



Brexit risks for the European carbon market

Will the EU ETS experience a smooth ride or organised chaos?

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Snapshot

This White Paper provides a scenario-based impact assessment for the EU ETS market balance and our mid-term EUA price forecast.

Key Elements

- UK power emissions more than halved between 2008 and 2016, significantly reducing the sector's hedging demand over time
- UK industrials could hold up to 180m EUAs due to historic over-allocation. We expect around 30m EUAs of this industrial oversupply to reach the market in the event of a Brexit.
- The later an EU ETS exit date is announced to UK installations and the earlier the exit actually takes place, the larger we expect the stock of over-hedged EUAs that eventually comes to market.
- The highest bearish EUA price risk is associated with a scenario where the lead time between announcement and Brexit is reduced to a minimum and where the Brexit takes place already during phase 3.
- The least disruptive scenario in terms of market balance for the EU ETS is related to a scenario with a long lead time and a Brexit of UK installations from the EU ETS after phase 3 has ended.
- Even though a disorderly Brexit would likely cause confusion and result in high price volatility, the absolute effect on prices would only be moderately bearish as the MSR counteracts the effect.
- The overlap of Brexit-related supply and MSR operation could trigger a discussion whether the MSR thresholds should be adjusted

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Introduction

On 29 March 2019, short of a deal with the EU, the UK will no longer be part of the EU. As of today, it is unclear what an exit deal could look like and if the UK will eventually stay part of the European carbon market (EU ETS) or not.

With this White Paper, we provide a scenario-based assessment analysing the impact on the EU ETS market balance and provide our mid-term outlook for EUA prices without speculating on the actual Brexit architecture.

EU ETS Brexit and phase 3 – the speculative risks around the corner

The risks lie with the UK power sector and industrials

If “Brexit means Brexit”, as postulated by UK Prime Minister Theresa May, UK installations are likely to leave the EU ETS at some point. Even though the exact timeline and the follow-up policy regime remain unclear as of now, it is critical to assess the different Brexit timeline scenarios to assess the associated levels of speculative risks for the market.

These risks originate from the trading behaviour of two key market participants:

- UK utilities which usually purchase their EUAs years in advance to hedge their carbon risk
- UK industrials which generally hold a surplus of banked EUAs due to generous free allocation in the past

UK power sector: Hedged EUAs could be sold back to the market

Most power generators follow a strategy of selling electricity between one and three years in advance to lock in profits and reduce risk. This hedging strategy usually involves buying the required fuel, such as gas or coal, to deliver the electricity and at the same time also covering expected emissions by acquiring carbon allowances from the market.

For the moment, we expect that utilities will continue to hedge according to established strategies until clarity emerges on when the UK installations will be forced to leave the EU ETS. As hedging takes place several years ahead of the actual electricity delivery it means that the longer the lead time between the announcement of a Brexit and the exit date, the lower the amount of carbon allowances that is bought by UK generators for future emissions. UK generators which know far in advance that the Brexit is taking place at a specific date will not buy any carbon allowances to hedge their power forward position beyond that date. An EU ETS Brexit announced at short notice would have the opposite effect and could force UK generators to unwind their unrequired hedges and potentially bring large volumes of EU carbon allowances to the market in a short period of time.

“UK power emissions more than halved between 2008 and 2016, significantly reducing the sector’s hedging demand over time”

To sum up, UK utilities are squeezed on both sides of the Brexit timeline. The later an EU ETS exit date is provided to UK installations and the earlier the exit actually takes place, the bigger the stock of over-hedged EUAs will potentially be.

UK industrials: Banked EUAs could be sold back to the market

In parallel of the UK utility hedging issue, one must consider that UK industrials are sitting on a surplus of allowances on their accounts as a result of generous free allocation in the past. In the context of an EU ETS Brexit, UK industrials are likely to sell parts of those volumes as they will no longer have any compliance obligations after the exit date.

According to current rules, allowances given out for free or auctioned by the UK in the past will still be eligible to remaining EU ETS participants also after UK installations leave the market as a result of Brexit. That implies that UK companies could continue to hold on to



these allowances and sell them in the future or use them for compliance obligations for installations they own outside of the UK. Nevertheless, companies that are solely based in the UK would likely account for the value of the EUAs in their books and probably decide to put them on the market.

By analysing account-specific trading activities we estimate that UK industrials could hold up to a surplus of 180m EUAs. More than half of this length is found on company accounts which have a significant compliance obligation also in other EU member states. In that context, we assume it is very likely that only a limited number of industrial volumes will be monetised in direct relation to Brexit.

“We estimate that UK industrials could hold up to 180m EUAs”

EU ETS Brexit scenarios – Strap yourself in for chaos

From Smooth Ride to Organised Chaos

The EU ETS Brexit timeline has two important date components:

- The “announcement”: The point in time the EU ETS Brexit date is made public to market participants
- The “EU ETS Brexit date”: The date when the UK is no longer part of the EU ETS

To explore the speculative risks around the EU ETS Brexit timeline and to assess the impact on the market balance and on prices, we have developed four different scenarios – each with different timelines for the “announcement” and the “EU ETS Brexit date”.

For the Brexit announcement, we explore an early announcement in October 2017 and a later one in autumn 2018. For the actual Brexit date, we model an exit midway through phase 3 with a last compliance obligation for 2018 and an exit coinciding with the end of the third trading period with a last compliance obligation for 2020.

Table 1: EU ETS Brexit scenarios: From Smooth Ride to Organised Chaos

	EU ETS Brexit announcement	EU ETS Brexit	Last compliance year
Smooth Ride (1)	1 October 2017	1 January 2021	2020
Smooth Ride (2)	1 October 2018	1 January 2021	2020
Bumpy Ride	1 October 2017	1 January 2019	2018
Organised Chaos	1 October 2018	1 January 2019	2018

Modelling assumptions

Based on the above-mentioned timeline scenarios we analyse the different trading behaviour of UK power utilities and industrials in the case of an EU ETS Brexit. All scenarios are modelled on the basis of the EU Council proposal for the EU ETS market design after 2020 that member states adopted on 28 February 2017. These rules remain subject to trilogue negotiations involving the EU Parliament and the Commission before they will be adopted as final.

Starting on a quarterly basis, we calculate the size of EUA hedging positions accumulated by UK utilities which will not be required for compliance anymore following the EU ETS exit announcement date. As utilities will likely unwind the unrequired hedges, we then make assumptions on the timing for these EUAs to reach the market. In parallel, we make assumptions on how the banked length of UK industrials will enter the market over time during each of the four scenarios.

The market stability reserve (MSR) explained

The MSR is a mechanism meant to reduce the overall amount of allowances in circulation by 12% if the market surplus of the preceding year is higher than 833m allowances. The removed allowances are moved into the MSR. If the number of allowances in circulation is lower than 400m, 100m allowances are pushed into the market fed by the MSR. As we base our modelling on the current Council proposal, the mechanism will show a 24% withdrawal rate during the first five years of its operation and afterwards continue with a 12% rate.

“We assume that EU ETS market participants will front-run the MSR effect in anticipation of higher prices”

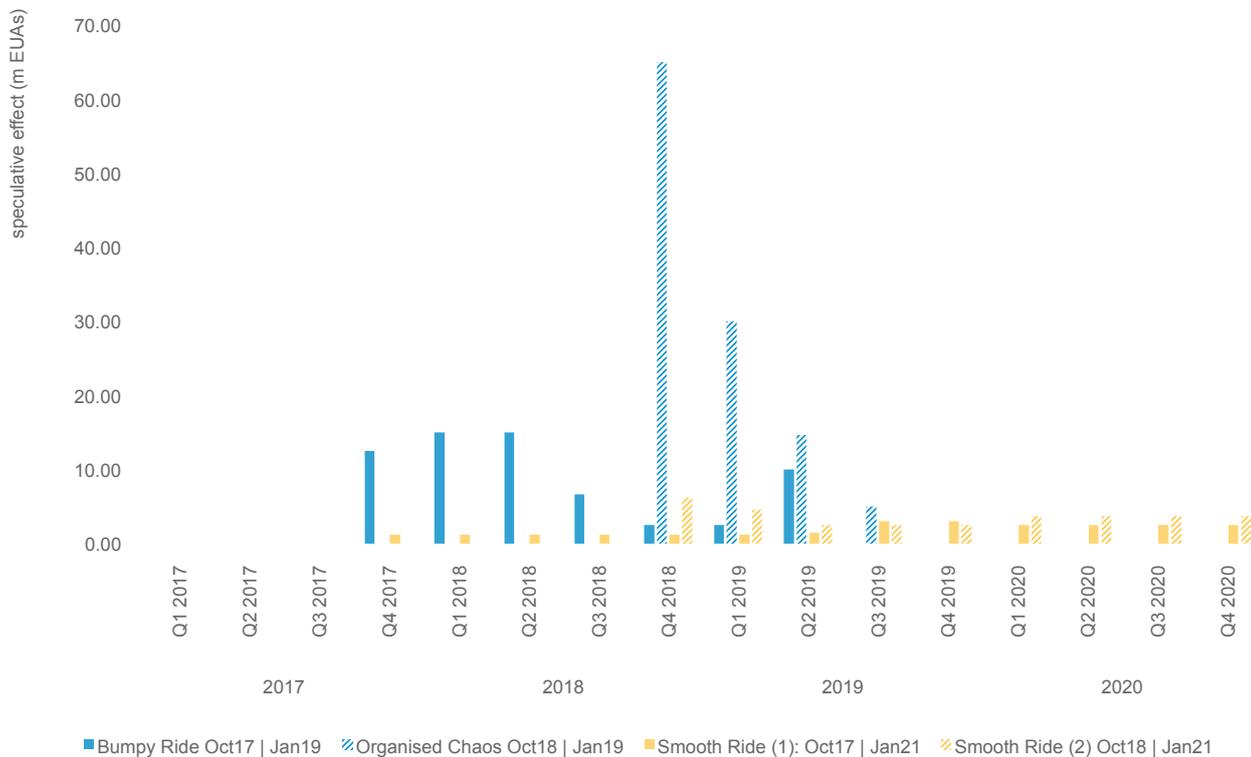


In addition, we assume market participants to frontload the effect of the market stability reserve (MSR) that starts reducing auction volumes as of 2019. As market participants expect a price-supporting effect, we assume an increased demand for EUAs already before the actual start date of the mechanism in a period that could interfere with Brexit-related sales.

EU ETS Brexit scenarios – EUA volumes and price impact

Based on the four above-mentioned timeline scenarios, we have used our ICIS Timing Impact Model (TIM) to analyse the different trading behaviours of UK power utilities and industrials in the case of an EU ETS Brexit. As a reference scenario we have plotted the EUA price trajectory resulting from the Council position (grey line) which includes the assumption that market participants are today aware that Brexit will happen at the start of phase 4.

Figure 1: Speculative impact per quarter



Source: ICIS

Smooth Ride (1) scenario (Oct 17/Jan 21)

The least disruptive in terms of market balance for the EU ETS would be the Smooth Ride (1) scenario. Under that scenario, the UK government would notify market participants well ahead of the actual Brexit, in October 2017. With such long-term foresight UK utilities would not have hedged any of their positions beyond the Brexit date. In parallel, we expect 30m of accumulated industry banked volumes to reach the market in a spread out manner between 2017 and 2021. The effect amounts to a mere 2m EUAs extra supply per quarter with, therefore, a minimum impact on the EUA price.

“The least disruptive in terms of market balance for the EU ETS would be scenarios whereby the UK government would notify market participants well ahead of the actual Brexit”

Smooth Ride (2) scenario (Oct 18/Jan 21)

The second-least disruptive outcome for the EU ETS of all modelled scenarios is the Smooth Ride (2) scenario. It implies that the bulk of already hedged positions on the utility-side can be kept for compliance purposes given the long lead time between announcement and actual Brexit after the end of phase 3. However, with UK utilities doing their hedging “business as usual” until an official Brexit announcement by October 2018, a fraction of the then-hedged position will cover power production which is no longer covered by the EU ETS (Post-2020).



Given the still relatively long lead time between announcement and actual exit of more than two years, those volumes are relatively small (8m) and will reach the market in addition to offloaded banked volumes by industrials between Q4 2018 and Q4 2020. As per Figure 7, the two scenarios with an exit at the end of Phase 3 in 2020 do not differ much from one another price-wise. In both scenarios the unwinding of hedges is either non-existent or very limited and the industrial surplus reaching the market will be spread over a long time and only has a marginal bearish EUA price impact.

Bumpy Ride scenario (Oct 17/Jan 19)

Overall, the EU ETS Brexit triggers a supply shock in the market as soon as UK operators see an end to their EU ETS compliance obligations in the middle of phase 3. With the Bumpy Ride scenario, market participants are notified in October 2017 that a Brexit from the EU ETS is imminent in January 2019. This will, in our view, lead to a supply flood as UK utilities will unwind carbon positions related to power forward hedges in the order of 34m EUAs. The unwinding of those volumes will materialise during a relatively short time between Q4 2017 and Q2 2019. The extra supply brought to the market by UK utilities and industrials sends the EUA contract to a low-price trajectory. This would reach the market over seven quarters (average of 9m EUAs per quarter). The EUA price would dip to as low as €2.90 in Q2 2018.

“With the Bumpy Ride scenario the EUA price could see a dip to as low as €2.90 in Q2 2018”

However, with the MSR starting to operate in 2019, we expect some market participants to start buying EUAs already during 2018 in expectation of higher prices by front-running the MSR effect. We expect this effect to be more significant than the additional supply coming to the market due to Brexit-related sales. Therefore, prices are expected to slowly recover, reaching €6.33 in Q1 2019, when the actual Brexit takes place.

Organised Chaos scenario (Oct 18/Jan 19)

Organised Chaos bears the highest bearish risk of all our modelled scenarios. Under that scenario, UK market participants are informed in October 2018, very close to the actual leave date in January 2019, that they will be exempted from compliance obligations. We expect that market participants would be caught off-guard in such case, and have very little preparation time before the actual Brexit takes place. The UK power sector finds itself significantly over-hedged with around 85m EUAs, a volume that needs to be sold back to the market between Q4 2018 and Q3 2019. In this scenario large volumes would reach the market over four quarters (average of 29m EUAs per quarter). In such a case, our model predicts the EUA price to drop from €5.20 in Q3 2018 to €4.15 in the following quarter.

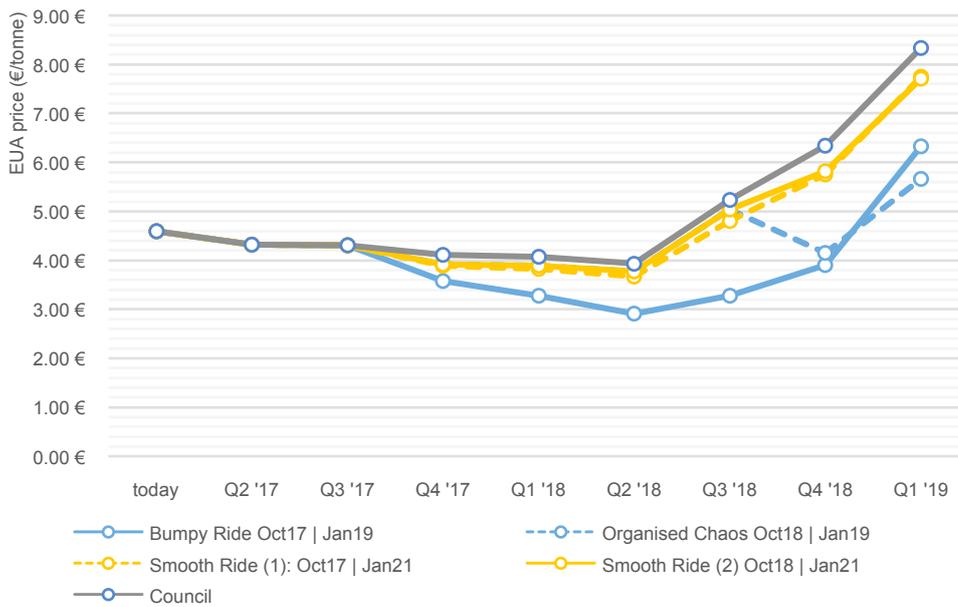
“Organised Chaos bears the highest bearish risk of all our modelled scenarios as market participants would be caught off-guard, and have very little preparation time before the actual Brexit takes place”

The MSR-induced front-running of demand would soften the supply shock in 2018, supporting a price recovery again to €6.30 in Q1 2019. However, it is important to note that the anticipated MSR front-running effect could be lower, also influenced by the fear of a bearish Brexit effect, in which case a bearish vicious circle increases significantly the EUA downside risk.

This disorderly Brexit would likely cause confusion and hectic trading activity amongst market participants, the effect on prices would be only moderately bearish on a quarterly basis as it coincides with the start date of the MSR. However, price volatility would likely be high.



Figure 2: Brexit-related price scenarios



Source: ICIS

In addition it needs to be said that we can think of even more disruptive scenarios which are, however, difficult to model. These could include the ignorance of UK participants regarding compliance obligations, a huge bearish speculative position taken by financial players. In such situations, we see a significant bearish price risk that could push EUA prices much lower compared to the scenarios we have modelled. In such case, we would talk about a total chaos scenario.

EU ETS Brexit – (unintended) interaction with MSR over phase 4

The MSR effect

Overall, the cumulated effect of Brexit on phase 4 adds up to a total lower oversupply of 1,290m tonnes between 2021 and 2030.

Modelling an EU-28 member states scenario, the MSR is triggered continuously during each year of phase 4. In contrast, the Brexit scenario leads to a situation where the total amount of allowances in circulation drops below the upper threshold of 833m tonnes and causes the MSR to pause withdrawing allowances in 2027. This is caused by the net long position of UK installations which adds up to the total amount of allowances in circulation used to assess if the MSR should be triggered or not. In that context, a discussion might need to be triggered on whether the MSR thresholds should see a downward adjustment to account for the UK installations leaving the market.

The pausing of the MSR intake causes the market balance to eventually show a higher oversupply in 2028 compared to the “No Brexit” scenario. Hence, even though overall the market balance is fundamentally tighter with a Brexit as explained above, the interplay with the MSR will turn this picture around towards the end of phase 4.

To sum up, under a Brexit scenario, the MSR withdraws 235m fewer allowances over phase 4 compared to an EU-28 scenario (“No Brexit”).

“The Brexit scenario leads to a situation where MSR stops withdrawing allowances in 2027”



Conclusion

All four exit scenarios highlight that the date of the actual Brexit is an important indicator for market participants to adapt their trading strategies – the farther this date lies in the future, the higher the likelihood that UK utility participants would not have over-hedged their positions. Therefore, an orderly Brexit with UK installations leaving the EU ETS by the end of phase 3 would help to avoid a strong bearish price impact for EUAs.

However, it must be emphasized that a disorderly Brexit with a short time period between the announcement and the actual exit will have more severe implications as market participants would supply the market with a high number of allowances in a short period of time. This could cause a severe bearish price impact if Brexit happens in the middle of phase 3. In a scenario with UK installations being compliant until the end of phase 3, leaving the market with a last compliance obligation for 2020, the bearish impact on prices is relatively muted as market participants have enough foresight to adjust their positions well ahead. In such a scenario they would not build up hedges for the post-2020 period.

An important point to mention in this context is the fact that the departure of UK installations will, overall, reduce the number of allowances required from the market for power forward hedging. This will likely trigger a discussion on how to account for such a reduction in demand when reviewing the MSR parameters. Our analysis shows that the net long position of UK installations can cause the MSR to halt the withdrawal of EUAs from auction volumes for one year compared to a “No Brexit” scenario which causes the market balance to be looser rather than tighter with UK installations departing – an unintended consequence of the interplay between MSR and Brexit.

In addition, it must be said that we can think of even more disruptive scenarios that are, however, difficult to model. These could include a last-minute refusal by the UK to have its installations comply within the EU ETS due to acrimonious Brexit negotiations, the ignorance of some UK participants regarding compliance obligations, or a huge bearish speculative position taken by financial players. In such situations, we see a significant bearish price risk that could result in a situation where EUA prices are pushed much lower than the scenarios we have modelled.



Market analysis, price forecasts and data to help you make better trading decisions:

The [EU ETS Portal](#) provides our complete suite of tools designed to help traders, analysts and risk managers interpret the impact of policy and regulatory developments whilst also identifying risks and opportunities in the market. These tools include behaviour-driven analysis, price forecasts and the inputs and outputs from the Timing Impact Model (TIM), which are the perfect starting point for your own analysis.

The [EU ETS Insight](#) provides the highlights of the ICIS EU behaviour-driven analysis. Therefore, it's ideal for stakeholders who need to keep in touch with key developments in the EU ETS and want to understand the market impact of those developments but require neither detailed datasets nor deeper insight.

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