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UK Emissions Trading Scheme: Future Markets Policy

A joint consultation of the UK Government, the Scottish Government, the Welsh Government and the Department of Agriculture, Environment and Rural Affairs for Northern Ireland

Closing date: 11 March 2024

December 2023

Any enquiries regarding this publication should be sent to us at:
ukets.consultationresponses@energysecurity.gov.uk

Contents

General information

Why we are consulting

The UK Emissions Trading Scheme (UK ETS) Authority (UK Government, Scottish Government, Welsh Government and the Department of Agriculture, Environment and Rural Affairs for Northern Ireland, hereinafter 'the Authority') is seeking input on a number of proposals to develop future markets policy.

The Authority is reviewing ETS markets policy to ensure that it remains fit for purpose and is effective in managing the risks faced by an established and maturing scheme. This will help to maintain stable and effective market conditions that will continue to incentivise decarbonisation in the traded sector.

This consultation is the second part of the two-stage approach that will consider changes to markets policy. This consultation seeks views on:

- Whether the Authority has identified the most significant risks to effective market functioning;
- The suitability of different policy options to address the risks identified; and
- How individual market stability policies should be designed to most effectively address market risks while minimising intervention and disruption in the market.

Consultation details

Issued: 18 December 2023

Respond by: 11 March 2024

Enquiries to:

Emissions Trading
Department for Energy Security and Net Zero
3rd Floor
3 Whitehall Place
London
SW1A 2EG

Email: ukets.consultationresponses@energysecurity.gov.uk

Consultation reference: UK ETS Future Markets Policy

Audiences:

This consultation will be of particular interest to individual companies and representatives of industrial, power and aviation sectors with obligations under the UK ETS as well as other stakeholders including ETS market traders, financial institutions & investors and environmental

groups. It will also be of interest to individual companies and representatives of maritime, waste, greenhouse gas removals and agricultural sectors. This consultation is not limited to these stakeholders; any organisation or individual is welcome to respond. (To note, this consultation does not apply to NI electricity generators who participate in the EU ETS by virtue of the Ireland / Northern Ireland Protocol.)

Territorial extent:

This consultation relates to proposals to develop the UK ETS, which operates across England, Scotland, Wales and Northern Ireland. This is a joint consultation, published by the UK Government, Scottish Government, Welsh Government and the Department of Agriculture, Environment and Rural Affairs for Northern Ireland.

How to respond

Respond online at: https://energygovuk.citizenspace.com/energy-markets/uk-emissions-trading-scheme-ets-markets

or

Email to: ukets.consultationresponses@energysecurity.gov.uk

Write to:

Emissions Trading
Department for Energy Security and Net Zero
3rd Floor
3 Whitehall Place
London
SW1A 2EG

When responding, please state whether you are responding as an individual or representing the views of an organisation.

Your response will be most useful if it is framed in direct response to the questions posed, though further comments and evidence are also welcome.

Confidentiality and data protection

Consultation responses will be shared across the UK ETS Authority. Information you provide in response to this consultation, including personal information, may be disclosed in accordance with UK legislation (the Freedom of Information Act 2000, the Data Protection Act 2018 and the Environmental Information Regulations 2004).

Consultation responses will be shared across the UK ETS Authority.

If you want the information that you provide to be treated as confidential please tell us, but be aware that we cannot guarantee confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not be regarded by us as a confidentiality request.

We will process your personal data in accordance with all applicable data protection laws. See our privacy policy.

We will summarise all responses and publish this summary on GOV.UK. The summary will include a list of names or organisations that responded, but not people's personal names, addresses or other contact details.

Quality assurance

This consultation has been carried out in accordance with the government's consultation principles.

If you have any complaints about the way this consultation has been conducted, please email: bru@energysecurity.gov.uk.

Introduction

The UK Emissions Trading Scheme (UK ETS) is governed by the UK ETS Authority (hereafter 'the Authority'). The Authority comprises the UK Government, Scottish Government, Welsh Government and Department of Agriculture, Environment and Rural Affairs (DAERA) for Northern Ireland. It was launched on the 1 January 2021 following the UK's departure from the EU Emissions Trading System (EU ETS).

When the UK ETS was first established, market policies were implemented to support the stable launch of a new ETS market and the effective functioning of the scheme in its early years. The UK ETS is now approaching its fourth year in operation and continues to evolve.

Since its launch, the Authority has announced a wide-ranging package of reforms. This includes the decision to align the UK ETS cap with net zero[1]. The full suite of reforms set out in response to the 'Developing the UK Emissions Trading Scheme' consultation (The 'Authority Response')[2], including a 30% reduction in the cap for Phase 1 (2021 – 2030), adjustments to free allocation policy, and expansion of the scheme to new sectors, will result in the evolution of the UK ETS by the end of the decade.

The Authority is reviewing ETS markets policy to ensure that it remains fit for purpose and is effective in managing the risks faced by an established and maturing scheme. This will help to maintain stable and effective market conditions that will continue to incentivise decarbonisation in the traded sector.

The UK ETS markets review has been conducted in two stages. As part of the 'Developing the UK Emissions Trading Scheme' (The 'Develop Consultation'), published in March 2022, the first stage included a call for evidence on future markets policy. The call for evidence gathered stakeholder views on potential drivers of evolving market conditions, objectives for markets policy as the UK ETS evolves, and evaluation of existing market mechanisms. The information and evidence provided has been gratefully received and has informed the approach to the next stage of the markets review.

This consultation is the second part of the two-stage approach that will consider changes to markets policy. Building on stakeholder responses gathered in the call for evidence, this consultation seeks views on:

- Whether the Authority has identified the most significant risks to effective market functioning;
- The suitability of different policy options to address the risks identified; and

[1] See '25 July 2023 - Note on implementing legislation' for the approach to this for 2024 https://www.gov.uk/government/consultations/developing-the-uk-emissions-trading-scheme-uk-ets

[2] For further details on this decision, see The Authority Response to the 'Developing the UK Emissions Trading Scheme', July 2023

- How individual market stability policies should be designed to most effectively address market risks while minimising intervention and disruption in the market.

Approach to this consultation

The Authority's call for evidence set out the following objectives for UK ETS markets policy. Stakeholder responses demonstrated strong support for these objectives:

- Provide long-term reassurance to participants with a rules-based approach to any Authority intervention.
- Design any market stability policies to reduce the ability of any entity to 'game' the policy.
- Counter excessive unexpected and destabilising upward and downward price and/or demand shocks in the market as appropriate.
- Support price discovery and liquidity in UK ETS markets.
- Guard against market abuse and activity that could significantly destabilise UK ETS markets.

These objectives have informed the Authority's assessment of the policy options set out in this document.

In addition to the objectives set out above, we have also considered several guiding principles, in that markets policy should maintain the environmental integrity of the scheme[3] and should be as simple and straightforward as possible to provide clarity for participants. Furthermore, Authority intervention should be minimised in the market to allow market forces to continue to drive prices and the signal for decarbonisation.

This consultation is divided into the following sections:

- **The UK ETS and existing markets policy:** This section provides an overview of the UK ETS market and sets out existing markets policy.
- **Risks to market stability:** This section discusses the potential risks to effective market functioning and identifies three primary risks that we consider flexible markets policy will need to be designed to address.
- **Policy options:** This section is structured into three chapters which explore the range of policy options available for mitigating each of the three primary risks. Each chapter provides an overview of the different types of market stability mechanisms that could be implemented to address the risks identified and sets out the Authority's emerging positions on a package of policies to support effective market conditions.

[3] From January 2024 the UK ETS will be consistent with net zero. See the Authority Response to 'Developing the UK Emissions Trading Scheme', July 2023.

- **The reserve and wider markets policy:** These sections outline the Authority's position on the reserve and wider markets policy (including market abuse and market functioning).

We welcome engagement from all stakeholders in this consultation, including operators, regulatory bodies, market participants, traders, climate groups and non-governmental organisations. Wherever possible we welcome specific evidence to support views. The Authority will use responses to this consultation to inform decisions on markets policy which will be announced in a UK ETS Authority Response. The timing of these policy changes will be set out when the Authority responds to this consultation.

Summary of proposals in this document

The below summarises the emerging positions of the UK ETS Authority set out in this document. **To note these are not final decisions.** Final decisions on any future markets policy mechanisms will be subject to an assessment of responses to this consultation and further evidence and analysis.

- **The Authority is minded to implement a quantity-triggered Supply Adjustment Mechanism (SAM) to address the risk of demand shift with long-term impacts in the market.** To inform a subsequent decision, we are seeking stakeholders' views and wider evidence to support key policy design areas should the Authority decide to implement a quantity-triggered SAM.

- **The Authority is minded to retain an Auction Reserve Price (ARP)** as an effective policy mechanism to mitigate the risk of sudden, significant and sustained price decreases. Additionally, we would like to explore options for altering the design of the ARP to ensure that the risk mitigation it provides is maximised and continues to be effective as the scheme evolves.

- We are consulting on the merits of introducing additional mechanisms alongside the ARP to mitigate the risk of excessive and sustained low prices.

- **The Authority is minded to retain the Cost Containment Mechanism (CCM**) as an effective policy mechanism to mitigate the risk of sudden, significant and sustained price increases.

- **We are exploring design elements of the CCM such as the reactiveness of the trigger thresholds and the trigger level methodology (historic versus absolute).** The Authority is minded to retain the use of discretion on whether to act upon the trigger but wishes to explore whether there could be elements of automation, such as a pre-determined number of allowances injected into supply.

Existing Markets Policy

The UK ETS market

As a market-based cap-and-trade scheme the UK ETS sets a declining cap on emissions from the traded sector and oversees a marketplace for allowances to achieve a carbon price. Setting a cap to limit the overall greenhouse gas emissions from the traded sector ensures overall emissions will decline in line with the reducing trajectory and encourages business investment in cost effective decarbonisation. This will help deliver the climate commitments made by the UK Government, Scottish Government, Welsh Government and Department of Agriculture, Environment and Rural Affairs (DAERA) for Northern Ireland.

Enabling participants to trade allowances provides flexibility to the traded sector as a whole and ensures that decarbonisation happens where and when it has the lowest cost. A stable market for carbon can maximise benefits in emissions trading by supporting confidence and certainty for operators.

The Analytical Annex (pages 11-15) provides a detailed overview on the purpose of the market and further detail on factors that support effective market functioning.

Existing markets policy

The UK ETS currently features two market stability mechanisms. In addition to these mechanisms there are a range of other scheme design features that promote market stability (e.g. clearing process for auctions) and wider regulatory provisions that apply to emissions trading (e.g. the UK Market Abuse Regulation[4]) that support market integrity.

Auction Reserve Price (ARP)

The ARP is set at £22 per emissions allowance, with any bids below this price not accepted at auction. It guards against low prices and was introduced to provide certainty around minimum prices during the transition from the EU ETS to the UK ETS. The ARP creates a soft price floor in the UK ETS market, providing a long-term minimum price signal of £22.

When an auction fails to fully clear, any remaining allowances are redistributed to the subsequent four auctions up to 125% of their original volume. Above this limit, allowances will transfer into the market stability mechanism account. This allows for a smoother flow of allowances from auctions into the wider market promoting liquidity.

[4] UK MAR includes the following legislation, technical standards, and guidance: EU Market Abuse Regulation as amended by the Market Abuse Exit Regulations 2019; FCA Technical Standards relating to UK MAR; ESMA Guidelines and ESMA questions and answers that existed before the end of the transition period; and FCA guidance from the FCA Handbook. For more information, see here: https://www.fca.org.uk/markets/market-abuse/regulation

Since the inception of the UK ETS, the Authority has considered the ARP a temporary policy, intended to ensure a smooth transition and then be phased out as the market matured [5,6].

Cost Containment Mechanism (CCM)

The UK ETS has a Cost Containment Mechanism (CCM) that is triggered if current prices are elevated for a sustained period relative to a historic average. The CCM provides the means to mitigate high price spikes in limited and specific circumstances. When triggered, the Authority can then assess the nature of the price movements in question and decide whether to intervene, and to what extent, by bringing increased supply to current auctions[7].

The CCM is triggered if the average price for one allowance on the secondary futures markets is more than an amount equal to three times the average price in the preceding two-year period for six consecutive months[8].

If a decision is made to intervene in the market, the Treasury may authorise:

- Changes to the distribution of auctioned allowances within a calendar year;
- Increases to the volume of allowances to be auctioned in a given year by bringing auctioned allowances forward from future years;
- The release of allowances for auction from the industry cap that are not freely allocated through the Allocation Table;
- The release of allowances in the flexible share for auction;
- The release of up to 25% of the allowances held in the New Entrants Reserve for auction in that calendar year; or
- The release of allowances from the market stability mechanism account for auction in that calendar year.

The Reserve

The Authority announced that, in order to provide long-term market resilience, it would put aside 29.5 million allowances[9] of the cap for future market management for the remainder of Phase 1 (i.e. until 2030). This is equivalent to over 3% of the overall cap. This reserve has multiple uses: for mitigation of a Cross-Sectoral Correction Factor (CSCF) and for when market stability mechanisms are triggered requiring additional allowances.

Wider markets policy

UK ETS auctions are single round, uniform-price, sealed bid auctions that take place fortnightly. Allowances are distributed across the calendar year in accordance with the auction calendar which is published in advance. Allowances can still be sold at auction even if not all allowances are bid for, with the auction partially clearing. This aims to limit any reduction in

[5] Explanatory Memorandum accompanying the Greenhouse Gas Emissions Trading Scheme Auction Regulations 2021, page 4, https://www.legislation.gov.uk/uksi/2021/484/memorandum/contents
[6] Developing the UK Emissions Trading Scheme consultation, page 60, https://www.gov.uk/government/consultations/developing-the-uk-emissions-trading-scheme-uk-ets
[7] In the event of the Authority not reaching an agreed position, HM Treasury would make a decision.
[8] Price refers to the average end of day settlement price of a UK allowance (UKA) December futures contract.
[9] This figure is presented to the nearest 0.5 million throughout this document.

supply from low demand and helps allowances to flow more easily into the market. Unsold allowances can be rolled over to the subsequent four auctions up to a limit of 125% of their original volume, after which allowances are moved into the market stability mechanism account.

To protect against market abuse, financial markets, including ETS markets, are subject to regulatory regimes which prohibit abusive behaviours. These regimes guard against the unlawful disclosure of inside information, insider dealing and market manipulation by requiring persons to have certain arrangements in place to reduce the risk of market abuse. Financial service regulators are given powers to identify and take action against market abuse when it does occur. In the UK ETS, a maximum bid-size, or any other remedial measures necessary to mitigate an actual or potential discernible risk of market abuse, may be imposed by the appointed auction platform after consulting the Financial Conduct Authority (FCA) and the auctioneer.

Risks to Market Stability

For markets policy to be effective, the risks that could impede smooth, effective market functioning need to be identified and understood. This chapter sets out the key risks to the market, identified by the Authority.

Main risks to the effective functioning of the UK ETS market

The Authority has considered the various drivers that could impact UK ETS market, including taking on-board responses from the call for evidence. This process has identified three main risks to the effective functioning of the UK ETS market that markets policy should be designed to address.

Risk 1: Demand shift with long-term impacts

This risk is around changes to the degree of surplus in the market as a result of unexpected changes in demand. The effective functioning of the UK ETS market is supported by a degree of surplus in the scheme. Surplus is defined as the volume of allowances present in the scheme in excess of the volume of allowances required for annual compliance. This surplus supports liquidity and price discovery in the market and manages the hedging demand of participants.

The amount of surplus depends on supply and demand over time. A shift in demand in a given year will affect the size of the surplus – the surplus will grow if supply exceeds demand and the surplus will shrink if demand exceeds supply.

Insufficient or excessive surplus can have adverse effects on market functioning. This can be caused by developments which change demand in unexpected ways (i.e. developments that have not been forecast/ have not informed structural decisions on scheme design). If this risk is not addressed, there could be long term impacts on the market.

- **An excessive surplus** can arise if demand for allowances over time is lower than the supply of allowances to the market. This could occur due to e.g., a macroeconomic downturn reducing output and demand for allowances. An excessive surplus could depress allowance prices over time, reducing the incentive for participants to invest in abatement technologies. This could lead to emissions reductions being postponed in some sectors while prices remain low which, in turn could lead to a requirement for sharp reductions in emissions over a short period of time in later years.

- **An insufficient surplus** can arise if demand for allowances over time is greater than the supply of allowances to the market**.** This could occur due to e.g., a macroeconomic boom increasing output and demand for allowances. An insufficient surplus could lead to reduced liquidity in the UK ETS market, reducing the economic efficiency benefits of the market. It could also lead to higher costs and the erosion of market participants'

ability to invest in emissions reductions while they are exposed to more expensive compliance obligations. This would be counterproductive to the aims of the scheme.

Risk 2: Sudden, significant and sustained price decrease

In addition to slower changes that might alter the supply and demand balance of the market over time, it is possible that some drivers of market conditions might also have a more sudden and dramatic impact on the UK ETS, leading to extreme market conditions. These types of impacts would be market shocks and could lead to a rapid price change. While allowing prices to fluctuate in an ETS is central to its market-based benefits, and the Authority does not target specific prices, if price shocks occur rapidly and are large in magnitude this can negatively impact operators' ability to plan investment in decarbonisation and impede investors' confidence in the market.

A sudden, significant and sustained price decrease could be caused by a market shock that depresses demand. This type of shock would materially decrease the compliance cost for operators which would lower the decarbonisation signal set by the UK ETS and could lead to emissions reductions being postponed while prices remain low.

The risk of sudden, significant and sustained price decreases significantly reduces certainty for investors looking to invest in decarbonisation. The potential for large price decreases in the future creates a riskier investment environment as the profitability of these investments depends on the costs avoided through lowering emissions. If there is significant potential for ETS prices to be cheaper in future, the investment case for a specific decarbonisation project could be undermined.

An example of a driver that could cause this type of shock is temporarily elevated energy prices. Increased energy prices could affect the competitiveness of UK industry and reduce their output and demand for UK allowances. If this reduction were sufficiently large, competition for the supply of allowances would be lower and this could lead to an extreme price decrease.

Risk 3: Sudden, significant and sustained price increase

A sudden, significant and sustained price increase could be caused by a market shock that amplifies demand. This type of shock would materially increase the cost of emissions for operators which could adversely impact their competitiveness and risk placing an excessive cost on operators with minimal added benefit in terms of decarbonisation.

An example of a potential driver for this type of shock is a delay to a large, anticipated decarbonisation project that would have resulted in significant emissions reductions. This delay would result in greater demand for allowances in the short term than the market anticipated, increasing demand for allowances.

Additional risks

In addition to the three risks outlined above, there are other risks which could impede a stable and efficient market: low liquidity and high volatility. These are explained below and further in the Analytical Annex (pages 12-16).

Low Liquidity

Liquidity is the extent to which an emissions allowance can be bought or sold without affecting its price. This can be related to volume of market activity which is also related to the number of market participants. The more active buyers and sellers there are in a market, the weaker the price setting capability of each one individually.[10] In theory, more liquidity aids markets to move, reduces volatility, and helps avoid larger market participants from exerting market power and potentially dominating price outcome.

Liquidity in the market is a key determinant of how easily market forces can affect price discovery and therefore the degree to which the market can realise the economic efficiency benefits. Low liquidity inhibits easy price discovery and limits the benefits offered by the market mechanism.

Reduced liquidity could occur due to, for example, reduced hedging behaviour from the traded sector or a reduction in speculative (i.e. non-compliance) participants in the market.

High volatility

Volatility is a measure of how quickly the price of UK allowances change over a given period of time.

High volatility lowers the certainty of the decarbonisation signal established by the UK ETS and reduces the ability of operators to plan their decarbonisation strategies. It also makes trading riskier and could dissuade non-compliance entities from participating in the market and providing liquidity.

High volatility could occur due to, for example, continuing uncertainty with regards to the cost of energy and gas.

Risks to be mitigated by market stability mechanisms

The market risks identified in this chapter, including their drivers and impact, form a complex landscape. The format of the consultation seeks to provide a structured approach to assess policy options around the key risks but there is no perfect model. The consultation aims to bring together a range of views on policy proposals to enable the Authority to make informed decisions on future markets policy. Policy mechanisms can be implemented in isolation or as

[10] Wiener 1999, Metcalf and Weisbach 2012.

part of a package of measures. In making final decisions the Authority will consider how different mechanisms interact and work together.

The next three chapters will focus on the range of policy mechanisms available to address the three risks highlighted above:

- Risk 1: Demand shift with long-term impacts.
- Risk 2: Sudden, significant and sustained price decrease.
- Risk 3: Sudden, significant and sustained price increase.

The Authority does not intend to implement market policy to mitigate the risk of low liquidity or high volatility as it believes any mechanism designed with such a purpose would be overly disruptive to the market. Therefore, this consultation will focus on the three risks above.

Questions

1. Do you agree with the key risks we have identified? (Yes/No). Please provide any supporting evidence in your response.
2. Are there any alternative risks to those listed above that the Authority should consider? (Yes/No). Please provide any supporting evidence in your response.

Risk 1: Demand shift with long-term impacts

Overview

As set out in the preceding chapter, if this risk is realised, the incentive to invest in decarbonisation by UK ETS operators could be reduced owing to the negative impacts on the carbon price that would be expected when there is excessive or insufficient surplus in the market. This chapter explores the options the Authority has identified for mitigating against this risk.

In practice, decarbonisation investments are made based on long-term expectations of allowance prices and are therefore unlikely to be affected by any one year. However, by establishing a mechanism that enables the adjustment of supply to account for fluctuations in demand or structural imbalance in the scheme over time, the Authority could provide greater certainty to participants about how market conditions could evolve in the long term.

The Authority is exploring mechanisms that could mitigate the risk of demand shift, defined as:

- Persistent – a demand shift, the impacts of which are not short-term but exist or are expected to exist for at least a year or more, in terms of surplus due to either a) a significant annual change to anticipated demand or b) the gradual change in structural supply/demand balance in the scheme.
- Significant – a demand shift that results in the amount of surplus in the UK ETS market:
    - Growing too large i.e., is significant and persistent, above and beyond a size of surplus needed for effective functioning of the scheme and that causes an excessive decrease in allowance price.
    - Becoming too small i.e., insufficient surplus to meet the hedging and liquidity requirements of the market for example and thus causing an excessive increase in allowance price.

Policy options

To enable the supply of allowances into the market to be more responsive to prices and degree of surplus in the market, emissions trading schemes can implement a supply adjustment mechanism (SAM). A SAM is a type of market stability policy that predictably amends the supply of allowances in the market in response to certain pre-determined criteria and market conditions. A SAM is different from other market stability mechanisms (such as the ARP or CCM) because it seeks to provide trigger thresholds for a supply adjustment with both a top and a bottom range.

Since its launch in 2021 the UK ETS has operated without a SAM. However, in order to mitigate any demand shift with long-term impacts, it is prudent to consider whether a SAM would strengthen the scheme by adding to the suite of market stability mechanism policies in place currently.

Supply adjustment can be designed to be triggered in two main ways:

- A quantity-triggered SAM is triggered if some measure of volumes, such as the total number of allowances in circulation (TNAC), crosses pre-defined thresholds. When these thresholds are crossed, the Authority can withdraw or release a limited number of allowances from the reserve and auction these allowances.
- A price-triggered SAM is triggered if allowance prices cross pre-defined price thresholds. When these thresholds are crossed, the Authority can withdraw or release a limited number of allowances from the reserve and auction these allowances.

Supply adjustments for both mechanisms are from within the set cap, are automatic adjustments and can therefore be priced-in by the market. Both mechanisms require a reserve of allowances to operate, from which to either add or withdraw allowances from the market.

Types of supply adjustment mechanism

Quantity-triggered SAM

A quantity-triggered SAM acts to alter the supply of allowances to be auctioned into a market based on an annual calculation of the total number of allowances in circulation (TNAC). If the TNAC number crosses the upper threshold, indicating an excessive amount of surplus in the market, then a proportion of allowances are deducted from future auction volume and placed into a reserve. If the lower threshold is crossed, meaning there is scarcity in the market, then a proportion of allowances are taken from the reserve and are fed back onto market through future auctions. In this way excessive or insufficient surplus is managed over time

The major example of a quantity-triggered SAM is the EU Emissions Trading System (EU ETS) Market Stability Reserve.

EU ETS Market Stability Reserve (MSR)

The MSR began operating in 2019, to address the significant structural supply/ demand imbalance in the scheme as a result of a large surplus that had built up in the years following the economic downturn in 2008. The impact of the surplus was to significantly depress EU ETS prices, thereby reducing the incentive for industry covered by the EU ETS to invest in decarbonisation. The UK ETS has been in operation for three years and as such has not accumulated the levels of surplus equivalent to that in the EU ETS.

The MSR works on the basis of an annual TNAC calculation which is calculated as follows:

Supply – (Demand + allowances in the MSR)[11]

If the TNAC number crosses either the pre-determined upper or lower activation thresholds then a proportion of allowances, that were set to be auctioned, will instead either be automatically placed in a reserve to reduce supply to market if the upper threshold is triggered, or fed back onto market from the reserve if the lower threshold is triggered. To date only the upper 833 million threshold has been triggered. This has occurred every year since the MSR began operating due to the extent of the surplus in the EU ETS. As such a number of allowances corresponding to 24% of the total number of allowances has been deducted from auction volume annually, over a 12-month period, and placed in the reserve.

A quantity-triggered SAM deals with longer term structural issues in comparison to other market stability mechanisms that are more appropriate for dealing with shorter term issues, for example, price spikes. A quantity-triggered SAM can also provide a level of assurance to the market that supply adjustment in reaction to demand shift, if thresholds are met, will be in an automated, rules-based, predictable way. It provides resilience to the scheme enabling adjustment of supply in the face of unexpected shocks which could otherwise cause volatility and impact the carbon price signal. It is also less prone to the risk of 'gaming' than other mechanisms. The EU ETS MSR example has been relatively successful in addressing the structural supply imbalance[12] issue in that scheme.[13]

It should be noted a quantity-triggered SAM addresses longer term risks compared to a price triggered mechanism (depending on the latter's design) as it functions on an annual basis and over a number of months when auction supply is amended. The TNAC is a measure of past activity so may not be the best way of dealing with future or emerging shocks in a timely way. The price impact of a quantity-triggered SAM may also be less certain, and indirect, than specific price triggers and it can be difficult to determine hedging needs and future market demand and behaviour as the market evolves.

Price-triggered supply adjustment mechanisms

There are more price-triggered mechanisms operating in international ETSs than quantity-triggered mechanisms. Although price-triggered mechanisms adjust supply if price thresholds are met, intervention is specifically targeting price levels, high or low or both depending on design, rather than degree of allowance surplus.

Price-triggered mechanisms can react within year, and therefore, depending on design, can respond quickly in the market. A price-triggered approach can help to keep the market price for allowances within a certain pseudo range, and therefore is likely to reduce price volatility. To

[11] Further details on the EU ETS MSR can be found here: https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/market-stability-reserve_en

[12] ERCST review of the MSR: "Without the MSR in place, the TNAC would amount to over 4 billion by 2030, thus proving that the MSR is crucial to keep the TNAC under control. However, it remains to be seen whether the MSR is on track to bring the TNAC within the range of the thresholds." https://ercst.org/wp-content/uploads/2021/04/20210429-Final-Paper.pdf

[13] To note that an allowance 'invalidation' policy has also been used as means of reducing the large surplus in the EU ETS as well as the MSR.

note, however, upside price risk can only be managed up to the point that the cap is reached and therefore it is not a price guarantee.

However, the Authority is conscious not to cut across the principle of price discovery in considering the nature of a price-triggered SAM. Although supply adjustment occurs, this is dependent on price thresholds being triggered first, which may not happen. Prices would be expected to be 'low' if there was a significant surplus or 'high' if there was scarcity.

Price-triggered supply adjustment would be the right policy tool if the risk was price specifically. However, it may not be the best tool for addressing the long-term impacts to demand shift in the scheme i.e. excessive or insufficient surplus in the scheme.

An example of an international ETS jurisdiction that uses a price-triggered SAM is California[14] which deploys two price tiers in their ETS to mitigate 'high' prices at which allowances, from within the cap, are released for sale when prices reach these tier levels. Other price-triggered mechanisms for addressing sudden price shocks are explored separately under Risks 2 and 3.

The Authority's Assessment

Following the above assessment of the price and quantity-triggered mechanisms **the UK ETS Authority is minded to implement a quantity-triggered SAM**. This would address the risk of demand shifts leading to significant and persistent excessive surplus or insufficient surplus that is detrimental to the functioning of the market and the scheme's ultimate decarbonisation objectives. A quantity-triggered SAM can be more effective than a price-triggered SAM for addressing the risk of demand shift as it specifically targets supply. It therefore appears to offer an appropriate market-based approach to mitigating the above risk in a predictable manner. The Analytical Annex[15] contains further detail on the operation of a SAM, including possible interactions with existing mechanisms (ARP and CCM).

The Authority notes that market stability mechanisms represent a suite of policies, and more price specific measures are set out to address different risks in the chapters covering sudden, significant and sustained price decrease and sudden, significant and sustained price increase. A number of stakeholders have made their views on a SAM clear but to inform this position we are seeking all stakeholders' views and wider evidence to support key policy design areas.

To note, this is not a final decision. Final decisions will be subject to the outcomes of this consultation and further internal analysis.

[14] A certain number of allowances from the cap is set aside annually into an Allowance Price Containment Reserve (Reserve) in the California ETS. When a quarterly auction results in a settlement price greater than or equal to 60% of the lowest Reserve tier price, allowances are offered through a Reserve sale. During 2021 – 2030, Allowances in the Reserve are offered at two tier prices, both of which increase by 5% plus inflation each year. The number of allowances offered at each tier is determined by regulation. https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cost-containment-information

[15] See 'Section 2: Counterfactual and options' in the Analytical Annex

Questions

3. Do you believe that the UK ETS would benefit from the introduction of a supply adjustment mechanism to address demand shift with long-term impacts risk? (Yes/ No). Please explain the reasons for your response.

4. If so, do you have a preference for a) a quantity-triggered supply adjustment mechanism or b) a price-triggered supply adjustment mechanism, as the best means of addressing this risk? Please give your reasons for your preference and response.

5. Do you agree with the Authority's minded-to position on the introduction of a quantity-triggered SAM? (Yes/ No). Please give your reasons for your response.

Detailed policy design options

Should the Authority decide to proceed with a quantity-triggered SAM, several design features would need to be agreed and understood, prior to implementation.

Calculating the UK ETS TNAC

As outlined earlier, the feature that indicates the number of accumulated allowances circulating in a scheme is the TNAC. The Authority proposes that the UK ETS TNAC is measured in the following way:

TNAC = Supply (Free Allocation to date + Auction volume to date) - Demand (annual verified emissions to date)

This approach enables the Authority and participants to understand the degree of surplus in the scheme year on year compared to demand.

Questions

6. Do you agree with the proposed approach for calculating the UK ETS TNAC? (Yes/ No) Please give your reasons for your response.

7. If you disagree with the proposed approach, please suggest an alternative approach and your rationale for this?

The appropriate level of an upper and lower quantity trigger threshold

A key element in designing a quantity-triggered SAM is deciding the appropriate level of the upper and lower trigger thresholds. This will determine how reactive the SAM will be, and by

implication how often auction volume will be decreased, increased, or remain unchanged if thresholds are not triggered. Please see the Analytical Annex which includes further data and the measure of TNAC, which may be helpful to read alongside this section.[16]

In deciding the level of thresholds, defining a 'healthy' level of surplus requires consideration. This decision should support the effective day to day functioning of the market, what would constitute a 'problematic' surplus, whether excessive or insufficient, as well as the cause of such surplus. For instance, this kind of surplus may reflect the effects of an economic shock or unexpected significant reduction in emissions from deployment of abatement technologies causing demand shifts over the long term.

On that basis the Authority is considering quantity-trigger thresholds that would only be triggered for a significant and problematic (i.e. excessive or insufficient) surplus. This would avoid supply adjustments that occur as a matter of routine or for short lived fluctuations in demand.

Questions

8. What is your view on what level of surplus constitutes a) an optimum level of surplus in the scheme, that would allow for effective functioning of the market and b) how could this be assessed including in terms of methodology? Please give your reasons and evidence you may have for your response.

9. Do you have a view on what level a) the upper quantity trigger threshold and b) the lower quantity trigger threshold should be in a UK ETS SAM? (Yes/ No). Please give your reasons and any evidence to support your response.

10. How reactive should the upper and lower thresholds be, for example should each threshold have a sliding scale of supply adjustment? Please give your reasons and any evidence to support your response.

Type of trigger thresholds: absolute, static thresholds or relative thresholds

A further consideration for a quantity-triggered SAM will be the nature of the trigger thresholds, whether they should be set as absolute fixed values or relative values. This could look as follows:

a) Absolute, static values to 2030 i.e. fixed values for Phase 1. This would mean that if the annual TNAC calculation is either above or below those two fixed upper and lower threshold values then the SAM will be activated.

b) Relative value thresholds. This could be measured as a proportion of either:
   i) the annual cap number
   ii) annual auction volume

[16] The Analytical Annex includes data on emissions, free allocation, and auction volume which may helpful to read when considering trigger thresholds, as well as a measure of TNAC in 2021 and 2022 on page 21 (if allowances are surrendered at the end of the year rather than at the end of the following April).

See Annex for details of cap numbers and auction volume for existing sectors to the end of Phase 1.

The Authority is minded to pursue relative thresholds that are responsive to either the decline of the cap or auction volumes.

The setting of relative thresholds is a logical choice, given that a static threshold would be irresponsive to changes in the supply of allowances. This is logical given both the proposed profile of the cap for existing sectors, but also the impact of the addition of new sectors during the 2020s.

Questions

11. Has the Authority identified all types of triggers that should be considered; or are there any other types of trigger thresholds that should be considered? Please give your reasons for your response.

12. Do you agree that relative trigger thresholds would be more appropriate than absolute static thresholds? (Yes/No). Please give your reasons for your response.

13. If you agree, what is your preference – relative trigger threshold values a) as a proportion of the annual UK ETS cap or b) relative to annual auction volume.

Auction volume change following SAM activation

If the SAM is activated, then auction supply would be adjusted by either increasing or decreasing the volume of auctionable allowances. In deciding the extent of this adjustment, consideration needs to be given to the balance of auction volume remaining, given the impact on supply/demand dynamics. The Authority, therefore, recognises the importance of carefully considering the size of a volume change, and impacts that this will have on participants and the market.

The adjustment could be calculated as a percentage (or proportional) increase or decrease in auction volume for the relevant year, an adjustment by a fixed amount of allowances, or a combination of both. The adjustment to auction volume could be a single metric that applies in an identical manner for a reduction or increase in auctionable allowances.

Questions

14. What is your view on what the appropriate level of auction volume adjustment should be? Please give your reasons and any evidence for your response.

15. Do you have a preference for this adjustment to be a percentage of annual auction volume, or other fixed amount, a combination of both or any other metric? Please give your reasons for your response.

Operational timings of a SAM if triggered

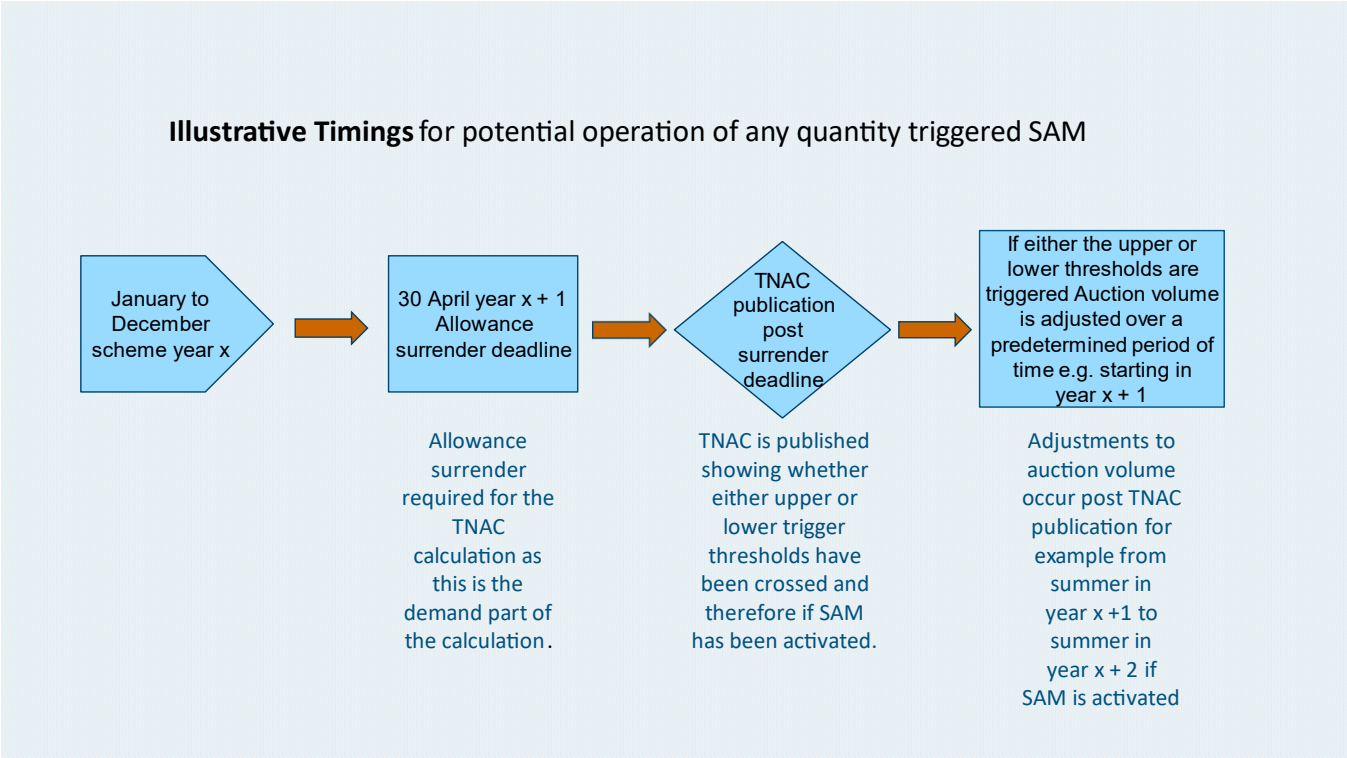
We would have a clear rules-based process that is predictable and understood by participants should a quantity-triggered SAM be implemented in the UK ETS.

The optimum timing for a SAM operation cycle would need to be decided. As set out earlier the SAM operates on the basis of the TNAC (an annual calculation measuring cumulative supply and demand in the scheme).

Demand is only known (notwithstanding estimates of the TNAC), following the end of April allowance surrender deadline for compliance purposes with respect to the previous calendar scheme year. It would therefore be logical for the TNAC to be calculated after the compliance deadline. It is proposed that the TNAC would be published annually in Spring post compliance to provide early transparency to participants and other interested stakeholders. Once the TNAC is known, it will be clear whether either upper or lower thresholds have been triggered. If so, auctions would need to be adjusted over a period of time. This could be done from July (or other month thereafter of a year), to June (or other month thereafter, in the following year) for example.

Over this time period it should also be possible to preserve approximate equal distribution of the number of allowances to be auctioned during the twelve-month period.

The Authority does not consider it possible to make auction adjustment sooner owing to the April compliance surrender deadline and the need to verify emissions data.



Questions

16. Do you agree with the proposed TNAC publication timing of post compliance in spring? (Yes/ No). If not, please explain your reasons.

17. What is your view on auction supply adjustment timings if the SAM is activated? Please give details of your preferred timings and rationale for this.

18. Should auction volume require adjustment due to SAM activation, do you agree that the Authority should endeavour to preserve approximate equal auction volume distribution in the time period affected by this adjustment? (Yes/ No). Please give your reasons for your response.

Timing of introduction of any potential SAM into the UK ETS

In considering the timing of any implementation of a quantity-triggered SAM into the scheme, the Authority's priority is to ensure continued smooth running of the scheme and to maintain certainty and predictability for participants. A further important factor is to ensure that the market, participants and other stakeholders would have sufficient notice and clarity on the operation of the SAM prior to implementation.

Questions

19. In your view, when, in terms of scheme year, should any quantity-triggered SAM be implemented into the UK ETS, meaning the SAM would begin operating the following year post compliance period? Please explain your reasons for your response.

Interaction with wider markets policy

If a quantity-triggered SAM is to be implemented it cannot be designed in isolation from other UK ETS markets policies. Due consideration will need to be given as to how any wider mechanisms and options under consideration as set out under Risk 2 and Risk 3 chapters, could interact with a quantity-triggered SAM. This way, the markets policy landscape can be assessed holistically.

Table 2 of the Analytical Annex provides detail of overlap, effects and interaction between options policies under consideration including a quantity-triggered SAM, ARP and CCM.

Questions

20. Do you have any views on the interactions between any quantity-triggered SAM and the ARP and CCM? Please give your reasons and any evidence for your response.

Risk 2: Sudden, significant and sustained price decreases

Overview

In a market-based scheme such as the UK ETS, price fluctuations are inherent and welcome. Downward price movement in UK ETS markets is not typically a concern. However, if price falls are sudden, significant and persist, they may inhibit an effective decarbonisation signal.

This chapter explores the options the Authority has identified for mitigating against the risk of sudden, significant and sustained price decreases, defined as:

- Sudden – the price decrease occurs over a short period of time.
- Significant – the price decrease either a) is a significant departure from recent trading ranges, or b) reaches an excessively low level.
- Sustained – the price decrease persists for a sufficiently long period of time, such that it begins to materially impact the trading and decarbonisation behaviours of market operators.

There is a degree of overlap between the risk of sudden, significant and sustained price decreases and the risk of an excessive or insufficient surplus. A number of drivers that could result in a sudden price decrease, e.g. an economic downturn with reduced output and annual emissions, could also result in the size of the surplus increasing.

However, this risk relates to short-term price developments, and it may not be effectively mitigated by mechanisms which respond to changes in market surplus and which act over a longer period. As such, alternative mechanisms may be required to address it.

The Authority will consider the relative merits of each option and seek views on the suitability to address the risk identified. The Authority will also consider how these options might interact with a quantity-triggered SAM, as per the Authority's minded to position.

Policy options

Below is a list of policy mechanisms which have been implemented in international ETS markets and/or discussed in academic literature which can potentially mitigate against this risk. These options include: mechanisms that set a minimum auction price (e.g. UK ETS ARP), mechanisms that set a 'hard' price floor, and mechanisms that reduce supply based on price developments in the market (e.g. an Emission Containment Reserve).

Existing policy - Auction Reserve Price

As discussed in the “Existing Markets Policy” chapter, the ARP prevents allowances being sold at auctions for less than £22 and can only affect the supply of allowances if multiple auctions fail in succession – this is because unsold allowances are initially reallocated to other auctions, up to 125% of their initial volume.

With an ARP in place, if the UK ETS market experienced a sudden price decrease that caused prices in the secondary market to fall below the ARP level, it is likely that the ARP would continue to be triggered until the removal of allowances created a supply-demand balance that restored prices to above £22. In this way, the ARP would act as a ‘soft price floor’ across the UK ETS market, support prices at the trigger level over the long-term.

Through the call for evidence on Markets Policy in the Develop Consultation, the Authority received a range of stakeholder views on the future of the ARP.

- Many respondents were in favour of the removal of the ARP, primarily due to what they perceived as its redundancy due to a carbon price that had been consistently and significantly above the ARP level.
- However, several stakeholders were opposed to the removal of the ARP, citing the certainty it provides to the market and its ability to mitigate extreme price troughs.
- Some stakeholders said that the ARP should be replaced by a SAM.

It is the Authority’s view that the ARP carries a number of benefits. It is a policy option for managing this risk with which market participants are familiar. The ‘soft price floor’ provides market participants and investors with a high-confidence, long-term minimum price in the event of any sudden, significant, sustained price fall. It allows market forces and price discovery to continue to determine the ETS price in the secondary market – this enables market participants to continue to engage in price discovery and reflect any reduction in supply due to the ARP in the price of allowances.

However, there are also some drawbacks/limitations of the ARP mechanism. When triggered, the ARP does not automatically reduce supply as allowances are initially reallocated to the following four auctions. This means the ARP would gradually affect supply over the course of multiple auctions and therefore its impact on the market is not immediately clear – this may result in increased market volatility as participants try to calculate or predict what the end result on supply will be. The gradual reduction in supply due to successive auctions failing to fully clear due to the ARP is likely to support prices at the ARP level without causing a price increase, as the mechanism would cease to affect supply and demand once auctions started to fully clear again. A limitation to the ARP, therefore, is that the protection it offers may maintain prices at or just above the trigger threshold in extreme scenarios, which may enable adverse market conditions to persist.

Additionally, as set out in the "Existing Markets Policy" chapter, the ARP was originally introduced as a temporary measure to provide stability in the early years of the UK ETS, and the Authority has indicated that it intended to phase out the ARP as the scheme matured.

The Authority views the ARP as an effective policy mechanism to mitigate this risk and would like to explore it further, reflecting stakeholder feedback in the call for evidence.

Absolute price floor

An absolute price floor is a policy mechanism that operates with the intention of keeping prices across the markets above a specified price level. An example of this mechanism in practice is the price floor being implemented in the pilot Beijing ETS.

Generally, a price floor directly controls prices across the market – both primary (auctions) and secondary markets. The governing authority achieves this by not selling allowances below the threshold level at auctions and also by buying back allowances at or below the threshold level in the secondary market. If prices drop below the threshold level, the price floor is triggered and the governing authority intervenes and buy back a portion of allowances until the price is restored to a value above the floor price. This ensures a guaranteed minimum price of emitting greenhouse gases for market participants.

An absolute price floor provides a certain minimum price level, reducing the risk of decarbonisation investments and helping operators and investors to fund and implement them.

However, as it is primarily the long-term price signal which incentivises decarbonisation, the prevention of price decreases below the trigger level provides minimal additional benefit when compared to other mechanisms, such as the ARP, which create "soft" price floors and high-confidence, long-term minimum price certainty.

Additionally, there are a number of potential drawbacks to absolute price floors:

- A price floor stops market dynamics and price discovery in the secondary market if prices reach the price floor level, preventing the market from continuing to reflect changes to supply in the price of allowances.
- The market intervention required to maintain the price floor could require significant capital and could be unsustainable for the Authority for an extended period.
- The perception of the Authority buying back allowances at low prices and re-auctioning them at higher prices could undermine its credibility, exposing it to reputational risks.
- A price floor only supports prices at the trigger level without causing a price increase. While this prevents further price decreases, it could result in adverse market conditions persisting if the trigger level is set at a low price.

The Authority considers that the minor increase in minimum price certainty compared to other options does not outweigh the drawbacks associated with implementing an absolute price floor.

Temporary price floor

A temporary price floor is a policy that has been implemented in the South Korea ETS (KETS) and operates similarly to the price floor with the exception that it is a time-limited intervention in the market. It has been used to stabilise the KETS when prices reached historic lows, such as in April 2021 and July 2023. Intervention is at the discretion of the KETS authority.

The temporary price floor also directly controls prices in the KETS. It is activated when the average market allowance price during a given month is less than 60% of the average price over the two previous years[17]. The temporary price floor can remain in force for up to a month, but it can also be removed sooner should Korean Allowance Unit (KAU) prices rise 10% or more above the floor price for five consecutive days.

As the temporary price floor operates in a similar way to an absolute price floor, their benefits and drawbacks are comparable.

The main advantage of a temporary price floor over an absolute price floor is that, due to its time-limited nature, the temporary price floor places a limit on the extent of intervention required from the governing authority to maintain the price floor.

However, the fact that the price floor only lasts for a limited period means that it does not provide equivalent long-lasting minimum price certainty when compared to the absolute price floor.

Emissions Containment Reserve

An Emissions Containment Reserve (ECR) is a policy mechanism designed to automatically remove a volume of allowances from auction supply when the price of allowances at auction falls below a trigger price. This is the same function as the lower bound threshold of a price-triggered SAM, as per the chapter on Risk 1.

An ECR is currently implemented in the Regional Greenhouse Gas Initiative (RGGI)[18], in conjunction with an ARP (called an Auction Price Floor in the RGGI).

An ECR does not have a direct impact on allowance price, i.e. it does not control price in the primary or secondary markets. Rather, it aims to impact price indirectly by altering the supply/demand balance – a decrease in supply (without a change in demand) could potentially result in an increase in price and prevent any further price decrease.

Unlike the ARP in the UK ETS, the volume of allowances removed from supply by the ECR is not intended to be available for future sale. Therefore, allowances are effectively being removed from the overall cap. This mechanism was developed to increase the stringency of the RGGI cap if the cost of allowances was lower than anticipated.

Under the ECR, allowances are withheld from auction if allowance price decreases below an agreed trigger price. In the RGGI, this trigger price increases by 7% per year. The volume of

[17] The Korea Emissions Trading Scheme: https://www.adb.org/sites/default/files/publication/469821/korea-emissions-trading-scheme.pdf
[18] https://www.rggi.org/program-overview-and-design/elements

allowances that can be removed from supply is limited at 10% of the annual emission budgets of participating states.

An ECR-style mechanism can act as a corrective force, applying an upward impulse to prices if they breach the trigger threshold. This could cause prices to return to a higher trading range. If this mechanism is only intended to be triggered in extreme market conditions, a corrective effect may be preferable to price support. Its trigger and intervention are simple and transparent, making it easy for the market to understand when the ECR will trigger and what the effect on supply/demand balance would be.

However, the drawbacks of the ECR are that it does not provide the same level of certainty as the ARP with regards to long-term minimum price of allowances because, if the volume of allowances removed from supply by the ECR is insufficient to increase prices, allowance prices could continue to decrease.

As implemented in the RGGI, the mechanism alters the effective cap of the scheme as allowances removed from supply are not re-offered for sale again[19]. As the Authority wishes to ensure that market mechanisms preserve the integrity of the UK ETS cap, implementation of a similar mechanism to the ECR in the UK ETS should remove allowances to a reserve pot and clear rules for reintroduction of removed allowances to market would need to be established.

Reverse Cost Containment Mechanism

A reverse CCM would operate like the UK ETS' CCM but for price decreases rather than price increases. There are no current examples of market stability mechanisms that counter sustained downward price shocks in a similar manner to the CCM as opposed to countering prices below a given absolute threshold.

A reverse CCM would operate in a similar way to an ECR-style mechanism, with the main difference being that an ECR style mechanism has a fixed price trigger level whereas a reverse CCM would have a trigger level dependent on historic average prices.

Therefore, a reverse CCM trigger threshold would be set at a pre-defined multiplier of the average ETS price over a base period, and it would be triggered if prices decreased below this threshold over a pre-determined trigger period.

Market intervention for a reverse CCM could be at the Authority's discretion, as with the existing CCM. If the reverse CCM being triggered resulted in an intervention, it would be the removal of a volume of allowances from auction supply.

A reverse CCM designed in this way would not control the price of allowances in the secondary market directly, similar to the ARP and ECR. Rather, it would aim to impact price indirectly by altering the supply/demand balance – a decrease in supply (without a change in demand) could potentially result in an increase in price and prevent any further price decrease.

[19] ICAP, USA - Regional Greenhouse Gas Initiative (RGGI), https://icapcarbonaction.com/en/ets/usa-regional-greenhouse-gas-initiative-rggi

The main benefits of a reverse CCM style mechanism are that, by setting the trigger according to a historic trading average/range, it would enable an Authority intervention that specifically targets a sudden price decrease rather than one that is triggered by a certain price level, regardless of whether the price has decreased gradually or rapidly. Any removal of allowances (should the Authority intervene, dependent on discretion) would swiftly follow any trigger and would be reflected in market dynamics immediately.

It has the potential to be a corrective force, applying upward price pressure if prices breach the trigger threshold. This could cause prices to return to a higher trading range. If this mechanism is only intended to be triggered in extreme market conditions, then a corrective effect may be preferable to price support.

However, it does not provide the same level of long-term minimum price certainty as the ARP. If the volume of allowances removed from supply is insufficient to increase prices, prices could continue to decrease.

Questions

21. Do you agree with the Authority's assessment of each of the options considered? (Yes/No). Please provide any evidence in support of your answer.

22. Are there any alternative options to those listed above that could be implemented by the Authority to address the risk of a sudden, sustained and significant price decrease in the UK ETS market? If so, please describe how the mechanism functions.

The Authority's Assessment

The Authority has considered the evaluation of options above alongside previous indications regarding the future of the ARP (as discussed in the "Existing Markets Policy" chapter). Given the nature of this risk and the mitigation offered by the ARP, as well as the market's familiarity with the instrument, **the Authority is minded to retain the ARP**.

However, while the ARP offers effective mitigation against the risk of sudden, significant and sustained price decreases, the Authority is cognisant of the importance of an effective ARP design. Therefore, the Authority would like to explore options for altering its design to ensure that the mitigation it provides is specific and targeted and continues to be so as the scheme evolves.

The Authority would also like to explore the merits of introducing additional mechanisms alongside the ARP to mitigate the risk of excessive and sustained low prices.

The Authority's decision on the suite of market policies will account for interactions between different mechanisms. Therefore, the Authority will consider the interactions and cross-over between the options discussed here including a quantity-triggered SAM if this is decided upon.

To note, this is not a final decision. Final decisions will be subject to the outcomes of this consultation and further internal analysis.

Questions

23. Do you agree with the Authority's minded to position to retain the ARP? (Yes/No). Please provide any evidence in support of your answer.

24. Do you think that an alternative policy option, such as any of the options previously discussed in this chapter, should be implemented in conjunction with the ARP? (Yes/No). If so, please elaborate.

Detailed policy design options

The Authority considers that the UK ETS should have mitigation against the risk of sudden, significant and sustained price decreases in place. To achieve this, and following an assessment of the option space, the Authority has identified several possible policy approaches. These include:

Retain the ARP unchanged

One approach would be to retain the ARP as currently designed. This would leave the ARP designed as follows:

Feature	**Current design**
Trigger focus	Primary market (auctions). The ARP does not react to prices in the secondary market.
Trigger level	£22.
Trigger sensitivity	Immediate. Bids are rejected immediately. However, the effect of the ARP on supply is dependent on the result of multiple, successive auctions.
Trigger evolution	Static. The current ARP level does not change over time.
Authority discretion	None. Bids below £22 are not accepted automatically.
Authority intervention approach	Bids less than £22 are rejected. If an auction fails to fully clear, any unsold allowances are redistributed to the next 4 auctions. Total volume at these auctions cannot exceed 125% of their original volume. Any unallocated allowances due to this limit are removed from the auction supply.
Allowances	Any unsold allowances that cannot be reallocated to a future auction are moved to the market stability mechanism account.

Retain the ARP with changes

The Authority would welcome views from stakeholders on any way in which they believe the ARP could be improved, but it has identified the following changes as those with the greatest potential to improve the effectiveness of the ARP.

Adjust the trigger level

At the current level (£22), the ARP has remained significantly below the average price of allowances since the launch of the UK ETS market. Following concerns raised by some stakeholders in the call for evidence as to whether the level is sufficiently high, the Authority would like to explore whether the current level of the ARP is appropriate to manage the risk of price falls within the market.

The Authority is mindful that the intention of the ARP is to manage the specific risk of extreme price decreases and should not interfere in day-to-day market operation and efficient price discovery. The ETS is a market-based mechanism and that remains the clear intention.

Questions

25. Do you think the ARP trigger level should be changed? (Yes/No). What level do you think the ARP should be set at? Please provide a rationale for your answer.

26. Do you think the ARP trigger level should remain static or should it evolve over time? If you think it should evolve, how do you think the Authority should design this evolution? Please provide a rationale for your answer.

Adjust intervention approach

One of the ARP's drawbacks identified by the Authority is the unpredictable effect of the ARP on supply, due to the way unsold allowances are initially reallocated to subsequent auctions before being removed from supply and placed into the market stability mechanism account. By altering the way unsold allowances are treated, the effect of the ARP on supply could be made more straightforward and predictable.

- **No reallocation of unsold allowances.** Automatically transfer unsold allowances from auction supply into the market stability mechanism account[20] when auctions fail to fully clear rather than reallocation to next four auctions.
- **Retain current approach.** Unsold allowances are rolled over to subsequent auctions as set out in the "Existing Markets Policy" chapter.

[20] Allowances in this account can be accessed upon Authority action when the CCM is triggered.

Questions

27. Do you think the Authority should alter the way an ARP trigger affects auction supply? If so, please explain how you think this should be changed.

28. Are there any other ways the Authority could alter an ARP to make it more effective? If so, please explain these alterations.

Risk 3: Sudden, significant and sustained price increase

Overview

In a market-based scheme such as the UK ETS, price fluctuations are an inherent feature. Price movement sends a useful signal to market participants about developments in the market, informing abatement investment decisions. Upward price movement in UK ETS markets is not necessarily a concern but if a sudden and excessively high price persists, it may inhibit an effective decarbonisation signal from being established by the UK ETS.

For example, carbon prices that rise suddenly and are sustained could leave participants little time to deliver decarbonisation investment that may take some years to come to fruition. In extreme scenarios, this could negatively affect firms' ability to operate and to deliver abatement.

This chapter explores the policy options the Authority has identified for mitigating against the risk of sudden, significant, and sustained price increase occurring in the UK ETS, defined as:

- Sudden – the price increase occurs over a short period of time.
- Significant – the price increase either a) is a significant departure from recent trading ranges, or b) reaches an excessively high level.
- Sustained – the price increase persists for a sufficiently long period of time, such that it begins to materially impact the trading and decarbonisation behaviours of market operators.

There are a range of market stability mechanisms that can protect the market from excessively high prices. Mechanisms include those that seek to set hard limits on how high prices rise, those that set a soft price ceiling and mechanisms that can guard against excessive price fluctuations.

The Authority will consider the relative merits of each option and seek views on the suitability to address the risk identified. We are seeking views on detailed design options on the Authority's preferred approach.

Policy Options

In this section, we have outlined and assessed mechanisms that are designed to mitigate against price increases, and have been implemented in other ETS markets, discussed in academic literature or both.

Existing policy – Cost Containment Mechanism (CCM)

Currently, the UK ETS has the CCM in place to guard against sustained high price extremes in the market. The current CCM triggers when the average price of an allowance on secondary futures markets is more than an amount equal to three times the average price in the preceding two-year period for six consecutive months. This rule provides the opportunity for the Authority to assess the nature of price movements in question over a specific period of time and decide whether intervention is required.

The Develop Consultation sought views from stakeholders on the functioning of the CCM. Stakeholders stated concerns with the current CCM design and process, including trigger threshold levels, transparency of decision-making, and level of Authority discretion.

One key benefit of the CCM is that the triggers are relative to historic carbon prices and therefore, unlike price ceilings, enable the market to determine price without distorting price discovery. The use of historical averages guards against excessive, unexpected, and destabilising fluctuations based on recent prices. The Authority notes stakeholder views that current trigger thresholds are considered not reactive enough.

The discretionary element enables informed decisions on intervention to be made before supply is injected into the market. However, stakeholders have stated that the lack of automation and transparency in decision making following the CCM triggers in December 2021 and January 2022 resulted in uncertainty. In both cases, no action was taken as the Authority assessed the nature of price movements in question and concluded that intervention by increasing allowance supply to auctions was not warranted.

Cost Containment Reserve

A Cost Containment Reserve (CCR) offers a fixed amount of allowances to the market once a trigger price is reached. The injection of allowances aims to reduce or ‘contain’ the allowance price.

Compared to an absolute price ceiling, the CCR does not restrict prices to the trigger level, however depending on the design of the scheme, the injection of allowances can fall within the cap or from reserve allowances over the agreed cap. A CCR is currently operational within international ETSs such as the New Zealand ETS and the Regional Greenhouse Gas Initiative (RGGI).

The CCR differs from the current design of the CCM as the price is an absolute value and is not based on historical averages. International schemes such as the RGGI, set a trigger price that rises over time at a rate comparable with the market rate of return for other investments with similar risk profiles.

The main benefit of a CCR is that it provides certainty to participants, as they have visibility of the trigger price (or tiers if more than one trigger price is in plan). Participants can price in the likelihood and size of intervention, helping to guide investment decisions. The CCR also provides transparency of intervention to the market.

A CCR has drawbacks, including that in situations when there are only a limited number of allowances available for allocation, demand may overtake the capacity of the reserve to inject extra allowances into the market, leaving prices free to rise again. In the case where allowances can be injected in addition to the cap, it could affect the UK ETS' ability to stay aligned to net zero.

Absolute price ceiling

A price ceiling sets an absolute limit on how high the price of an allowance can rise. If this price rises above a pre-determined level, a governing body can supply an unlimited number of allowances, offered at the price ceiling value, until prices drop below that level. There are examples of price ceilings operating in other international ETSs, for example, in the California ETS, the price ceiling is set at $81.50[21], increasing 5% per year plus inflation. A supply of allowances from their reserve are available for purchase by participants if they have current, unfulfilled emission obligations.

The main benefit of a price ceiling is that it ensures a guaranteed maximum price of emitting carbon, providing stability and certainty for market participants which can help with long term planning and investment decisions.

However, a price ceiling also has multiple drawbacks. An unlimited supply of allowances available for participants to purchase leaves the potential for an agreed cap to be breached. This would risk the environmental integrity of a scheme if allowances were required to secure the price ceiling that are above the net zero compliant cap. Compared to the CCM, the price ceiling defines a specific price that decision-makers consider too high for the market. This feature has the potential to impede price discovery as it is more interventionist than the current CCM, and if it is set too low, could disincentivise decarbonisation.

Questions

29. Do you agree with the Authority's assessment of each of the options considered? (Yes/No). Please provide any evidence in support of your answer.

30. Are there any alternative options to those listed above that could be implemented by the Authority to address the risk of a sudden, sustained and significant price increase? If so, please describe how the mechanism functions.

The Authority's Assessment

The Authority is minded to retain the CCM but explore design elements such as the reactiveness of the trigger thresholds and the trigger level methodology (historic vs absolute price trigger). **The Authority is minded to retain the use of discretion on whether to act upon the trigger** but wishes to explore whether there could be elements of automation

[21] California Price Ceiling, $81.50 (correct at time of writing): https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cost-containment-information/price-ceiling-information

introduced into the process, such as a pre-determined number of allowances injected into supply. These design options are explored below.

To note, this is not a final decision. Final decisions will be subject to the outcomes of this consultation and further internal analysis.

Detailed policy design options

The Authority is consulting on how, if at all, the CCM should be adjusted so that it can optimally mitigate against the risk of a sudden, significant, and sustained price increase in the UK ETS. Below, we explore options that include potential amendments that could be made to CCM design on this basis. The detailed policy design options include:

- Retaining the CCM with no changes
- Retaining the CCM but consider:
    - Trigger thresholds, including the multiplier and trigger period
    - Authority discretion

Retain the CCM - no adjustments

One approach would be to retain the CCM as currently designed. This would leave the CCM designed as follows:

CCM Design Feature	Description
Trigger threshold	CCM is triggered if the UKA price is 3x greater than the average in the two preceding years for six consecutive months.
Trigger methodology	To remain at current levels indefinitely as it stands, based on historical comparisons.
Authority discretion	Complete discretion over the decision-making process and range of intervention options available to the Authority.
Authority intervention	Range of options available including: no action, redistribute allowances between the current year's auctions, bring forward auctioned allowances from future years to current year, auction allowances from the market stability mechanism account, auction up to 25% of allowances in the New Entrants Reserve (NER), auction allowances from the flexible share or auction unallocated allowances left from the Industry Cap.

Questions

31. Do you believe the CCM should be retained with no adjustments? (Yes/No). Please provide any supporting evidence in your response.

Adjust CCM trigger threshold and methodology

CCM trigger thresholds

The CCM has not been triggered since thresholds increased in February 2023 to current levels of three times the two-year historical average for six consecutive months. Stakeholder feedback in the Develop Consultation centred on the high prices required to trigger the CCM, with some respondents stating that the mechanism may become redundant over time. The Authority is exploring the option to alter the CCM thresholds to increase the reactiveness of the mechanism.

The current trigger threshold:

The Cost Containment Mechanism will be triggered if the average price for one allowance on secondary futures markets is more than an amount equal to:

- three times the average price (multiplier)
- in the preceding two-year period (reference period)
- for six consecutive months (trigger period)

Changes to the CCM's trigger thresholds could include amending the following:

- the current multiplier;
- the length of the trigger period; and
- reference period

For example, in order to make the mechanisms more reactive there is the option to reduce the multiplier (e.g. from three times two times) or the length of the trigger period (e.g. from six months to three months).

Questions

32. Do you believe the current CCM thresholds should remain? (Yes/No). Please provide any supporting evidence.

33. If no, should the CCM thresholds be made more reactive by changing the multiplier, trigger period and/or reference period? Please provide any supporting evidence.

CCM trigger methodology

Currently, the CCM trigger methodology uses historical comparisons. This allows the CCM's trigger to evolve over time and respond to supply and demand. Alternatively, the CCM could use a pre-determined price (similar to the CCR). This approach may address stakeholders' views that higher carbon prices make it increasingly unlikely that the CCM will be triggered in the future and would enable greater transparency of where the trigger price is set.

However, introducing an absolute trigger price is significantly more interventionist than the current method and may impede upon price discovery and the maintenance of an effective carbon price signal. Crucially, the CCM is designed to mitigate against the risk of sudden, **sustained**, and significant price increases. A fixed price being reached in a single instance will lead to the Authority intervening in response to a potentially short-lived price increase, whereas thresholds based on historical comparisons require Authority intervention when prices are excessively high for a sustained period of time. **The Authority is minded to retain the use of historical comparisons when setting the CCM trigger thresholds.**

Questions

34. Do you believe the CCM trigger methodology should be based on historical comparisons or a fixed price? Please provide any supporting evidence.

35. Are there alternative methods we should consider when setting the CCM trigger price? Please provide any supporting evidence.

Authority discretion and automation

Currently, the Authority has full discretion on whether to act if the CCM is triggered, including the level of intervention. The two previous instances of CCM activation led to no action after the Authority assessed the nature of these price movements and concluded that intervention was not warranted on both occasions. A key theme from stakeholders in the Develop Consultation was a call for greater automation of decision making to provide greater transparency on when the Authority would act and on the level of intervention. Increasing the automation of the CCM could include having an automatic and pre-defined intervention response as seen in the changes to the EU ETS CCM[22].

Automation would provide rules-based certainty to participants, who would have greater clarity of the outcomes following a CCM trigger, allowing them to plan, better internalise the supply

[22] The EU ETS CCM has been made slightly more reactive as part of Fit for 55 Reform, whereby if the average allowance price for the six preceding months is more than 2.4 times the average allowance price for the preceding two-years, 75 million allowances shall be released from the Market Stability Reserve over a period of 6 months. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02003L0087-20230605

implications of a potential trigger and make investment decisions on that basis. The drawback of this approach is that automation does not allow for the Authority to deal with in-year price shocks by doing something the market has not priced-in, thereby minimising the effectiveness of a response as the information signal to the market has been undermined, as the number of allowances added following a trigger is known. The Analytical Annex (page 26) provides further information on the term 'priced-in'.

There are several scenarios that could lead to the CCM being triggered, some that could be predicted and others that may not have been anticipated. Retaining discretion enables the Authority to use its best judgement as necessary when responding to varied, uncertain future scenarios that have not been anticipated.

The Authority is minded to retain the use of discretion in its decision-making process as removing Authority discretion would reduce the flexibility of options available when responding to price increases. Different price rise scenarios are likely to require different responses in both scale of intervention and distribution of additional allowances across auctions, and Authority discretion allows interventions to be better targeted at addressing the root cause of price developments.

Questions

36. Do you believe that the CCM should retain discretion in its decision-making process? (Yes/No). Please provide any supporting evidence.

37. If no, do you believe the CCM should have a fully or partially automated response following a trigger? If so, please describe how this could function.

38. Are there any other design changes not listed above that would improve the effectiveness of the CCM?

The Reserve

The UK ETS currently has 29.5 million allowances put aside in a reserve. This is equal to approximately 3% of the net zero cap. The instances where allowances from the reserve can be drawn upon include activation of market stability mechanisms, such as the CCM, or to mitigate the application of a Cross-Sectoral Correction Factor (CSCF) to support levels of free allocation.

Should the UK ETS Authority implement a supply adjustment mechanism, the reserve will either feed allowances back into the market if the lower trigger threshold is triggered or be in receipt of allowances if the upper threshold is triggered to reduce auction volumes.

In light of the decisions made in this consultation, the Authority will give due considerations as to whether any changes in the size or structure of the reserve are required[23].

Questions

39. Do you have any views on the approach to reserve allowances in the UK ETS or anything you would like the Authority to consider when making decisions on its size and structure?

Wider Markets Policy

The UK ETS market is supported by a range of markets policies, including market stability mechanisms as well as other scheme features such as the auction and clearing process, and regulatory provisions that support market integrity and protect against market abuse. These polices together aim to support market stability in the scheme and influence levels of liquidity and volatility.

The call for evidence as part of the Develop Consultation, sought views on features that put the UK ETS at greater risk of market abuse than other financial markets, views on the current auction process, views on banking and borrowing and other measures that the Authority should consider to further support liquidity.

As part of the Authority's commitment to evaluation and continuous improvement of the scheme, an evaluation project was launched. The emerging findings have been published[24]. Phase 1 work ran through 2023 and included a survey, in-depth interviews of scheme

[23] See section 'The reserve', in the Analytical Annex. Page 29.
[24] UK ETS Phase 1 Evaluation, December 2023. https://www.gov.uk/government/publications/evaluation-of-the-uk-emissions-trading-scheme-phase-1

participants, an academic literature review and analysis of UK ETS market data. This report provides valuable insights on the functioning of the primary and secondary market and, alongside the call for evidence, will provide useful evidence and analysis to inform any future markets policy.

The Authority is not consulting further on wider markets policy as part of this consultation.

Next steps

The responses to this consultation will be used to develop final policy decisions for the markets policy review. This consultation will be open for 12 weeks before closing. The Authority will then work through the responses and aim to publish the Authority response in 2024.

Consultation questions

1. Do you agree with the key risks we have identified? (Yes/No). Please provide any supporting evidence in your response.

2. Are there any alternative risks to those listed above that the Authority should consider? (Yes/No). Please provide any supporting evidence in your response.

3. Do you believe that the UK ETS would benefit from the introduction of a supply adjustment mechanism to address demand shift with long-term impacts risk? (Yes/ No). Please explain the reasons for your response.

4. If so, do you have a preference for a) a quantity-triggered supply adjustment mechanism or b) a price-triggered supply adjustment mechanism, as the best means of addressing this risk? Please give your reasons for your preference and response.

5. Do you agree with the Authority's minded-to position on the introduction of a quantity-triggered SAM? (Yes/ No). Please give your reasons for your response.

6. Do you agree with the proposed approach for calculating the UK ETS TNAC? (Yes/ No) Please give your reasons for your response.

7. If you disagree with the proposed approach, please suggest an alternative approach and your rationale for this?

8. What is your view on what level of surplus constitutes a) an optimum level of surplus in the scheme, that would allow for effective functioning of the market and b) how could this be assessed including in terms of methodology? Please give your reasons and evidence you may have for your response.

9. Do you have a view on what level a) the upper quantity trigger threshold and b) the lower quantity trigger threshold should be in a UK ETS SAM? (Yes/ No). Please give your reasons and any evidence to support your response.

10. How reactive should the upper and lower thresholds be, for example should each threshold have a sliding scale of supply adjustment? Please give your reasons and any evidence to support your response.

11. Has the Authority identified all types of triggers that should be considered; or are there any other types of trigger thresholds that should be considered? Please give your reasons for your response.

12. Do you agree that relative trigger thresholds would be more appropriate than absolute static thresholds? (Yes/ No). Please give your reasons for your response.

13. If you agree, what is your preference – relative trigger threshold values a) as a proportion of the annual UK ETS cap or b) relative to annual auction volume.

14. What is your view on what the appropriate level of auction volume adjustment should be? Please give your reasons and any evidence for your response.

15. Do you have a preference for this adjustment to be a percentage of annual auction volume, or other fixed amount, a combination of both or any other metric? Please give your reasons for your response.

16. Do you agree with the proposed TNAC publication timing of post compliance in spring? (Yes/ No). If not, please explain your reasons.

17. What is your view on auction supply adjustment timings if the SAM is activated? Please give details of your preferred timings and rationale for this.

18. Should auction volume require adjustment due to SAM activation, do you agree that the Authority should endeavour to preserve approximate equal auction volume distribution in the time period affected by this adjustment? (Yes/ No). Please give your reasons for your response.

19. In your view, when, in terms of scheme year, should any quantity-triggered SAM be implemented into the UK ETS, meaning the SAM would begin operating the following year post compliance period? Please explain your reasons for your response.

20. Do you have any views on the interactions between any quantity-triggered SAM and the ARP and CCM? Please give your reasons and any evidence for your response.

21. Do you agree with the Authority's assessment of each of the options considered? (Yes/No). Please provide any evidence in support of your answer.

22. Are there any alternative options to those listed above that could be implemented by the Authority to address the risk of a sudden, sustained and significant price decrease in the UK ETS market? If so, please describe how the mechanism functions.

23. Do you agree with the Authority's minded to position to retain the ARP? (Yes/No). Please provide any evidence in support of your answer.

24. Do you think that an alternative policy option, such as any of the options previously discussed in this chapter, should be implemented in conjunction with the ARP? (Yes/No). If so, please elaborate.

25. Do you think the ARP trigger level should be changed? (Yes/No). What level do you think the ARP should be set at? Please provide a rationale for your answer.

26. Do you think the ARP trigger level should remain static or should it evolve over time? If you think it should evolve, how do you think the Authority should design this evolution? Please provide a rationale for your answer.

27. Do you think the Authority should alter the way an ARP trigger affects auction supply? If so, please explain how you think this should be changed.

28. Are there any other ways the Authority could alter an ARP to make it more effective? If so, please explain these alterations.

29. Do you agree with the Authority's assessment of each of the options considered? (Yes/No). Please provide any evidence in support of your answer.

30. Are there any alternative options to those listed above that could be implemented by the Authority to address the risk of a sudden, sustained and significant price increase? If so, please describe how the mechanism functions.

31. Do you believe the CCM should be retained with no adjustments? (Yes/No). Please provide any supporting evidence in your response.

32. Do you believe the current CCM thresholds should remain? (Yes/No). Please provide any supporting evidence.

33. If no, should the CCM thresholds be made more reactive by changing the multiplier, trigger period and/or reference period? Please provide any supporting evidence.

34. Do you believe the CCM trigger methodology should be based on historical comparisons or a fixed price? Please provide any supporting evidence.

35. Are there alternative methods we should consider when setting the CCM trigger price? Please provide any supporting evidence.

36. Do you believe that the CCM should retain discretion in its decision-making process? (Yes/No). Please provide any supporting evidence.

37. If no, do you believe the CCM should have a fully or partially automated response following a trigger? If so, please describe how this could function.

38. Are there any other design changes not listed above that would improve the effectiveness of the CCM?

39. Do you have any views on the approach to reserve allowances in the UK ETS or anything you would like the Authority to consider when making decisions on its size and structure?

Annex

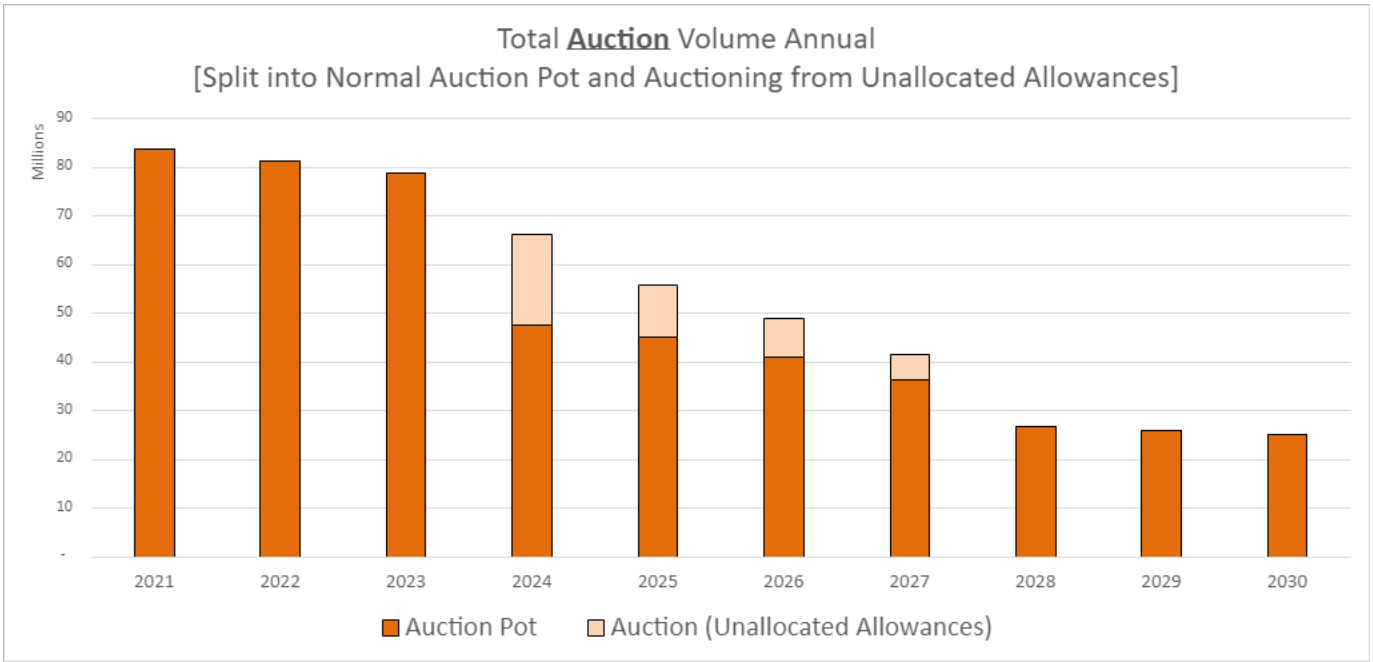
UK ETS cap details:

Following the implementation of the net zero consistent UK ETS cap from 2024 the annual cap will be as follows:

Year	2024	2025	2026	2027	2028	2029	2030
Base cap	92,062,882	86,742,014	79,059,690	70,127,996	53,498,502	50,918,572	49,320,164

Auction volume for current sectors of the UK ETS to the end of Phase 1

Auction volume for sectors currently covered by the UK ETS as set out in the Authority Response to the developing the UK ETS consultation, is shown below. To note the graph does not take into account auction volume for new sectors that will be covered by the UK ETS later in Phase 1 e.g. domestic maritime and energy from waste and waste incineration.[25]



[25] For further details of UK ETS sector expansion please see the Authority Response to the Developing the UK ETS consultation: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1166812/uk-emissions-trading-scheme-consultation-government-response.pdf.

Glossary

Abatement (of greenhouse gas emissions): The reduction of greenhouse gas emissions.

Auction clearing: Refers to the volume of allowances sold at individual auctions relative to the total volume available. Fully cleared - all allowances sold. Partially cleared - some allowances remain unsold.

Auction Reserve Price (ARP): A policy mechanism currently implemented in the UK ETS which sets a minimum price of £22 at primary auctions, below which UK allowances will not be sold.

Automation (of a market mechanism): Mechanisms that have an automated intervention in the market, as opposed to interventions being at the discretion of the Authority.

Banking: Banking means that allowances would remain valid indefinitely, participants can "bank" allowances without limitation: in some cases, for hedging.

Borrowing: Borrowing means that participants entitled to free allocation can also "borrow" allowances by using in-year free allocation to comply with the previous year's compliance obligation.

Carbon Price signal: (see decarbonisation signal) the incentive to decarbonise established by the UK ETS by placing a cost on emissions.

Compliance: The requirement of stationary and aircraft operators to submit a volume of UK allowances equal to their emissions from the year before.

Cost Containment Mechanism (CCM): A policy mechanism currently implemented in the UK ETS, which is intended to respond to and mitigate sudden, large increases in allowance price above historic averages.

Cross-Sectoral Correction Factor (CSCF): Where, if the total free allocation for all industrial installations is above the industry cap[26] in any given year, then free allocations for all installations are reduced proportionately.

Decarbonisation signal: (see carbon price signal) the incentive to decarbonise established by the UK ETS by placing a cost on emissions.

Demand shift: A change in the level of demand for allowances in the market.

Economic efficiency: The market mechanism of the UK ETS is intended to incentivise investment in the cheapest forms of emission abatement available at a given point in time. This

[26] The industry cap sets a limit on the volume of allowances available to be given out to stationary installations for free.

would mean the overall cost of decarbonisation for the traded sector is as low as it can be to achieve the necessary emissions reductions.

Futures contract: A futures contract is a legal agreement to buy or sell a particular asset at a predetermined price at a specified time in the future.

Hedging: The activity of either a) purchasing allowances for compliance in future compliance years, or b) purchasing allowances to manage risk across a range of activities or investments.

Historic average prices: The average price of UK allowances over a set period.

Liquidity: The extent to which a UK allowance can be bought or sold without affecting its price (See Analytical Annex on measurement of liquidity).

Market abuse: Behaviour such as insider dealing and market manipulation is considered to be market abuse, as it can lead to disorderly market conditions, affect the price formation process and create an un-level playing field between participants.

Market forces: Broadly, the factors which affect the cost of UK allowances, including supply and demand and the cost of abatement.

Market intervention: An intervention in the UK ETS market by the Authority, such as increasing auction supply following the trigger of the Cost Containment Mechanism.

Market Stability Mechanisms: Markets policy aimed at stabilising the market when it moves outside of what is considered, by the Authority, to be normal operation.

Market surplus: The total volume of allowances held by market participants following a compliance cycle.

Participants: Those active in the UK ETS market, including stationary installations and aircraft operators (compliance participants), financial institutions and investment funds.

Price discovery: The process of market forces determining the fair price of UK allowances through participants trading in the market.

Price spike: A rapid change in price, either increased or decreased.

Primary market: Auctions of UK allowances, conducted by Intercontinental Exchange (ICE) on behalf of the Authority.

Reactivity (of a mechanism): The speed with which a market mechanism can respond to adverse market conditions.

Reserve: A pot of allowances within the UK ETS that can be used for future market management, including market stability mechanisms (such as the Cost Containment Mechanism) or to mitigate the application of the Cross-Sectoral Correction Factor.

Rules-based approach: Where the functioning of the UK ETS market policies is pre-determined, enabling the market to understand how policies may affect market conditions.

Shock: A sudden change in market conditions, likely caused by an external driver.

Supply Adjustment Mechanism (SAM): A market mechanism, that can be price or quantity based, that adjusts the supply of allowances into the market based on it falling outside a range of prices (if price triggered) or surplus (if quantity triggered) in the market.

Surplus: (see also Total Number of Allowances in Circulation) the volume of allowances present in the UK ETS in excess of the volume of allowances required for annual compliance. In this way, surplus is calculated once a year following the compliance deadline.

Secondary market: Hosted by the Intercontinental Exchange, where participants can buy and sell allowances with one another, often as futures contracts.

Total Number of Allowances in Circulation (TNAC): The volume of surplus in the market.

Traded sector: The business activities and industries whose emissions fall under the UK ETS and must purchase UK allowances to cover their emissions within each annual compliance cycle. The UK ETS currently applies to energy intensive industries, the power generation sector and the aviation sector.[27]

Trigger: The way market stability mechanisms are activated, related to market conditions such as price or price changes.

UK Allowance (UKA): The units bought and sold within the UK ETS. A UKA is an allowance to emit 1 tonne of carbon dioxide equivalent (1 tCO_2e), which compliance entities in the scheme are required to obtain and surrender to cover their annual reportable emissions.

Volatility: A measure of how quickly the price of UK allowances change over a given period of time.

[27] Activities in scope of the UK ETS are listed in Schedule 1 (aviation) and Schedule 2 (installations) of the Greenhouse Gas Emissions Trading Scheme Order 2020 which can be found here: https://www.legislation.gov.uk/uksi/2020/1265/contents

This consultation is available from: www.gov.uk/government/consultations/uk-emissions-trading-scheme-future-markets-policy

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