) +NER : **1,465 million of allowances.**
- Additional cost: **0€.**

All options lead to a carbon price by 2030 of about 33-36€/t

<u>Note</u> : (i) Graph is not to scale; (ii) BusinessEurope preferred compromise = combination of Commission, Parliament and Council positions.

If you have any question about this presentation, please contact

Fabien Roques
Executive Vice President
FTI - COMPASS LEXECON

froques@compasslexecon.com
+33 1 53 05 36 29

Guillaume Duquesne
Senior Economist
FTI - COMPASS LEXECON

gduquesne@compasslexecon.com
+33 1 53 05 36 30