

UK Emissions Trading Scheme: Business and Regulatory Impact Assessment

November 2023

UK Emissions Trading Scheme: Business and Regulatory Impact Assessment (BRIA)

1. Title of Proposal

Development of UK Emissions Trading Scheme ("ETS"): Impacts in Scotland.

2. Purpose and Intended Effect

2.1 Background

The UK Emissions Trading Scheme (UK ETS) was established on 1 January 2021 by the UK ETS Authority (the "Authority") –formed by the Scottish, UK and Welsh Governments and the Department of Agriculture, Environment and Rural Affairs in Northern Ireland (DAERA) for Northern Ireland. When it was established, the Authority committed to increasing the climate ambition of the scheme and last year the Authority consulted on a number of proposals to strengthen the UK ETS and align it with net zero targets.

In August 2022, the Authority published an initial Government Response to the consultation covering proposals which had to be implemented by 2023¹. On 3 July 2023 the Authority published a final Government Response and associated impact assessment covering the remaining and more substantive policy changes.² These documents considered stakeholders' views throughout. This Business and Regulatory Impact Assessment (BRIA) builds on the UK Government's Impact Assessment to provide an assessment of the impact of these changes on Scottish businesses.

This document is designed to be considered alongside the "*Developing the UK Emissions Trading Scheme: Main Response*" (referred to as 'Government Response') and its associated impact assessment (referred to as the "UK ETS Impact Assessment").

In summary, the proposed changes in the UK will:

- Set the UK ETS cap to be consistent with a goal of reaching net zero. The net zero consistent cap will reset the total cap for the first phase of the UK ETS (2021 – 2030). This supports Scottish Government climate change plans and targets, and it goes further in reducing emissions than the previous cap.
- Set the Industry Cap (the proportion of allowances that are given for free to industries at risk of carbon leakage) at 40% of the overall cap.

¹ [Developing the UK Emissions Trading Scheme \(UK ETS\) Consultation \(2022\) and associated documents.](#)

² [Main Response and associated impact assessment to the Developing the UK ETS Consultation.](#)

- Smooth the transition to the new net zero consistent cap through releasing 53.5 million additional allowances (which are currently unallocated) to the market between 2024-2027.
- Retain 29.5 million of the unallocated allowances. This is equivalent to approximately 3% of the overall cap.
- Phase-out aviation free allocation.
- Expand the scope of the UK ETS to include the maritime, waste incineration and energy from waste sectors, as well as new activities within the traded sector³ (see Annexes A and B for more detail on these proposals).

These changes are set out in detail in the Government Response, along with definitions for some of the terms used in this document.

The Government Response to the UK ETS consultation also sets out a number of more technical policy changes. The Scottish Government has assessed these and deems their impact on business to be low; they are therefore not considered in detail in this document. See Annex A for more detail on each policy decision.

Lastly, a few policy positions outlined in the Government Response are subject to further consultation (see Annex B for more detail). The Authority will produce impact assessments as appropriate following consultations on these policy issues. The Scottish Government will also consider what Scottish specific impact assessments may be appropriate to support policy development.

2.2 Objectives

The changes to the UK ETS set out in the Government Response support Scotland's decarbonisation objectives. The UK ETS plays an important role in meeting Scotland's ambitious net zero target by incentivising emissions reductions in the power, oil and gas, heavy industry and short-haul aviation⁴ sectors of the economy. Together Scottish ETS emissions account for 18% of Scotland's 2021 greenhouse gas (GHG) emissions⁵. By setting a market-led price for carbon, the UK ETS incentivises least cost decarbonisation in these high-emitting sectors, whilst also mitigating risks of carbon leakage during the transition to net zero.

This section summarises the objectives of the policy changes covered in this BRIA:

1. **Net zero consistent cap** : The cap refers to the total number of allowances created within the scheme, which can be broken down by year. A lower cap represents a smaller number of emissions and greater climate ambition. The

³ Traded sector refers to those sectors already covered by the UK ETS, which include energy-intensive industry (including manufacturing, upstream and downstream oil and gas, construction and steel), non-renewable power sector and some aviation.

⁴ The UK ETS currently includes domestic flights within the UK, flights between the UK and the European Economic Area and those between Great Britain and Switzerland.

⁵ [Scottish Greenhouse Gas Statistics 2021](#).

objective behind the new cap trajectory is to therefore support the decarbonisation of the ‘traded sectors’ (including industry, power and short haul aviation) in order to meet our net zero targets. The cap must be set appropriately to ensure the carbon price signal provided by the UK ETS is consistent with the level of traded sector ambition needed to meet our targets⁶. If the cap is set too high (i.e. allows a greater number of emission allowances to enter the market), it is less likely the UK ETS price will incentivise sufficient decarbonisation. Similarly, if it is set too low, it will not align with a credible and low-cost decarbonisation pathway. We believe that the net zero consistent cap trajectory strikes the balance between incentivising decarbonisation and enabling industry to transition to net zero fairly, in line with our Just Transition objectives.

2. **Industry cap:** The industry cap is the upper limit on the number of free allowances that can be issued each year to sites that are at risk of carbon leakage. The objective for setting the industry cap at 40% is to mitigate the risk of carbon leakage as the traded sector decarbonises and lower the risk of triggering the cross-sectional correction factor (CSCF)⁷. It also gives the Authority more flexibility for reviewing the scheme’s approach to free allocation distribution in the upcoming phase 2 Free Allocation Review. This is aligned with the Climate Change Committee (CCC) advice to the Authority on the industry cap⁸.
3. **Unallocated allowances:** In previous years, the number of free allowances allocated to industries was below the industry cap. The gap between the amount allocated and the cap has resulted in unallocated allowances that have no route to market. The objective for bringing some of these unallocated allowances to market is to smooth the transition to the net zero consistent cap. This supports Scotland’s Just Transition objectives by supporting businesses to plan for a managed transition to net zero.
4. **Phase out aviation free allocation:** Free allocation for the aviation sector will not be extended for the 2026-2030 allocation period as research has found that there is a minimal risk of carbon leakage for the aviation sector.⁹ Free allocations are used to mitigate against carbon leakage, therefore, continuing to allocate free allowances to the sector goes against the policy intent.

⁶ For further details on how the UK ETS incentivises decarbonisation, see the [analytical annex to the consultation](#).

⁷ CSCF is a process by which a reduction in all free allocations is applied and occurs when the total amount of required free allocation is greater than allowances in the industry cap, and no additional allowances are available.

⁸ [Climate Change Committee \(2022\) Letter: Development of the UK Emissions Trading Scheme \(UK ETS\)](#). Letter from Lord Deben, Chair of the Climate Change Committee, to Graham Stuart MP, Minister of State at the Department for Business, Energy and Industrial Strategy, copying in the portfolio Ministers of the devolved administrations.

⁹ The methodology for free allocations for aviation is different from those of stationary installations and is therefore considered separately.

2.3 Rationale for Government intervention

Climate change targets: Both the UK Government and the Scottish Government have legislated ambitious net zero targets. One of the primary policy objectives in reforming the UK ETS was to align the UK ETS Cap to the UK's legally binding net zero targets by implementing a revised net zero consistent cap trajectory from 2024. The net zero consistent cap will reset the total cap for the first phase of the UK ETS (2021 – 2030). The CCC have stated that the proposed cap “ is appropriate, given the pathway set out in the [UK] Net Zero Strategy.”

Scotland's greenhouse gas emissions reduction targets are set out in the Climate Change (Scotland) Act 2009¹⁰, and subsequently amended in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.¹¹ Scotland's net zero target is consistent with the overall UK target and is based on advice from the CCC. The new cap goes beyond the level of reductions set by the previous cap, thereby providing greater support for Scotland's net zero targets.

Negative Externalities: The rationale for Government intervention is that there are a number of negative externalities associated with climate change, whereby the global costs of greenhouse gas emissions are not factored into the decision making of emitters and hence emissions will be too high. These externalities represent market failures, and as such warrant Government intervention in the market to correct them.

Alignment with National Performance Framework (NPF). These changes to the ETS support alignment with the National Performance Framework (NPF).¹² The UK ETS contributes positively to four of the National Outcomes:

- We value, enjoy, protect, and enhance our environment;
- We have a globally competitive, entrepreneurial, inclusive, and sustainable economy;
- We are open, connected and make a positive contribution internationally; and
- We have thriving and innovative businesses, with quality jobs and fair work for everyone

¹⁰ [Climate Change \(Scotland\) Act 2009](#)

¹¹ [Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#)

¹² [Scottish Government: National Performance Framework](#)

3. Consultation

3.1 Within Government

The following government agencies and departments have been consulted by the Scottish Government in the Authority consultation and the preparation of this BRIA between June 2022 and April 2023:

- The Division of Energy Industries, Food and Drink Division, Strategic Commercial Assets Division and Industrial Transformation and the Office of the Chief Scientific Advisor in the Scottish Government have provided advice in relation to issues on industrial decarbonisation, Greenhouse Gas Removals (GGRs) and/or expansion within the traded sector;
- Transport Scotland in the Scottish Government advised on issues on the maritime inclusion in the UK ETS and aviation free allocations;
- The Circular Economy Division in the Scottish Government advised on the inclusion of waste incineration activities in the UK ETS;
- The Onshore Electricity, Strategy and Consents Division in the Scottish Government provided advice in relation to issues on biomass and combined heat and power (CHP) policies;
- The Agriculture Policy Division in the Scottish Government has provided advice in relation to issues on agriculture and land use;
- The Scottish Government Legal Directorate has provided advice on the legal issues raised in this consultation;
- The Authority members and other government departments (Department for Transport and His Majesty's Treasury); and
- Scottish Environment Protection Agency (SEPA).

3.2 Public Consultation

The Authority delivered the public consultation “*Developing the UK Emissions Trading Scheme*” between 25 March and 17 June 2022. As part of the consultation process, and aiming to gather as much feedback as possible, the Authority carried out 47 UK-wide stakeholder engagement sessions with current and future UK ETS participants, cross-sector business groups, trade associations, thinktanks, academics and eNGOs. These sessions included high-level summaries of the consultation and topic-specific workshops, which covered proposals on the cap, free allocation changes, aviation, GGRs and the inclusion of waste and maritime, among others. Approximately, 350 stakeholders attended these engagement sessions, including Scottish stakeholders.

A total of 300 stakeholders responded to the consultation, out of which around 120 were identified as relevant for Scotland by policy teams across the Scottish Government¹³. The Authority has reported on the findings from this consultation in the joint Government Response.

¹³ This was defined as those who operate in Scotland or who are key to Scottish supply chains.

The responses to this public consultation included a variety of stakeholders, including those from the aviation, chemical, oil and gas, refining, transport, manufacturing, power, food and drink, and steel sectors, as well as other trade associations, local authorities, consultancies, think tanks, academics and NGOs, and other sectors.

3.3 Business

Businesses were primarily consulted through the public consultation “*Developing the UK Emissions Trading Scheme*” set out above. Scottish Government officials identified responses most relevant to Scotland – including all UK ETS operators in Scotland who responded to the consultation. Scottish businesses and UK ETS operators also participated in the workshops and roundtables hosted by the Authority during the consultation.

4. Options

4.1 Options Development

The Authority examined a range of options for each of the policy proposals set out in the consultation. Full details are set out in the “*Developing the UK Emissions Trading Scheme*” consultation, the Authority Government Response to the consultation and the UK ETS Impact Assessment.

4.1.1 Net zero consistent cap

The Authority considered three options when deciding on the cap trajectory:

- i) Do nothing.
- ii) A Net Zero Strategy consistent cap.
- iii) Follow the CCC’s recommendations for the UK ETS cap.

Option i) was used as our counterfactual for these changes. It was ruled out as the current UK ETS cap is inconsistent with net zero targets (i.e. It allows for a higher level of traded sector emissions than would align with a pathway to our net zero targets).

Option ii) is the preferred approach as it incentivises the largest reduction in emissions, and therefore more likely to provide a greater contribution to Scotland’s climate change targets. This option presents a range for a ‘net zero consistent’ cap which would result in the total cap for the first phase (2021-2030) of between 887 million allowances and 936 million allowances, a reduction of 30-35% on the current legislated cap. Under these options by 2030 the cap would be 50 MtCO_{2e}.

Option iii) was ruled out as it required lower emission reductions than option ii) and would place more pressure on the non-traded sector for the achievement of SG climate change targets. The CCC recommended that emissions should result in the

total cap for the first phase of around 996 million allowances, with a cap of 59.3 MtCO_{2e} in 2030.¹⁴

The Authority considered how to drive maximum climate ambition while enabling the market to function and UK ETS operators to decarbonise in a managed way. In combination with the other factors set out below, the Authority decided to set the cap at the top of the consulted range, which represents a reduction of 30% compared to what is currently legislated.

4.1.2 Unallocated Allowances

The Authority considered three options for the unallocated allowances:

- i) Do nothing.
- ii) Auction unallocated allowances to smooth the transition to the new cap.
- iii) Retain unallocated allowances in contingency pots for later use.

Option i) was ruled out as the Authority deemed it important to support the transition to the net zero cap through bringing some unallocated allowances to auction.

The Authority therefore decided to combine options ii) and iii) to ensure that there are sufficient allowances to support the adjustment to the lower cap from 2024 whilst also retaining enough allowances in reserve for future market stability purposes and CSCF mitigation.

4.1.3 Industry Cap

The Authority considered two options for the setting of the industry cap:

- i) Do nothing.
- ii) Reset the industry cap to make up a percentage of the overall cap.

Under current rules the industry cap is set at the UK's notional share of the EU ETS industry cap for Phase IV of the EU ETS. This means that the industry cap is currently legislated as fixed numbers of allowances based on the previous cap levels and will not automatically change with any changes to the cap. Option i) was therefore ruled out as it would mean that the proportion of allowances allocated for free would increase relative to the size of the revised cap. This was seen as potentially being detrimental to market functioning, stability and liquidity.

Option ii) is the preferred option as it enables the level of free allocations available to be set at a level which allows the overall cap to be distributed in a balanced way between free allocation and auction share.

¹⁴ [Climate Change Committee \(2021\) Letter: UK Emissions Trading Scheme and CORSIA](#) Letter from Lord Deben, Chair of the Climate Change Committee, to Anne-Marie Trevelyan MP, Minister of State at the Department for Business, Energy and Industrial Strategy, copying in the portfolio Ministers of the devolved administrations.

The Authority decided to set the industry cap at 40% of overall cap. This is higher than retaining the current share of the cap of 37%. This enables the Authority to balance the requirements for a net zero consistent cap with support for businesses at risk of carbon leakage. It will also enable effective market functioning and allow sufficient allowances for auction.

This higher cap will also provide flexibility for the future decisions on the distribution of free allowances as part of the phase 2 Free Allocation Review. Further impact assessments will be undertaken as appropriate to assess the impact of any recommendations from this review. The Authority also committed to maintain free allocations at current levels, subject to activity level changes, until 2026 to further support the transition to the net zero consistent cap.

4.1.4 Aviation Free Allocation Phase out

The Authority examined the Aviation Free Allocation (AFA) phase out from two perspectives, namely the timing of a phase out and the speed/trajectory at which the AFA would be reduced. Under current legislation AFA are due to decline annually by 2.2% until 2026 at which point they are removed.

Three options were considered for the timing of the phase out:

- Option 1: Early phase-out: the rate at which free allocation entitlement reduces will increase so that full auctioning will apply from 2026.
- Option 2: Intermediate phase-out: the rate at which free allocation entitlement reduces will increase so that full auctioning will apply no later than 2028.
- Option 3: Later phase-out: The rate at which free allocation entitlement reduces will increase so that full auctioning will apply from the start of 2031.

Four options were considered for the speed/trajectory of the phase out:

- Option A: Linear: AFA entitlement decreases by a constant amount every year.
- Option B: Smooth backloaded: AFA entitlement decreases by an exponentially increasing amount each year.
- Option C: Sharp backloaded: half of the original AFA entitlement is phased-out linearly, the remaining half is phased-out in the final year.
- Option D: Sharp backload 2: AFA entitlement follows the business as usual trajectory (aviation free allocation annual reduction rate of 2.2%) until all the remaining AFA is removed in the final year.

Taking these options together the Authority considered the 12 phase-out trajectories. These comprised of four trajectories (options A to D) for each phase-out year 2026, 2028 and 2031 (options 1, 2 and 3,). These were assessed against the following criteria (more detail on which is available in Annex 4 of the IA):

- Cost;

- Revenue;
- UK ETS design and Objectives;
- Impact on competition and market distortion;
- Commercial viability and air connectivity; and
- Operational delivery.

The Authority has decided, following assessment of the options, that free allocation for the aviation sector will not be extended for the 2026-2030 allocation period but will follow a trajectory of a 2.2% annual reduction until all remaining AFAs are removed in 2026 (Option 1D). This option was chosen as it aligns with the overall policy objectives of the UK ETS, given the minimal risk of carbon leakage for the aviation sector.

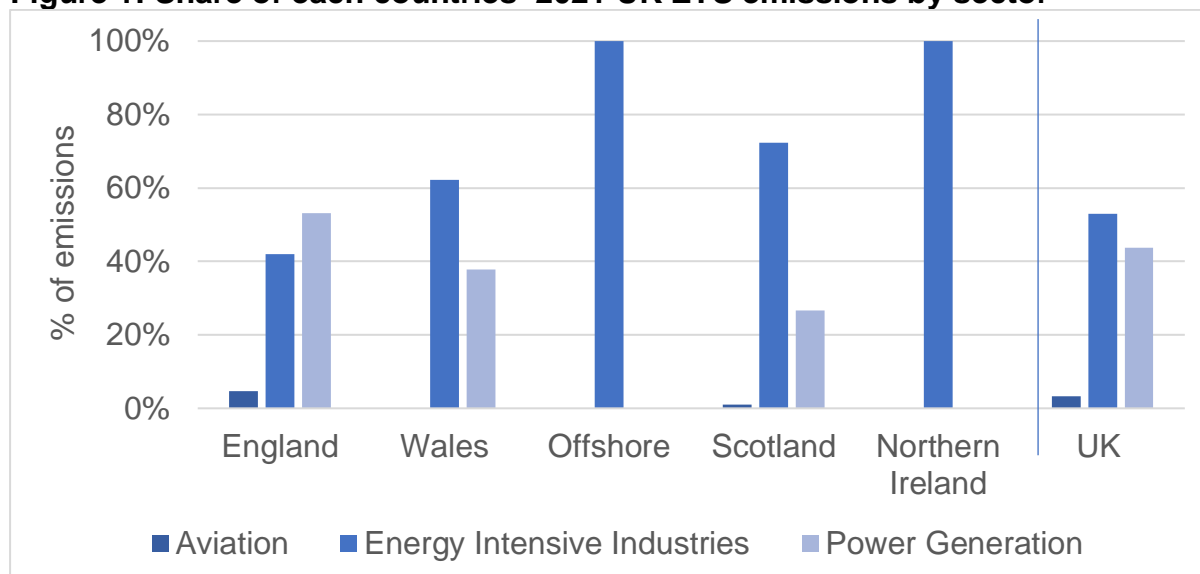
4.2 Sectors and groups affected

The proposed changes to the UK ETS will primarily affect the sites and businesses which operate within the scheme. The UK ETS focuses on energy intensive industries, power generation and aviation. Scotland accounted for around 6.9% of the traded sector emissions in the UK ETS in 2021 (excluding those covered by the Hospital and Small Emitter (HSE) opt out scheme¹⁵). The emission profiles vary across the regions with Scotland having a higher concentration of emissions in the energy intensive industries (around 72% of emissions) compared to the UK as a whole (around 42%), Figure 1.¹⁶

¹⁵ Hospital and Small Emitter (HSE) Opt-out scheme accounts for around a quarter of sites in Scotland that are participating in the UK ETS but only accounted for 4% (0.3 MtCO₂e) of total emissions for Scottish sites in the UK ETS in 2021. These installations are given an allocation of emissions which are included towards the overall cap, but they are not able to participate in the purchasing of additional allowances. These have been excluded from our analysis

¹⁶ Data is presented for each country based on their regulator, for static installations the emissions will occur in the region that it is located. The exception is for aviation where emissions are reported to the regulator where the airline is registered rather than where the emissions occur.

Figure 1: Share of each countries' 2021 UK ETS emissions by sector



Source: Scottish Government analysis of main scheme activity as published in the UK ETS Registry data¹⁷

Notes to figure: Offshore activities are regulated by Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) and are included in total UK ETS emissions.

In 2021 aggregated total emissions were approximately 73MtCO_{2e} in England, 16.6 MtCO_{2e} in Wales, 7.4MtCO_{2e} in Scotland, 0.6MtCO_{2e} in Northern Ireland and 10.1 MtCO_{2e} for offshore sites.

By design, the UK ETS legislation applies across the whole of the UK to the same sectors (with the exception of power in Northern Ireland which remains under the EU ETS). This means that there is no specific Scottish cap, or specific cap for any of the four nations in the United Kingdom.

This presents challenges when assessing the impact and costs of the UK ETS changes at the regional level. Abatement opportunities, such as access to decarbonisation technologies, carbon capture and storage and fuel switching, will vary across and within sectors and regions and depend on often site-specific key infrastructure and technological solutions being available. In addition, Scotland's industrial profile is different from the UK when taken as a whole and, as a result, the solutions required in Scotland may be different from those in the rest of the UK. Abatement solutions will also not be available or delivered symmetrically across the UK. Overall the rate of decarbonisation is therefore likely to differ across the UK nations. While we can draw some high level and aggregate conclusions around likely impacts, business responses to the proposed changes will be made on site-or organisation-specific commercial decisions which are difficult to predict on the basis of national or sector-level data and targets.

In addition to the sites and businesses which operate within the scheme, we expect that the proposed changes have the potential to have indirect and second order impacts on:

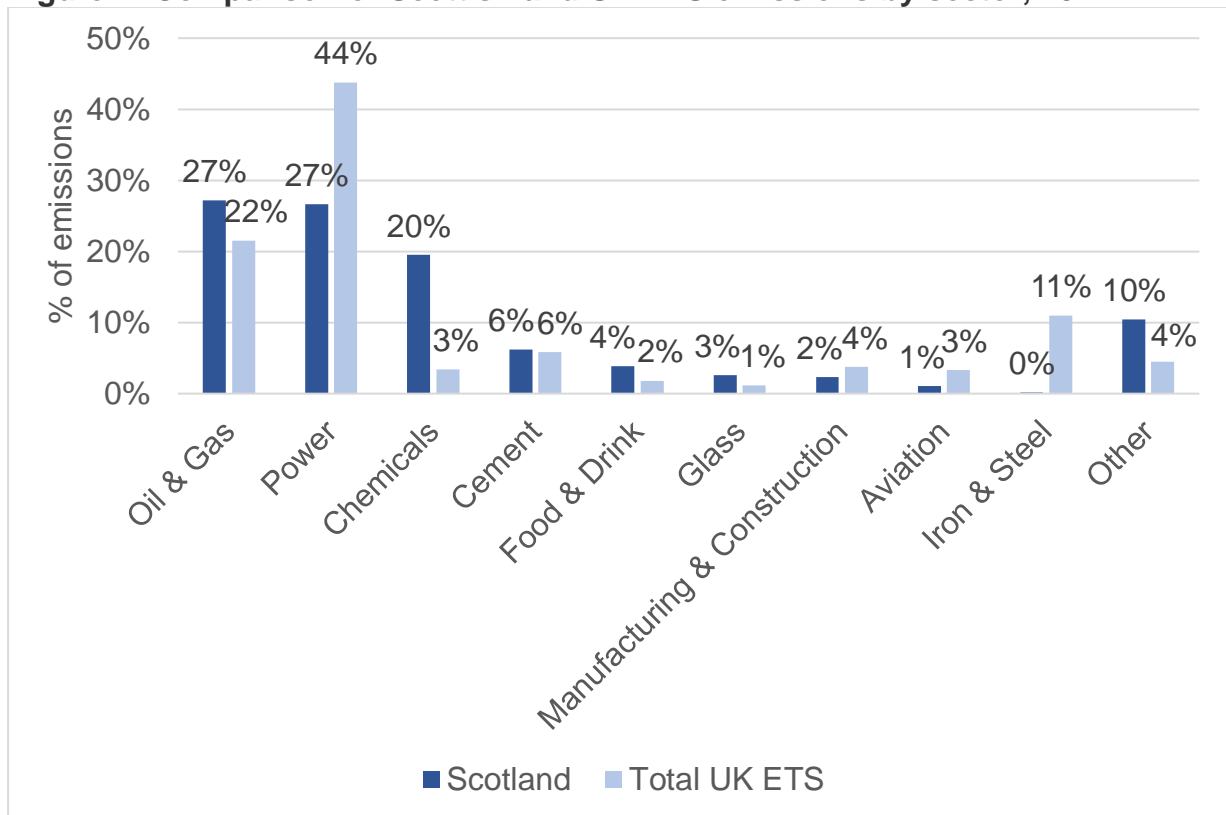
¹⁷ [UK ETS Public Reports](#)

- Scottish businesses operating within the supply chain of those directly affected firms or businesses purchasing and using the products of firms within the UK ETS
- Scottish households which consume products produced by affected firms
- Central and local government and other public bodies which either participate directly in the UK ETS (i.e. hospitals via the HSE scheme) or which purchase products produced by firms within the UK ETS.
- Individuals who live and work in close proximity to sites within the UK ETS may experience positive air quality impacts as a result of a move towards clean energy sources.

4.2.1 Overall impact of Cap, Industry Cap and Unallocated Allowances

The overall impact on Scottish businesses is likely to be broadly in line with what is happening at the UK level. However, it should be noted that there are variations in the sectoral composition of the scheme across the regions. Emissions from the Scottish traded sector, excluding HSE, in 2021 were concentrated in three sectors; power (27%), oil and gas (27%) and chemicals (20%), Figure 2. This is different from the traded sector in the UK as a whole, as emissions are more concentrated in the power sector (44%), oil and gas (22%) and iron and steel (11%).

Figure 2: Comparison of Scottish and UK ETS emissions by sector, 2021



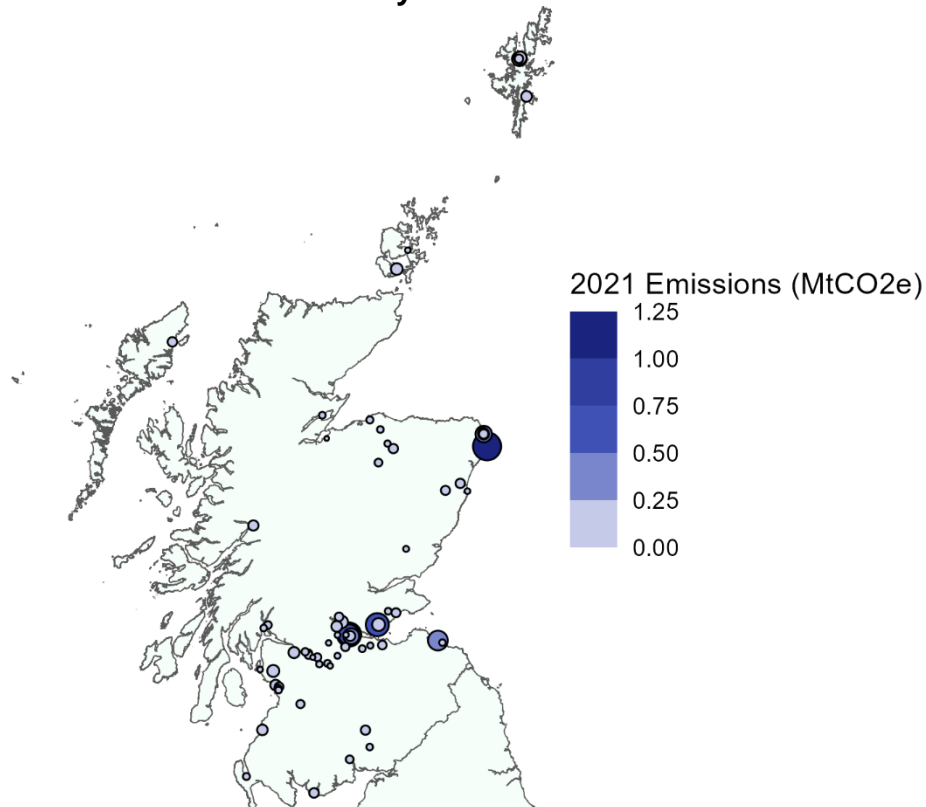
Source: Scottish Government analysis of UK ETS registry data

Scotland's emissions are also highly concentrated in a few sites, with the top ten emitters accounting for 73% of Scotland's traded sector emissions in 2021. The

impact the UK ETS has on these sectors will depend on their decarbonisation pathways, including access to decarbonisation technology.

The impact of the UK ETS on Scottish regions will also vary, as different regions are home to different numbers, and types, of UK ETS sites. Figure 3 highlights that the largest concentration of emissions and sites occurs in the central belt and Aberdeenshire.

Figure 3: Location of Main Scheme UK ETS participants in Scotland in 2021, scaled by emissions

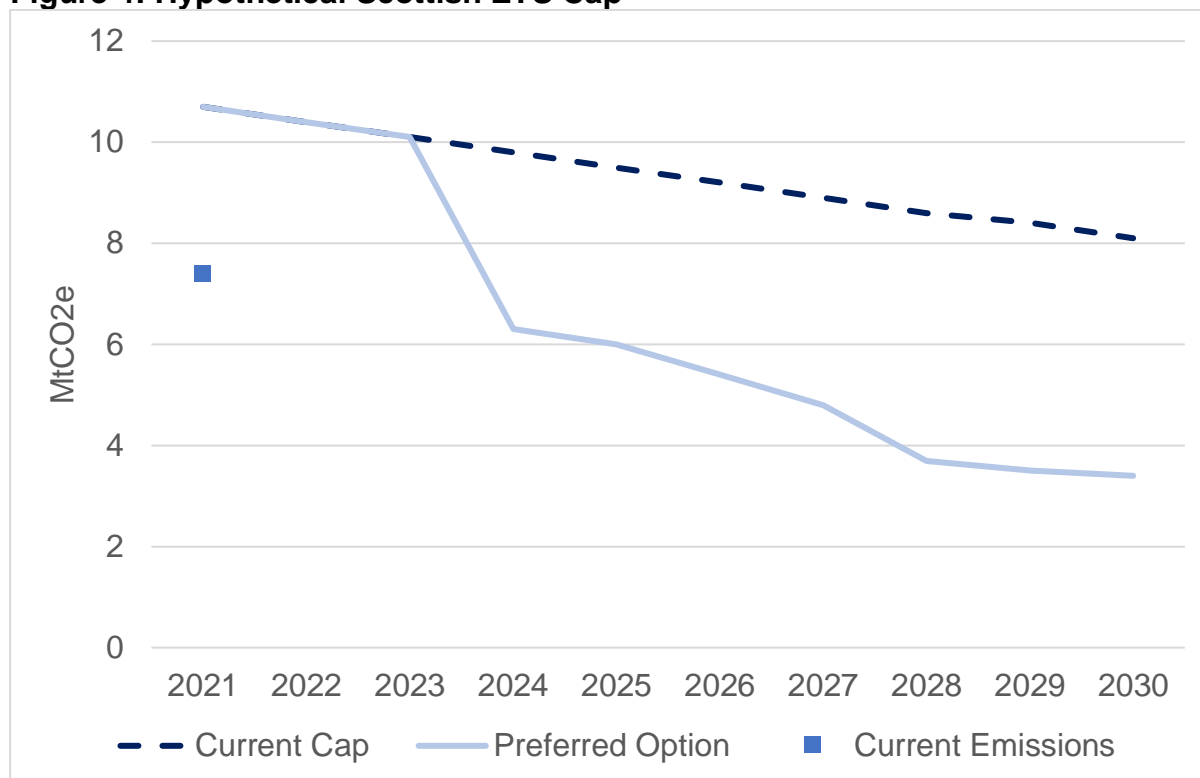


Source: Scottish Government analysis of UK ETS registry data and SEPA data

The proposals to reset the cap will affect all sectors operating in the UK ETS. It will intentionally limit the number of allowances available, thereby creating an incentive to invest in decarbonisation. Likewise, the decisions around the auctioning of unallocated allowances will impact all UK ETS operators as these will be available to all UK ETS operators (under the main scheme) to buy.

To assess the potential impact of the changes in the UK ETS cap on Scotland we used Scotland's 2021 share of main UK ETS emissions (6.9%) to produce a hypothetical "Scottish Share" of the UK ETS cap over the period to 2030. (Figure 4). This has been used as a proxy to estimate how Scottish industries may be impacted by the Cap and implies that Scottish ETS emitters decarbonise on average at the same rate as the UK as a whole. As discussed above, the actual rate at which Scottish emitters decarbonise may well be faster or slower than the overall decline in the UK cap and will depend on a variety of site-specific factors related to costs and the technological and process options available.

Figure 4: Hypothetical Scottish ETS Cap



Source: Scottish UK Government Analysis

Scottish Operators who are exposed to the risk of carbon leakage¹⁸ are eligible for free allowances. The decision to set the 'Industry Cap' at 40% of the cap is designed to mitigate that risk of carbon leakage and support those industries to invest in decarbonisation. Scottish ETS sites account for 7.7% of all free allowances which cover 44% of Scottish ETS emissions. This is slightly higher than the UK as a whole where 39% of UK ETS emissions were covered by free allowances in 2021, however this will be influenced by the lower proportion of emissions from power in Scotland.

The Authority is due to review the Free Allocation (phase 2) in the coming years ahead of the next free allocation phase (from 2026). Further impact assessments will be undertaken as appropriate to assess the impact of any recommendations from this review.

4.2.2 Impact of the aviation phase out

The phase out of free allocation for aviation will impact a number of airlines operating across the UK, including those operating routes in Scotland. In 2021 there was only one airline which was regulated by SEPA which participated in the UK ETS - 14% of its emissions were covered by free allowances. As SEPA regulates only one airline it would not be appropriate for government to speculate on the impacts on an

¹⁸ Carbon leakage refers to the movement of production and associated emissions from one country to another due to different levels of decarbonisation effort through carbon pricing and climate regulation. As a result of carbon leakage, the objective of decarbonisation efforts – to reduce global emissions – would be undermined.

individual business. We have, however, considered the potential impact on island connectivity specific to Scotland, in our Island Communities Impact Assessment¹⁹.

As a large number of other airlines operate in Scotland (whilst being regulated by the appropriate organisations in England or Wales) it is useful to consider the impact on the aviation sector as a whole. As part of the Authority's review of the future of aviation free allowances, external economic research was commissioned by the Department for Transport and the Department for Business, Energy and Industrial Strategy (BEIS).²⁰ This suggests that the withdrawal of free allowances poses minimal risk of carbon leakage for aviation. However, this analysis does highlight that withdrawal of free allowances may lead to a reduction in airlines' capacity. Further, the UK ETS Impact Assessment highlights that "we expect that the withdrawal of free allocation may lead to small impacts on regional airports except where an Aircraft Operator leaves a market and there is a subsequent sustained reduction in capacity, there may be knock on impacts on small regional airports, particularly if they are reliant on one carrier or limited routes".

4.3 Benefits

There are a number of benefits associated with these policy changes to the UK ETS. The primary benefit of this policy is the reduction in GHG emissions reductions arising from the tightened cap. This will support delivery of our statutory climate change targets. Relative to the counterfactual we expect a significant reduction in traded sector emissions.

It is expected that the price signal from the UK ETS will increase the incentive for firms to invest and deploy clean technologies and processes by making them better value for money than higher emissions alternatives. It will also incentivise firms to drive improvements in their energy efficiency as using less fuel input per unit of output would reduce their exposure to the carbon price. This increased investment in decarbonisation technologies can have long term positive spillovers, with reduced costs and accelerated future abatement. The development and implementation of these decarbonisation technologies will also support jobs and investment within the green economy in Scotland and across the rest of the UK which is key to Scotland's objectives for a Just Transition to net zero.

Any movement away from fossil fuels and other fuels such as biofuels can yield improvements to air quality, which can significantly improve health outcomes. In their *Sustainable Health Equity: Achieving a Net Zero* report to the CCC The UK Health Expert Advisory Group highlighted that the move to clean energy sources and a move away from fossil fuels in the power generation and industry sectors is a key component of improving health outcomes.²¹

¹⁹ [Island Communities Impact Assessment - UK Emissions Trading Scheme](#)

²⁰ [Frontier Economics \(2022\) Economic research on the impacts of carbon pricing on the UK aviation sector.](#)

²¹ [UK Health Expert Advisory Group \(2020\), Sustainable Health Equity: Achieving a Net Zero UK](#)

4.4 Costs

There are two main costs to Scottish businesses as a result of this policy: the costs associated with investment in decarbonisation technologies, and the costs associated with purchasing of allowances.

The primary objective of the UK ETS is to encourage firms to invest in decarbonising technologies and processes. The higher the UK ETS allowance price the higher the costs to firms of unabated emissions. In theory we would expect abatement to occur up to the point where the marginal cost (i.e., the cost of abating an additional unit of emissions) is less than or equal to the allowance price in the system. The available decarbonisation options and associated costs will be diverse and determined on a site-specific basis. Options could range from fuel saving and energy efficiency measures, fuel switching and electrification, process redesign and Carbon Capture and Storage.

There are also costs associated with the purchasing of allowances. This can be done via auction, where the allowances are purchased directly from the Authority, or via the secondary market. The reduction in free allowances, and greater abatement required by the cap, means there may be more operator engagement in primary and secondary allowance markets in order to buy and sell allowances.

From the primary auctions in 2021 alone, Scottish businesses are estimated to have spent in the region of £215m to comply²². Estimates suggest that industry in Scotland spent in the region of £110m, Power £100m and aviation £5m in 2021. By the same token free allowances can be considered a benefit to business with free allowances issued in 2021 being valued at around £170m, with nearly all of this in the industry sector. It is estimated in the UK ETS Impact Assessment that across the whole of the UK the direct cost to business of the preferred option is £2.4bn, assuming that the UK Government policies under the high policy scenario, such as Carbon Capture, Usage and Storage (CCUS) and hydrogen, are delivered. This is primarily driven via the purchasing of allowances via the markets by participants.

4.5 Overall costs and benefits associated with the UK ETS changes

As highlighted above there are a number of challenges to analysing the impact of the changes to the cap on Scottish Businesses. As the Authority agrees a shared approach to UK ETS changes it is appropriate for the costs and benefits of this policy to be examined at a UK-level. This analysis was undertaken by the Department of Energy Security and Net Zero (DESNZ) and full details can be found in the UK ETS Impact Assessment attached to the Government Response.

The UK ETS Impact Assessment provides the overall economic impact across the UK of these changes. The UK ETS Impact Assessment discounts and sums the flow of costs and benefits over time to derive a net present value, a measure of the overall economic impact of the policy changes. It suggests that for the preferred option there is a high Net Present Value (NPV) of £10.1bn along with a high Benefit to Cost Ratio (BCR) of 7.1, assuming that there is other UK Government Support for

²² This is based on an average price of £52 from the primary auctions as reported on the [ICE website](#).

decarbonisation alongside UK ETS under the high policy baseline. A key element of this decarbonisation support in Scotland will be the decision around whether or not we are awarded the Track 2 Cluster for CCUS, which will impact our ability to decarbonise. Whilst the analysis in the impact assessment is done at a UK level, we would expect the level of overall impact for the individual UK nations should also remain high and positive. This is because the same mechanisms that drive the overall NPV and BCR would also apply to the Devolved Administrations.

5. Regulatory and EU Alignment Impacts

5.1 Intra-UK Trade

We do not expect these policy changes to impact on intra-UK trade as it has been produced in conjunction with the UK Government and other Devolved Administrations via the Authority. We will continue to assess the impact of these changes including unintended regional impacts and act accordingly. The upcoming phase 2 Free Allocation Review will also consider regional variations in terms of the impact of free allocations and how they might impact competitiveness. We will continue to assess the potential impact for Scottish businesses and intra-UK trade as part of this.

5.2 International Trade

The measures covered by this BRIA aim to incentivise business to decarbonise in a cost-efficient way, including by improving efficiency which could result in increased competitiveness in global markets. Where companies are deemed at risk of carbon leakage, they receive a proportion of their allowances for free. This will be reviewed through the upcoming second phase of the Free Allocation Review.

5.3 EU Alignment

The Scottish Government continues to favour consideration of alignment between the UK ETS and the EU ETS.

6. Scottish Firms Impact Test

Across all elements of the UK ETS there were around 100 sites/installations regulated by SEPA in Scotland. Collectively they emitted around 7.6 MtCO_{2e} in 2021. Of these, there are 71 sites in Scotland in the UK ETS main scheme that will be affected by these changes. These are split across the sectors with industry accounting for 56 sites, power 14 sites and one aviation operator. If we break this down further we can see that nearly 70% of all sites are concentrated across four areas, these are oil and gas (15 sites), power generation (14 sites), food & drink (12 sites) and manufacturing and construction (8 sites). The remaining sites come under the Hospital and Small Emitter opt-out scheme. These sites have a different approach to compliance where an emissions target is set for each year, if the target is exceeded a penalty is paid to cover the difference between the target and the reported emissions. They are not required to purchase allowances to comply as with

the main scheme. These sites will see an impact on the calculation of their targets, which will be reduced, as a result of the changes to the cap, which may impact on their ability to comply with tighter targets set.

Businesses were primarily informed the development of this policy through the Authority consultation. Scottish Government also worked with sector teams who regularly engage business to understand specific issues and concerns to inform the analysis and policy development.

A total of 300 stakeholders responded to the UK ETS consultation. The Authority included a summary of responses as part of the Government Response . The following high-level summary considers the views of the from over 120 stakeholder organisations identified as relevant for Scotland by policy colleagues across the Scottish Government.

A summary of consultation responses in relation to the cap trajectory, industry cap and unallocated allowances which were considered relevant to Scotland are summarised below.

Cap trajectory (or Net Zero cap)

- Out of 52 Scottish stakeholder responses to the cap trajectory questions, 23 (44%), agreed and 23 (44%) disagreed with the cap range, while 6 (10%) did not state a clear position. However, around a quarter of those that agreed also highlighted concerns with the proposal. These included issues on impact on carbon markets, rate of decarbonisation, access to technologies and interaction with other decarbonisation policy.

Industry Cap

- Out of 43 Scottish stakeholder responses, just over half (22 respondents) disagreed with the minded position in the consultation to reset the industry cap in line with the overall cap. However, the majority, 65% (20 out of 31 respondents) believed this proportion should be higher than the 37% industry cap proposed by the Authority.
- The main reasons for these preferences were that reducing the availability of free allocation by significantly reducing the industry cap would:
 - Increase carbon leakage risk and disadvantage the UK industry compared to international competitors; and
 - Reduce investment in decarbonisation initiatives and increase carbon prices and compliance costs –which raised again the need for further government support for industrial decarbonisation
- Of the respondents 70% (26 out of 37 respondents), agreed with the proposed future changes to the free allocation policy, which includes evaluating the methodology (phase 2 Free Allocation Review). While 11 respondents (30%), did not agree with this proposal, including one respondent who suggested that the methodology should be the same as the EU ETS.

Unallocated Allowances

- Out of 34 Scottish stakeholder responses, over 70%, agreed with auctioning a portion of the unallocated allowances or flexible share to smooth the transition to a tighter cap and to mitigate against the application of a cross-sectoral correction factor (Additionally, 58% (of 31 respondents) believed that unallocated allowances should be used for supporting market liquidity before 2024.

For Aviation it is more appropriate to examine what has been said as a sector as a whole, further details of which can be found in Chapter 4 of the Government Response.

- As highlighted in the Government Response the majority of respondents 74% (of 23 respondents) agreed that the risk of carbon leakage is minimal for the UK aviation sector under the current scope of the UK ETS. Additionally, 60% (of 30 respondents) agreed that if there are minimal risks of carbon leakage for the aviation sector, free allocation should be withdrawn or phased-out. While 17% of respondents disagreed, and 23% did not directly respond to the question.

7. Competition Assessment

The impact of these changes on business competitiveness is hard to quantify as the carbon price is just one factor of many impacting on competitiveness. It is not thought that these measures will directly impact competition in terms of limiting the range or numbers of businesses operating in the market. None of the wider proposals are deemed to risk limiting the range or numbers of suppliers.

We have not identified any impact on competition associated with these changes.

8. Consumer assessment

The impact of these changes on consumers is hard to quantify. For the firms involved, the carbon price is one of a number of factors which will impact the price of their products. The costs associated with decarbonisation, as well as the cost of allowances and the proportion of their allowances received for free, will vary across sectors. This is particularly true when examining industry.

For the power sector, the UK ETS compliance costs could be passed on to consumers. While electricity generation in Scotland is primarily driven by renewables, 57% in comparison to only 36.2% in England in Wales in 2021, the costs to Scottish consumers of electricity are determined by the GB electricity market.²³ As a result of the national pricing model for electricity, UK ETS compliance costs and the mix of power generation will be one of many factors determining the end price. It has therefore not been possible to determine the exact scale of the impact of UK ETS compliance costs on wholesale prices but it is expected to be

²³ Data from the [electricity generation section of the Scottish Energy Statistics Hub](#).

minimal given the current costs associated with fossil fuels. In general, a higher carbon price would be expected to increase the marginal cost of electricity generation from fossil fuel generators. In the short-term, these higher costs may be passed onto consumers' energy bills. However, the medium and long-term, energy bills may be decreased where the UK ETS contributes to faster power sector decarbonisation.

Aviation is recognised as a sector that is harder to decarbonise relative to the other UK ETS participants. Aircraft operators could respond to a higher carbon price by investing in sustainable aviation fuel, technological and operational efficiencies. While UK ETS compliance costs may be passed onto consumers via higher airfares, compliance costs will be one of many factors determining airfares, including the costs of aviation fuel and other operational costs. It is therefore not possible to model exactly how they may be passed onto consumers.

9. Test Run of Business Forms

This process does not require new forms as it is built on top of existing practices and procedures and is a matter for SEPA to make operational.

10. Digital Impact Test

No impact identified. The UK ETS is already administered digitally, and these proposals do not make any changes to this.

11. Legal Aid Impact Test

No impact identified. The amendments to the UK ETS will not create a new procedure or right of appeal to a court or tribunal, any change in such a procedure or right of appeal, or any change of policy or practice which may lead people to consult a solicitor.

12. Enforcement, Sanctions and Monitoring

This policy does not change the current enforcement, sanctions or monitoring processes already in place for the UK ETS. These processes are built on top of existing practices and procedures, and it is a matter for SEPA to make operational.

13. Implementation and Delivery Plan

This policy does not change the current implementation or delivery processes already in place for the UK ETS. These processes are built on top of existing practices and procedures, and it is a matter for SEPA to make operational.

14. Post-implementation Review

As previously highlighted, there is a range of forthcoming consultations on various aspects of the UK ETS. These are further highlighted in Annex B.

We will deliver additional impact assessments as appropriate following further consultations. We will also keep under review the possible impacts that any changes to the free allocation policy, as part of the phase 2 Free Allocation Review process, could have on Scottish operators.

There is also a wider programme of evaluation being undertaken by DESNZ/UK ETS Authority over the years 2022-2026. This will look retrospectively at the UK ETS and aims to: evaluate the implementation of the scheme and possible impacts that it might have on delivery; assess the impacts of the scheme and inform the first whole system review of the UK ETS (scheduled for 2023).

The evaluation includes a review of the cap, free allocation, and market stability mechanisms. Data will be collected from both primary and secondary sources, with interviews and surveys of stakeholders taking place for the primary data collection. Future changes to the scheme will be evaluated in line with the 2028 statutory review and stakeholder engagement in the form of interviews and surveys will be used as the primary means of evaluating future changes, building on the evaluation programme, to be completed in 2026.

15. Summary and Recommendation

Changes to the UK ETS will increase costs for participating businesses through the costs associated with investment in decarbonisation technologies and the costs associated with purchasing of allowances. However, these costs are associated with reductions in emissions and will therefore support our ambitious climate targets. The proposed changes presented in the Government Response and resulting costs to businesses are deemed to be proportionate given the importance of our national climate targets.

Summary costs and benefits table

Total benefit per annum: - economic, environmental, social

Reduction in GHG Emissions: The primary benefit of this policy is the incentivisation of firms to decarbonise and reduce their GHG emissions reductions. This will support delivery of our statutory climate change targets.

Improve health outcomes: The movement away from fossil fuels towards clean energy sources can yield improvements to air quality which has a positive impact on health outcomes.

Wider economy spillovers and increased investment in decarbonisation technologies: It is expected that increased investment, development and implementation of decarbonisation technologies will also support jobs and investment within the green economy in Scotland which is key to Scotland's objectives for a Just Transition to net zero. The UK ETS Impact Assessment suggests that the NPV of the preferred option for the UK as a whole is £10.1bn.

Total cost per annum: - economic, environmental, social - policy and administrative

Investment in decarbonising technologies: The available decarbonisation options and associated costs to business are diverse and are determined on a site specific basis.

Purchasing of allowances: In 2021 Scottish businesses are estimated to have spent in the region of £215m to comply via the primary auctions. The UK ETS Impact Assessment suggests that across the whole of the UK the direct cost to business of the preferred option is £2.4bn which is primarily derived from the purchasing of allowances.

Costs to consumers: Some of the compliance costs could be passed onto consumers in the form of higher prices, although the extent of this is hard to quantify.

16. Declaration and Publication

I have read the Business and Regulatory Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs. I am satisfied that business impact has been assessed with the support of businesses in Scotland.

Signed:

Date:

Minister's name: Màiri McAllan

Minister's title: Cabinet Secretary for Transport, Net Zero and Just Transition

Scottish Government Contact point: emissions.trading@gov.scot

Annex A: Description of technical changes not covered by this BRIA

The Authority decisions covered in this annex are not included in this BRIA as:

- these were calls for evidence and any final proposals are subject to further consultation;
- the proposed change is minor and the impact on operators has been estimated not to be significant; or
- it is a temporary solution in response to an unequal treatment of some UK ETS participants identified by the Authority or raised by operators.

A description of each technical change covered in the Government Response to the UK ETS consultation, and the chapter in which they appear, are provided below. Please refer to the Government Response for further information on the rationale of the decisions.

Chapter 2: Free Allocation Review – Technical Changes

No amendment to the Activity Level Changes (ALCs) for turn-off of activity due to maintenance/planned downtime

- Currently, operators could see a reduction in their free allocations if they turned off their activity for maintenance or improvement work. As this is part of normal operation, no changes will be made to the distribution of free allocations to consider the turn-off of activity. Operators can plan for the turn-off of activity and should be encouraged to do so as efficiently as possible.

Putting current benchmark values into UK law

- Bringing the current benchmark values into UK law, by direct inclusion in UK ETS legislation.

Not changing the treatment of existing vs new sub-installations

- Changes will be made to the electricity generator definition to consider electricity exports in the baseline period, rather than electricity exports since 2005 (this proposal would not apply for the 2021-2025 free allocation period, as the definition is already determined for these years in the current legislation).

Amending the electricity generator definition to only consider electricity exports in the baseline period

- The Authority proposed to amend the electricity generator definition to consider electricity exports in the baseline period, rather than electricity exports since 2005 (this proposal would not apply for the 2021-2025 free allocation period, as the definition is already determined for these years in current legislation).

Amending the combined Heat and Power (CHP) plants and electricity generator definition

- The Authority will amend the electricity generator classification to exclude installations that have produced electricity for sale to third parties, if that electricity was produced by means of a Combined Heat and Power Quality Assurance (CHPQA) certified plant, operating as part of an operator's industrial activity.

Amending electricity generators

- Changes will be made to allow electricity generators who have not exported measurable heat produced by means of high-efficiency cogeneration in the "relevant period" but start to do so in the following scheme years, to be eligible for free allowances once they can demonstrate they meet the eligibility criteria.

Amending the Covid 2021 ALCs

- The Authority will amend the ALCs Regulation to provide for the optional recalculation of the 2021 free allocations omitting the 2020 COVID year, for those operators who can demonstrate significant discrepancies between reductions in activity and emissions.

Amending benchmarks and the carbon leakage list category

- Effecting temporary changes to the lime benchmark and the carbon leakage classification of malt extract production for the 2024 and 2025 scheme years. This decision is based on substantive and evidenced claims from these sectors.

Chapter 4: Aviation

Effecting a cap to aviation free allocations

- The Authority has decided to cap the total amount of aviation free allocation that operators are eligible to receive. This change aims to ensure that aviation operators do not get more free allocations than their verified emissions.

Aviation calls for evidence

- Sustainable aviation fuels (SAF): The Authority signals the intention to continue developing proposals on how SAF is treated in the UK ETS.
- Non-CO2 climate impacts: The Authority will consider how to bring non-CO2 emissions into the scope of the scheme
- International cooperation: The Authority will consider how international cooperation on aviation emissions could be increased

Chapter 5: Expanding UK ETS Coverage within Covered Sectors

Inclusion of upstream CO₂ venting

- The Authority will include process emissions from carbon dioxide venting from the upstream oil and gas sector in the UK ETS.

Carbon capture and storage (CCS) transportation

- To expand the transportation of CO₂ through other forms of non-pipeline transport (i.e., shipping, rail, and road) by including them as a regulated activity under the UK ETS by the mid-2020s, in addition to the existing transport via pipeline.

Expanding UK ETS coverage within covered sectors calls for evidence

- Methane emissions: The Authority will further review the possible expansion of the UK ETS to cover methane emissions from upstream oil and gas and other traded sectors. Any changes will be consulted in due course.
- Safety venting and flaring: There is no intention to include safety and flaring in the UK ETS at this stage. The Authority will review this policy in the coming months and reconsult in due course.
- Remaining upstream oil and gas emissions: The Authority is not proposing any changes at this point, but we will review this policy in the coming months and reconsult in due course.
- 20MWth threshold and 3MW aggregation: The Authority will review the thresholds and to consult further if changes are considered.

Chapter 7: Calls for evidence on greenhouse gas removals and agriculture and land use emissions

Agriculture and Land Use

- Continued exploration of the monitoring, reporting and verification (MRV) of emissions from agriculture. The consultation called for evidence to better understand the MRV in land use and agriculture sector. There is no plan to include this sector within the scope of the UK ETS.

Chapter 8: Operational Amendments to the UK ETS

Appeal routes

- Not implementing appeal routes to UK ETS decisions at this stage.

Penalties

- The Authority will introduce a new penalty and enforcement notice to those operators that fail to submit information requested by Regulators.

Annex B: Description and rationale of proposals that require further consultation

The Authority decisions covered in this annex are not included in this BRIA as:

- these were calls for evidence and any final proposals are subject to further consultation;
- further consultation is required given insufficient data for making a final decision; or
- further consultation is required to finalise the proposal.

A description of each non-technical proposal covered in the Government Response to the UK ETS consultation, and the chapter in which they appear, are provided below. Please refer to the Government Response for further information on the rationale of the decisions.

Chapter 3: Call for Evidence on Future Markets Policy

The Authority agreed to signalling a future consultation on policy relating to the functioning of the UK ETS market, with the aim to build understanding and evidence on potential drivers of evolving market conditions, objectives for market stability policy as the UK ETS evolves and evaluation of existing market mechanisms.

Chapter 5: Expanding UK ETS Coverage within Covered Sectors

Biomass

The Authority agreed to implementing sustainability criteria for all forms of biomass in the UK ETS by 2025 at the earliest.

The objective for implementing sustainability criteria for all forms of biomass in the UK ETS is its importance in delivering effective decarbonisation. This will financially incentivise operators to ensure that all forms (solid, liquid, and gaseous) of biomass combusted at UK ETS installations adhere to a common sustainability standard. Any unsustainable forms of biomass that fail to meet the criteria, therefore, should be exposed to a carbon price. This is expected to be implemented by 2025 at the earliest.

Chapter 6: Expanding the UK ETS to New Sectors

Domestic Maritime

The Authority agreed to expand the UK ETS to include domestic maritime activities from large vessels (over 5000GT), subject to further consultation. The rationale is to overcome a key barrier to decarbonising the sector, which is that maritime fuels do not reflect their environmental costs. This inclusion could strengthen the incentive to adopt low carbon fuels, support deployment of fuel-efficient technologies and introduce more efficient operating practices.

In Scotland, we would expect the sectors impacted to include:

- regular freight feeder services from large English ports (i.e. Felixstowe, Immingham or Liverpool) to Grangemouth or Greenock;
- cruise vessels on UK-only excursions; and
- some larger vessels operating in the oil and gas sector, mainly from Aberdeen.

As both the UK and EU ETS will include vessels over 5000GT on eligible journeys, its impact is expected to be minimal for the Scottish fleet.

We also expect for 11 lifeline ferries services to island communities to be included under the UK ETS. We have also published an Island Communities Impact Assessment on the possible impact to island communities and mitigation strategies²⁴.

Waste Incineration and Energy from Waste (EfW)

The Authority agreed to signal the inclusion of waste incineration and EfW in the UK ETS from 2028, preceded by a 2-year phasing period from 2026-2028. The objective of this inclusion is the mitigation of emissions from the sector.

The CCC noted that waste is increasingly being diverted to incinerators and EfW plants - from which emissions continue to rise and has previously highlighted this increase in emissions as an issue to be addressed with urgency. In addition, the Independent Review of the Role of Incineration in Scotland's Waste Hierarchy recommended that the Scottish Government should support inclusion of incineration (with or without energy recovery) in the UK ETS as one important decarbonisation policy tool. The Scottish Government accepted this recommendation and, subject to further consultation of the details of implementation, we are supportive of expanding the UK ETS to cover waste incineration and energy from waste emissions.

Chapter 7: Calls for evidence on greenhouse gas removals and agriculture and land use emissions

Greenhouse Gas Removals (GGRs)

The Authority will signal that the UK ETS is an appropriate long-term market for GGRs, subject to further consultation. The rationale for this signalling, is to incentivise investment in GGRs, provide a source of demand for GGRs from polluting sectors and futureproof the UK ETS so it continues to play a key role in delivering net zero.

²⁴ [Island Communities Impact Assessment - UK Emissions Trading Scheme](#)



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