Explanatory Memorandum to The Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2026

This Explanatory Memorandum has been prepared by the Directorate of Climate Change and Environmental Sustainability and is laid before Senedd Cymru in conjunction with the above subordinate legislation and in accordance with Standing Order 27.1.

Cabinet Secretary's Declaration

In my view, this Explanatory Memorandum gives a fair and reasonable view of the expected impact of the Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2026. I am satisfied that the benefits justify the likely costs.

Huw Irranca-Davies MS
Deputy First Minister and Cabinet Secretary for Climate Change and Rural Affairs

02 December 2025

PART 1

1. Description

1.1 The UK Emissions Trading Scheme ("UK ETS") was established by the Greenhouse Gas Emissions Trading Scheme Order 2020 ("the principal Order") as a UK-wide greenhouse gas emissions trading scheme, to encourage cost-effective emissions reductions from the power, industry, and aviation sectors. It was designed jointly by the Governments of Wales, UK, and Scotland, and the Northern Ireland Executive, who also jointly operate the UK ETS as the UK ETS Authority ("the Authority"). It contributes to the UK's emissions reduction targets and net zero goal, as well as the emissions reduction pathway in Wales.

1.2 In 2023, the Authority consulted on a "Free Allocation Review". This was followed by a further consultation in 2024 on "Carbon Leakage". The final policy decisions in the Authority Response to these consultations were developed in line with the UK Government announcement that a UK Carbon Border Adjustment Mechanism (UK CBAM) will be introduced in 2027. They also reflect the agreement between the UK and EU to work towards linking the UK ETS and the EU ETS.

1.3 The proposed amendments to be made by the Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2026 incorporate these into the ETS legislation on a 4-nation basis.

2. Matters of special interest to the Legislation, Justice and Constitution Committee

2.1 As the Order in Council will be subject to UK, Scottish and Northern Irish Parliamentary scrutiny, it is not considered reasonably practicable for this instrument to be made or laid bilingually.

3. Legislative background

3.1 Part 3 of Schedule 3 to the Climate Change Act 2008 ("CCA") states that an emissions trading scheme that applies to Wales, England, Scotland, and Northern Ireland – such as in this case – must be established by Order in Council.

3.2 The procedure for making such an Order in Council is prescribed by section 48 of the CCA.

3.3 The Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2026 contains provisions which are caught by section 48(3) of the CCA. Therefore, the draft affirmative procedure applies.

3.4 The principal Order set up the UK ETS to be operational from 1 January 2021. It runs for ten years, split into two five-year "allocation periods". The scheme works by requiring operators of energy intensive industrial installations, power generators, and aircraft operators to monitor and report on their emissions and obtain and surrender "allowances" equivalent to their greenhouse gas emissions in each scheme year. There is a cap on the number of allowances that may be created. Some participants receive an allocation of allowances free of charge to help mitigate carbon leakage[1], details of which are published in allocation tables.

3.5 There have been several amendments to the principal Order to give effect to technical changes that improve the operation of the UK ETS for both participants and regulators. These are contained in the following Orders in Council: the Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2020, the Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2021, the Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2022, the Greenhouse Gas Emissions Trading Scheme (Amendment) (No. 2) Order 2022, the Greenhouse Gas Emissions Trading Scheme (Amendment) (No. 3) Order 2022 (revoked), the Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2023, the Greenhouse Gas Emissions Trading Scheme (Amendment) (No. 2) Order 2023, the Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2024, the Greenhouse Gas Emissions Trading Scheme (Amendment) (No. 2) Order 2024, the Greenhouse Gas Emissions Trading Scheme (Amendment) Order 2025 and the Greenhouse Gas Emissions Trading Scheme (Amendment) (No. 2) Order 2025.

3.6 The principal Order and these amending Orders in Council were made under section 44 of the CCA**.** The amending Order is also being made under that power.

3.7 There have also been amendments made to the UK ETS via subordinate legislation made under the Finance Act 2020. These are contained in: the Greenhouse Gas Emissions Trading Scheme Auctioning Regulations 2021, the Recognised Auction Platforms and Greenhouse Gas Emissions Trading Scheme Auctioning (Amendment) Regulations 2021, the Greenhouse Gas Emissions Trading Scheme Auctioning (Amendment) Regulations 2021, the Greenhouse Gas Emissions Trading Scheme Auctioning (Amendment) (No. 2) Regulations 2021, and the Greenhouse Gas Emissions Trading Scheme Auctioning (Amendment) Regulations 2023.

4. Purpose and intended effect of the legislation

4.1 As the UK ETS matures, the Authority has been looking to improve how it functions to ensure it remains a robust, fair, and effective tool for reducing greenhouse gas emissions while mitigating the risk of carbon leakage for

[1] Carbon leakage is 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.

industries across the UK. The 2023 “Free Allocation Review” consultation and the 2024 “Carbon Leakage” consultation proposed reforms to free allocation of allowances.

4.2 The Authority Response published on 26 November 2025 sets out the Authority position regarding the consulted-upon amendments.

4.3 This amending Order implements a number of technical changes to the free allocation calculation for the next allocation period from 2027, while also enabling further reforms aligned with the introduction of the UK CBAM (covering the cement, fertilisers, iron and steel, aluminium and hydrogen sectors) in 2027.

4.4 Specifically, the purpose of the amending Order is to amend the principal Order and associated legislation to:

4.4.1 Enable operators to choose to have activity data for 2020, or for 2020 and 2021, excluded for the purposes of determining the historical comparison for the 2027-2030 allocation period. The primary aim is to mitigate the impact of the COVID-19 pandemic on historical comparisons for the 2027-2030 allocation period.

4.4.2 Retain current EU ETS free allocation benchmarks used in the free allocation calculation for the 2027 scheme year and adopt updated EU ETS benchmark values for the years 2028, 2029 and 2030 of the 2027-2030 allocation period, to continue to reward efficient installations and incentivise decarbonisation.

4.4.3 Enable a gradual phase out of free allocations for sectors covered by the UK CBAM during the period 2027-2030.

4.4.4 Clarify the annual reporting requirement that applies to installations that receive free allocation and who choose to permanently cease their activities.

4.5 The territorial extent of this Order is the whole of the United Kingdom.

4.6 The main changes are summarised below:

Changes to the principal Order

4.7 **Article 5** of the amending Order includes a requirement for the final numbers of allowances allocated for 2027-2030 to be recalculated as soon as reasonably practicable and the flexible reserve updated on the basis of this recalculation.

4.8 **Article 6** of the amending Order requires the Authority to update the allocation table for the 2027-2030 allocation period as soon as reasonably practicable following approval of the final number of allowances allocated for 2027-2030.

4.9 **Article 7** of the amending Order states that the Authority must update the allocation table under the principal Order where Article 16(15) of the

Commission Delegated Regulation (EU) 2019/331[2] (the Free Allocation Regulation, "FAR") applies.

4.10 **Article 8** includes a requirement for the updated allocation table to be published as soon a reasonably practicable after it is compiled, and in any event before 1 January 2027 or 1 January 2028 (depending on the circumstances).

4.11 **Article 9** of the amending Order applies the change from **Article 7** to the return of allowances.

4.12 **Article 10** requires the operator of an installation to apply to the regulator to vary the permit.

4.13 **Article 11** places requirements on regulators where benchmarks for the 2028, 2029, 2039 scheme years have not been adopted on or before 30 September 2026 and where the number of allowances must be adjusted for an installation under the UK CBAM.

Changes to the FAR as it applies in domestic law

4.14 **Article 13** of the amending Order inserts a definition of a "UK CBAM sub-installation" into Article 2 FAR, and amends Article 2 to require the 2027 benchmarks to be used for the calculation in the event that benchmarks for 2028, 2029, and 2030 are not adopted in time.

4.15 **Article 14** amends Article 4 FAR to require operators to notify regulators in writing which of their installations are UK CBAM sub-installations and which are not. It also sets out how an operator must notify regulators where they wish to have activity data for 2020, or for 2020 and 2021, excluded for the purposes of determining the historical comparison for the 2027-2030 allocation period.

4.16 **Article 15** of the amending Order omits the words "to be submitted" from the requirement, imposed by Article 6 FAR, on the operator who applies for or receives free allocation to monitor data.

4.17 **Article 16** amends Article 9 FAR to set out where monitoring methodology plans must be modified to reflect relevant sub-installation benchmarks.

4.18 **Article 17** of the amending Order amends Article 10 FAR to require operators to clearly distinguish whether the relevant processes of a sub-installation serve the production of a UK CBAM good.

4.19 **Article 18** of the amending Order amends Article 15a FAR to apply the changes from **Article 14** to the assessment of applications for free allocation.

[2] Commission Delegated Regulation (EU) 2019/331 of 19 December 2018 determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council.

4.20 **Article 19** amends Article 16 FAR to require regulators to calculate the preliminary annual number of allowances for an installation for the 2027 scheme year where benchmarks have not been adopted for 2028, 2029, and 2030, on or before 30 September 2026. The preliminary annual number of allowances for the 2028, 2029, and 2030 scheme years must not be calculated earlier than 1 October 2027. It also amends the calculation to account for whether the sub-installation is a UK CBAM sub-installation.

4.21 **Article 20** amends Article 16a FAR to set out the requirements for the Authority in calculating the cross-sectoral reduction factors where the benchmarks for the 2028, 2029, and 2030 scheme years have not been adopted on or before 30 September 2026.

4.22 **Article 21** amends Article 16b FAR to require regulators, where Article 16(1a) applies, to calculate (and adjust, where necessary) the final annual number of allowances for the 2028, 2029, and 2030 scheme years as soon as reasonably practicable, and, where Article 16(15) applies, do the same in relation to UK CBAM sub-installations.

4.23 **Article 22** amends Article 18 FAR to apply the changes from **Article 19** to the preliminary allocation to new entrants.

4.24 **Article 23** amends Article 18a FAR to similarly apply the changes from **Article 21** to the final allocation for new entrants.

4.25 **Article 24** amends Annex VI FAR to require monitoring methodology plans for the 2027-2030 period to identify whether a sub-installation is a UK CBAM sub-installation.

4.26 **Article 25** amends Annex VIII FAR to include, in the benchmark value column of Tables A, B and C, a reference to the 2026 allocation period and the 2027 scheme year.

4.27 **Article 26** inserts a new Annex 9 FAR which identifies UK CBAM status for sectors where a process serves the production of a UK CBAM good.

Changes to the Commission Implementing Regulation (EU) 2019/1842[3] (Activity Level Changes Regulation, "ALCR") as it applies in domestic law

4.28 **Article 28** amends Article 3 ACLR to update the reporting requirements to the new allocation period dates, applying the requirement that in 2027, the report must include data for the 2 years preceding its submission.

4.29 **Article 29** amends Article 3a ACLR to require regulators to take into account whether a sub-installation is a UK CBAM sub-installation when calculating preliminary and final numbers of allowances for sub-installations without historical comparisons.

[3] Commission Implementing Regulation (EU) 2019/1842 of 31 October 2019 laying down rules for the application of Directive 2003/87/EC of the European Parliament and of the Council as regards further arrangements for the adjustments to free allocation of emission allowances due to activity level changes.

4.30 **Article 30** amends Article 5 ALCR to require adjustments to free allocations due to activity level changes to take into account whether a sub-installation is a UK CBAM sub-installation.

5. Consultation

5.1 Before making an Order in Council under section 44 of the CCA, the Welsh Ministers as a "national authority"[4] are required to obtain, and take into account, the advice of the Committee on Climate Change[5] (section 48(1)(a) CCA). They are also required to consult such persons affected by the draft legislation as they consider appropriate (section 48(1)(b) CCA).

5.2 Stakeholders were consulted through the Free Allocation Review Consultation (December 2023 – March 2024)[6] and the Carbon Leakage Consultation (December 2024 – March 2025)[7]. The Authority Response to these consultations this has been shared with stakeholders on 26 November 2025. A copy is available on request.

5.3 The Committee on Climate Change was consulted and has indicated that it is content for this legislation to be progressed.

[4] See section 47(3) of the CCA.
[5] Now known as the Climate Change Committee
[6] https://www.gov.uk/government/consultations/uk-emissions-trading-scheme-free-allocation-review
[7] https://www.gov.uk/government/consultations/uk-emissions-trading-scheme-free-allocation-review-carbon-leakage

6. Regulatory Impact Assessment (RIA)

6.1 The Emissions Trading Scheme (ETS) operates at a UK level, to encourage cost-effective emissions reductions from the power, industry, and aviation sectors. The scheme works by requiring operators of energy intensive industrial installations, power generators, and aircraft operators to monitor and report on their emissions and obtain and surrender "allowances" equivalent to their greenhouse gas emissions in each scheme year. There is a cap on the number of allowances that may be created. Some participants receive an allocation of allowances free of charge to help mitigate carbon leakage

6.2 Decisions around changes to the ETS are made collectively between UK government and the governments of Wales, Scotland and the Northern Ireland Executive, who jointly operate the UK ETS as the UK ETS Authority ("the Authority"). For these changes to free allowances - the Free Allocation Review (FAR) – the Authority completed a detailed impact assessment appraising the options and modelling their impact across the whole scheme. Some of that modelling allows us to estimate impacts of the changes in Wales, which is reflected in this RIA. The full options appraisal and detailed modelling can be found in the Authority RIA.

6.3 The ETS can only operate on the basis of consistent approaches in all four nations, therefore this RIA is not intended to appraise different available options or outline the costs and benefits of being in the ETS, it is to estimate the costs and benefits of the changes that have been agreed by all four nations.

Options

6.4 Since 2023, the ETS Authority has consulted on a wide range of proposals across the FA methodology. The Authority response and this RIA covers the remaining areas for which stakeholder views were sought, covering:

- Changes to Activity Level Changes (ALCs)
- Changes to benchmarks
- Changes to the carbon leakage list (CLL) and the application of the carbon leakage exposure factor (CLEF)
- Consideration of availability of decarbonisation technologies
- Consideration of conditionality
- Introducing a phasing-out / down FA for sectors covered by the UK Carbon Border Adjustment Mechanism (CBAM)

Table 1: Areas under consideration explained

Area	Explanation
Changes to Activity Level Changes (ALCs)	Refers to how the UK ETS adjusts the amount of free allowances an installation receives if its activity (e.g., production output) increases or decreases significantly compared to their Historic Activity Level (HAL) i.e. historical baseline. The rules set thresholds for when and how these adjustments are triggered, aiming to ensure that free allocation reflects actual activity and mitigates carbon leakage risk.
Changes to Benchmarks	Benchmarks are reference values representing the emissions intensity (e.g., tonnes CO_2 per unit of product) of the most efficient installations in a sector. Updating benchmarks means revising these values to reflect technological progress and efficiency improvements, ensuring that free allocation continues to reward top performers and incentivise decarbonisation.
Changes to the Carbon Leakage List (CLL) and the Application of the Carbon Leakage Exposure Factor (CLEF)	The Carbon Leakage List identifies sectors at risk of relocating production outside the UK due to carbon costs. The CLEF determines the proportion of emissions covered by free allocation for each sector. Changes in this area involve updating which sectors are considered at risk and how much protection (via free allocation) they receive, based on trade and emissions intensity data.
Consideration of Availability of Decarbonisation Technologies	This area examines whether and how the free allocation methodology should account for differences in access to decarbonisation technologies across installations or sectors. The aim is to avoid benchmarks or allocation rules that unfairly penalise operators who lack access to advanced technologies, or that allow early adopters to distort sector benchmarks.
Consideration of Conditionality	Conditionality refers to making the receipt of free allocation dependent on certain actions or behaviours, such as having a decarbonisation plan or demonstrating emissions reductions. The idea is to further incentivise decarbonisation by linking free allocation to proactive climate action, rather than providing it solely based on risk of carbon leakage.
Introducing a Phasing-Out/Down of Free Allocation for Sectors Covered by the UK	This area covers the gradual reduction (phasing out) of free allocation for sectors that will be covered by the UK Carbon Border Adjustment Mechanism (CBAM). As CBAM is introduced to address carbon leakage risk for imports, the need for free allocation as a protection for domestic producers is reduced, so the policy sets out how

CBAM	and when free allocation will be reduced or removed for these sectors.

6.5 Each individual policy option has been assessed against a set of Critical Success Factors (CSFs) and considered thoroughly by the Authority based on our extensive stakeholder engagement and analysis. The CSFs used to assess the options long-list were chosen to ensure that the FAR was able to deliver against its objectives, whilst considering wider factors.

Table 2: The CSFs used to assess the full range of policy options

Critical Success Factors (CSFs)	Description
Carbon leakage mitigation	FA aims to mitigate the risk of carbon leakage – the displacement of emissions due to carbon pricing policies – while retaining incentives for effective decarbonisation and lower emissions. We have assessed the impact of each policy decision in terms of how well they may mitigate carbon leakage, including in the UK domestic market, international markets in which UK producers compete (export leakage), investments, or leakage to downstream products.
Impact on UK ETS effectiveness	The scheme will continue to be an important lever for delivering an economically efficient transition to net zero. Appropriate pricing of emissions in accordance with the polluter pays principle incentivises decarbonisation and green innovation. This gives businesses covered by the UK ETS the flexibility to decide how to decarbonise most effectively. It does so at least cost across the sectors covered by the scheme while providing revenue to help fund public services, including to support the net zero transition.[2]
Technical feasibility	To what extent can options be implemented consistently and operate within ongoing rules and reporting requirements; do they add complexity or challenges or align with the implementation of the UK ETS, FA, the implementation of UK CBAM; and are there risks of any unintended consequences.
Affordability and fiscal impact	We consider the impact of options on Government affordability. Options may have an impact on Government finances through both the FA channel (as fewer allowances are given by Government to operators, depending on adjustment option) and the UK CBAM channel (faster reduction in FA lowers the FA Support Rate, increasing the UK CBAM rate and potential UK

	CBAM revenues).
Other impacts	Other considerations for opportunities and risks, or potential unintended consequences for the UK ETS or wider policy.

6.6 Following the qualitative assessment based on the above criteria, options were either discounted for further consideration or shortlisted for further analysis and combined with other remaining options to create a series of policy packages. Each package has been designed to align with specific themes and internally agreed with the Authority.

6.7 As noted in the Authority Response, many respondents raised concerns about the impact of COVID-19 on activity in 2020 and 2021, skewing their HAL and making FA for the 2027-2030 period unrepresentative of normal activity. To address these concerns, the Authority will allow operators to choose to exclude both 2020 and 2021 activity from the 2019-2023 HAL average. This policy position applies to all shortlisted policy packages (see *COVID mitigation (optional exclusion of 2020 and 2021)*)

6.8 The shortlisted options are outlined below, for more detail on the longlist see **the Authority Impact Assessment**.

Table 3: Short-listed policy packages taken forward for further quantified analysis

	Package					
	A	B	C	D	E	F
Changes to ALCs	COVID mitigation for calculating HAL					
Changes to benchmarks	Updated EU benchmarks[3]					Updated EU benchmarks from 2028[4]
Changes to CLL and CLEF	Current CLL, early non-CL phase-out from '27	Current CLL, no early non-CL phase-out from '27	Current CLL, no early non-CL phase-out from '27	Current CLL, early non-CL phase-out from '27	Current CLL, no early non-CL phase-out from '27	Current CLL, no early non-CL phase-out from '27

Consideration of access to decarbonisation technologies	No consideration					
Consideration of conditionality	20% reduction to those within EU 80th percentile	No conditionality	20% reduction to those within EU 80th percentile	No conditionality	No conditionality	No conditionality
Introducing phase-out / down FA for CBAM	Steep phase-out	Delayed phase-out	EU aligned phase-out, 1-year delay	EU aligned phase-out, 1-year delay	EU aligned phase-out, 1-year delay	EU aligned phase-out, 1-year delay

6.9 These package combinations were chosen to align with themes, with a clear underlying rationale for each:

a. Package A: FAs are provided for on the primary basis of mitigating carbon leakage risk, and as such, those sectors that are not at risk should have their entitlement removed as soon as possible. This scenario is considered the most ambitious.

b. Package B: FAs are provided to mitigate carbon leakage risk, regardless of the size of that risk, and so it should be retained for as many sectors as possible for as long as possible. This scenario is considered the least ambitious.

c. Package C: Moving towards closer alignment with EU ETS FA policy with due regards to UK-EU linking negotiations.[5]

d. Package D: Similar to package C, without the introduction of conditionality, recognising the high administrative burden placed on regulators, but with an early phase-out for sectors not at risk of carbon leakage

e. Package E: A scenario between C and D, but with neither the introduction of conditionality nor an early phase-out for sectors not at risk of carbon leakage.

f. Package F: An option which mirrors Package E but reflects the unavailability of published EU benchmarks at the time of final FAR

decision making, and so we assume that EU benchmarks are implemented from 2028 and that current benchmarks are retained for 2027. **This is the preferred option.**

6.10 In line with HMT Green Book guidance, a full economic appraisal of each package has been undertaken, results for Wales are presented in the following section.

Costs and benefits

6.11 This section provides a summary of the analytical approach taken to assess the final policy options – Packages A-F outlined above. A detailed explanation of the modelling approaches and full results can be found in the Authority RIA.

6.12 The majority of FAR decisions concern FA policy in the second allocation period, from 2027 until 2030. However, the decision to phase-out FA for UK CBAM sectors will extend beyond 2030 until at least 2037

6.13 Additionally, as businesses adjust to a new level of FA, investing in low-carbon technologies to reduce carbon price exposure, benefits and costs are likely to extend far beyond 2030, as we progress through our legally binding carbon budget targets and towards net zero by 2050.

6.14 Therefore, for the purposes of this assessment, it is necessary to construct illustrative assumptions of post-2030 UK ETS policy, enabling the assessment to fulfil an appropriate appraisal period, which was defined as 12 years. The impacts are assessed at 2025 prices and future impacts are discounted at 3.5%. We note that post-2030 UK ETS policy will be subject to future consultations. **Assumptions made for the purposes of this assessment should not be treated as an indication of likely policy direction.**

Counterfactual

6.15 To assess the impact of the final policy position, we have defined a 'do-minimum' policy option. In the absence of the FAR, existing legislation sets out that that the distribution of free allocation under existing policy from the first allocation period remains. As such, we assume no change to benchmarks or the carbon leakage exposure factor. We do however update HAL to reflect activity from the period 2019-2023.

6.16 As in current FA policy, if the total amount of preliminary free allocation exceeds the industry cap (IC) and there are insufficient allowances in the flexible reserve, the Cross Sectoral Correction Factor (CSCF) is triggered, reducing the number of FAs distributed by a proportional amount until the industry cap is achieved. This is considerably more likely if FA remains constant in each year, while the IC falls overtime.

6.17 As such, in our central counterfactual scenario, given the assumed size of the flexible reserve by 2030, we estimate that a CSCF would be triggered

around 2037.

Analysis results

6.18 The results of the analysis comprises free allocation impacts, emission impacts, cost benefit analysis

Free Allocation Impacts

6.19 Each policy package's combination of options result in a different projected total FA level, between 2027-2030, as shown in Table 4, Tables 5 and 6 show the reduction in free allowances in absolute and percentage terms.

Table 4: Total FA for the second allocation period in each scenario

	UK Total FA (millions)	Wales Total FA (millions)
Industry Cap	89.5	N/A
Package A	70.0	8.9
Package B	82.1	10.5
Package C	80.9	10.3
Package D	79.6	10.3
Package E	81.3	10.3
Package F	83.0	10.6
Counterfactual	91.4	11.9

Table 5: Total reduction in FA for the second allocation period in each scenario

	UK Total FA (millions)	Wales Total FA (millions)
Package A	21.5	3.1
Package B	9.3	1.5
Package C	10.6	1.6
Package D	11.9	1.7

Package E	10.1	1.6
Package F	8.4	1.3

Table 6: Percentage FA impact under each package, relative to the counterfactual scenario, for the second allocation period

	UK percentage reduction in FA (%)	Wales percentage reduction in FA (%)
Package A	31%	26%
Package B	11%	12%
Package C	13%	13%
Package D	15%	14%
Package E	12%	13%
Package F	10%	11%

6.20 Policy package A achieves the largest reduction in FA over the period, whereas package F results in the least. A significant contributor of package F's smaller reduction size is the delay to the implementation of EU benchmarks. This holds both across UK and within Wales.

6.21 Packages C, D, and E result in similar projected FA levels over the allocation period, suggesting that adding conditionality or removing FA from sectors not on the carbon leakage list has a limited impact compared to different phase-out trajectories for UK CBAM sectors. This holds both across UK and within Wales.

6.22 Free allowance reductions for each sector under each scenario are shown for the UK below.

Table 7: Total reduction in FA (millions) for each scenario and sector, relative to the counterfactual for the second allocation period (UK wide)

	Package A	Package B	Package C	Package D	Package E	Package F
Cement	-7.2	-1.7	-2.2	-2.2	-2.2	-2.1
Chemicals	-1.8	-1	-1.1	-1.1	-1.1	-0.9

Food and drink	-0.6	-0.4	-0.4	-0.6	-0.4	-0.3
Iron and steel	-5.1	-1.3	-1.8	-1.6	-1.6	-1.5
Non-ferrous metals	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1
Non-metallic minerals	-0.7	-0.4	-0.5	-0.5	-0.4	-0.3
Other	-2.2	-0.9	-0.9	-2.2	-0.9	-0.6
Paper and pulp	-0.2	-0.1	-0.2	-0.1	-0.1	-0.1
Refining	-3.4	-3.4	-3.4	-3.4	-3.4	-2.6
Undefined	0	0	0	0	0	

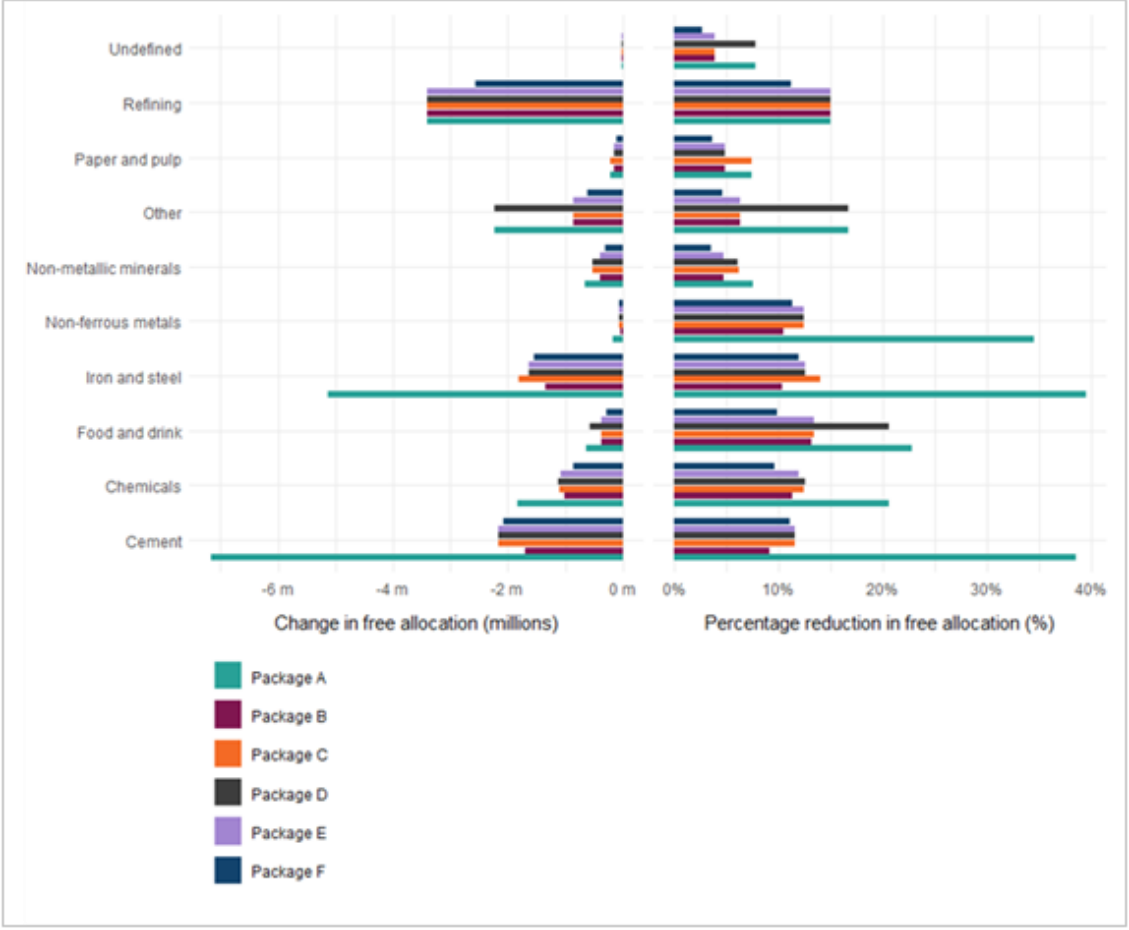
6.23 Sectors receiving the highest levels of FA are projected to see the largest absolute reduction compared to the counterfactual scenario.

6.24 However, when considering percentage changes, the impacts are more consistent across sectors, with most expected to see a reduction of between 5% and 20% in FA under policy packages B, C, D, E and F over the second allocation period.

6.25 For sectors not covered by the CBAM, differences between policy packages are driven primarily by two factors: the early phase-out of FA from 2027 for sectors removed from the carbon leakage list, and the application of conditionality. The exception to this is Package F, with part of the difference driven by the implementation of updated benchmarks from 2028. In the case of the refinery sector, updated benchmarks are the sole driver of changes in FA. Overall, benchmark updates appear to have the greatest impact on FA for sectors outside the scope of the CBAM, relative to the counterfactual scenario.

6.26 For sectors covered by the CBAM, while benchmark updates also contribute to reductions in free allocation, the phase-out of FA remains the most significant driver of change. This is particularly evident in Package A under the accelerated phase-out option, which results in a disproportionately large impact on these sectors.

Figure 1: The estimated absolute and percentage FA impact under each package for each sector, relative to the counterfactual scenario, for the second allocation period



6.27 Figure 1 shows that sectors like Iron & Steel and Cement have the largest variation in impact across packages, with Package A resulting in a much greater reduction in FA in these sectors than any other package. These sectors are particularly significant in Wales.

Emission impact

6.28 Assessing the total level of FA provides limited information about the extent of carbon leakage mitigation from each option. Differences in FA reductions between sectors could lead to different implications for carbon leakage, even if the total level of FA in any two scenarios is similar.

6.29 Changes in FA will alter participant's exposure to the carbon price. This can impact on emissions in several ways:

a. Incentivising new abatement technologies, reducing domestic emissions.

b. Incentivising production relocation of goods which are domestically consumed, increasing international emissions. This is referred to as import carbon leakage.

c. Altering the competitiveness of UK firms to export markets, incentivising the production relocation of goods which were previously domestically produced to a country with higher emissions intensity of production. This is referred to as export leakage.

d. Changing the total supply of allowances to market, increasing carbon prices for all UK ETS participants and resulting in emission reductions through abatement from sectors who are not eligible for FA.

6.30 These incentives are likely to differ across sectors due to the availability and marginal costs of abatement technologies and the role of other carbon leakage mitigation policies, such as the UK CBAM.

6.31 To gain a quantitative insight into the potential impacts of both domestic industrial emission reductions and international emission changes stemming from UK consumption, this UK analysis has used the Industrial Competitiveness and International Carbon Leakage (ICICL) model, which evaluates changes in participant's incentives, when faced with industrial competition, and estimates market responses.

6.32 Unlike Free Allocation Impact, emissions impacts cannot be so easily disaggregated by nation.

Table 8: Estimated percentage change in emissions for domestic production and imports (for UK consumption) split by CBAM and non-CBAM sectors over the second allocation period

	CBAM sectors			**Non-CBAM sectors**		
	Domestic production	Imports	Imports (excluding the EU)	Domestic production	Imports	Imports (excluding the EU)
Package A	-5.0%	-13.8%	-43.8%	-0.2%	0.1%	0.1%
Package B	-1.2%	-4.9%	-13.7%	-0.2%	0.1%	~0.0%
Package C	-1.5%	-5.9%	-16.7%	-0.2%	0.1%	~0.0%
Package D	-1.4%	-5.7%	-16.2%	-0.2%	0.1%	0.1%
Package E	-1.4%	-5.7%	-16.2%	-0.2%	0.1%	~0.0%
Package F	-1.4%	-5.2%	-14.8%	-0.1%	~0.0%	~0.0%

6.33 One clear implication is that the impact is likely to differ significantly between CBAM and non-CBAM sectors. For sectors that are not covered by the CBAM, they typically see either smaller reductions in FA, thereby resulting in a more limited increase in carbon price exposure, or compliance costs account for a relatively low proportion of total production costs. Without an

alternative carbon leakage mitigation policy in place, there is a counteracting effect of increased import emissions.

6.34 For CBAM sectors, the impact is estimated to be greater, generally negative and sensitive to the assumed trajectory of FA phase-out. To explore this result further, Table 9 provides a detailed breakdown for the Iron and steel sector and the Cement sector, two major CBAM covered sectors that have different emission implications.

Table 9: Estimated percentage change in emissions for domestic production and imports (for UK consumption) split by Iron and steel and Cement sectors over the second allocation period

	Iron and steel			Cement		
	Domestic production	Imports	Imports (excluding the EU)	Domestic production	Imports	Imports (excluding the EU)
Package A	-1.9%	-20.2%	-45.1%	-10.1%	52.4%	-30.5%
Package B	-0.6%	-6.4%	-14.2%	-2.2%	5.0%	-6.4%
Package C	-0.7%	-7.8%	-17.3%	-2.7%	6.8%	-8.1%
Package D	-0.7%	-7.5%	-16.7%	-2.7%	6.8%	-8.1%
Package E	-0.7%	-7.5%	-16.7%	-2.7%	6.8%	-8.1%
Package F	-0.6%	-6.9%	-15.3%	-2.6%	5.7%	-7.7%

6.35 This reveals an important insight for emission impacts. Some sectors have access to abundant import alternatives that may not be subject to significant UK CBAM charges, due to domestic carbon pricing, such as in the Cement sector where a significant proportion of imports come from the EU. Consequently, this sector is sensitive to the FA phase-out trajectory for CBAM sectors, with Package A estimated to significantly increase import emissions under the accelerated trajectory. However, since imports in this sector constitute a small proportion of domestic consumption, the absolute increase in emissions from imports remains relatively low, despite the large percentage increase for this package.

6.36 Conversely, in the Iron and steel sector, both domestic and import-related emissions associated with UK consumption are projected to decline across all scenarios. This is primarily driven by the relatively high CBAM charges applied to low carbon pricing regions, contributing to a reduction in imports from these sources. Iron and Steel and Cement are two major ETS sectors for Wales, meaning the contrasting emissions impacts identified in this analysis are likely to have implications for Welsh industry.

6.37 While some increase in import emissions from producers with a similar carbon price (and therefore goods are charged a low or no CBAM rate) is likely, the analysis estimates that the emissions associated with these new imports are considerably lower and are more than offset by the reduction in high-carbon iron and steel from previous import origins.

6.38 Furthermore, our assumption that all importers face the same emissions intensity benchmark means that estimated changes in import emissions are driven solely by differences in carbon pricing between regions. However, in reality, differences in emissions intensity could also be a significant factor in determining the CBAM rate.

6.39 Given the uncertainty surrounding this analysis, we do not treat these figures as indicative of expected outcomes. However, they are useful for illustrating the extent to which changes in emissions depend on several key factors:

a. The percentage reduction in FA for a given sector.

b. UK ETS compliance costs as a proportion total production cost. Even with large changes in carbon price exposure, if marginal costs of compliance are relatively small then this may have a very limited impact on market prices, and therefore international competitiveness.

c. Existing UK comparative advantage in production.

d. The availability of low-cost abatement options.

e. Whether imported goods face an equivalent carbon price (either through carbon pricing or a CBAM).

6.40 In addition, there may also be an impact on emissions due to the role of the EU CBAM. While the modelling does account for the reduction in free allocation within the EU ETS in line with announced legislation, it does not model the EU CBAM, which could have an implication for estimated import emission changes.

6.41 Separately, there may be emission impacts due to changes in the export market, which we are not able to quantitatively estimate using ICICL. As UK operators see their FA reduced, higher marginal costs of compliance may be passed on to higher prices for UK exports. This could reduce the international competitiveness of UK firms, alter trade flows and reduce domestic emissions. UK exporters may also benefit from a competitive advantage within export markets with a CBAM, such as the EU. However, the effect on emissions is similarly likely to be variable, depending on the emissions intensity of competitor markets that may service forgone UK exports.

6.42 If a competitor market has a lower emissions intensity than the UK, holding demand constant and all other things equal, this could see net global emissions fall. Alternatively, the opposite effect would be expected for a competitor market with a higher emissions intensity.

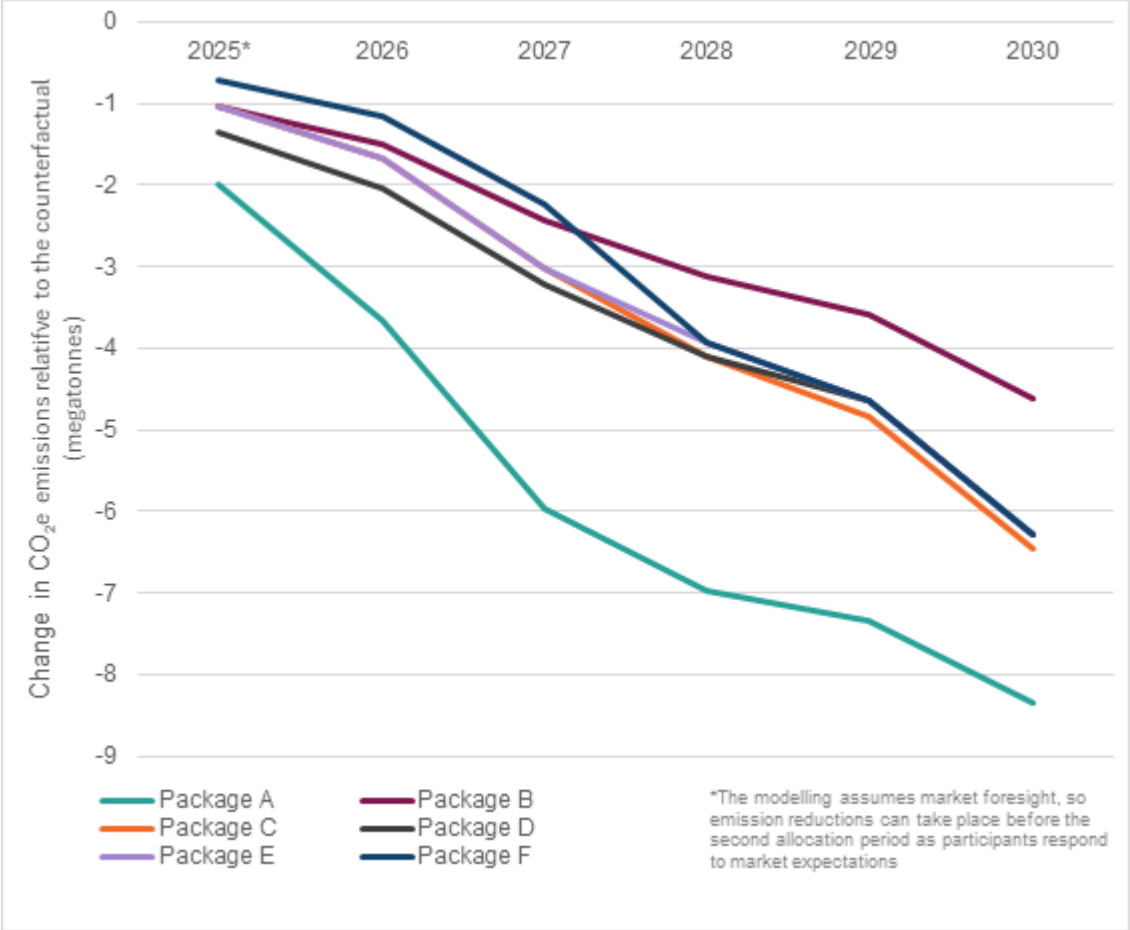
6.43 Nevertheless, those UK sectors with significant proportions of production heading to export markets may have a greater incentive for abatement options, if it reduces operating costs in the long run, to remain internationally competitive. This will depend on the cost of available abatement options. These impacts are highly uncertain and are likely to be highly variable between each sector.

6.44 This illustrative analysis, based on international competitiveness modelling, offers useful insights into potential emissions impacts, highlighting how estimated outcomes can vary significantly across sectors depending on their specific context. However, these results are sensitive to the overarching modelling framework, sector-specific assumptions for industry, and the quality of up-to-date data sources for each country and sector combination.

6.45 In addition, given this assessment assumes that any forgone FA under the industry cap is retained by the Authority within the flexible reserve, this reduces the total number of allowances in circulation relative to the counterfactual scenario, which are expected to result in carbon prices rise. This would have an impact on all UK ETS sectors, increasing the decarbonisation incentive beyond participants eligible for FA.

6.46 To consider total UK ETS emission impacts, we use the CMM to assess how changes in total allowances in circulation affect carbon price exposure, and as such, emission reductions across all UK ETS sectors. Figure 2 shows this impact across the next allocation period, relative to the counterfactual.

Figure 2: The estimated change in UK emissions across all UK ETS participants due to a change in FA



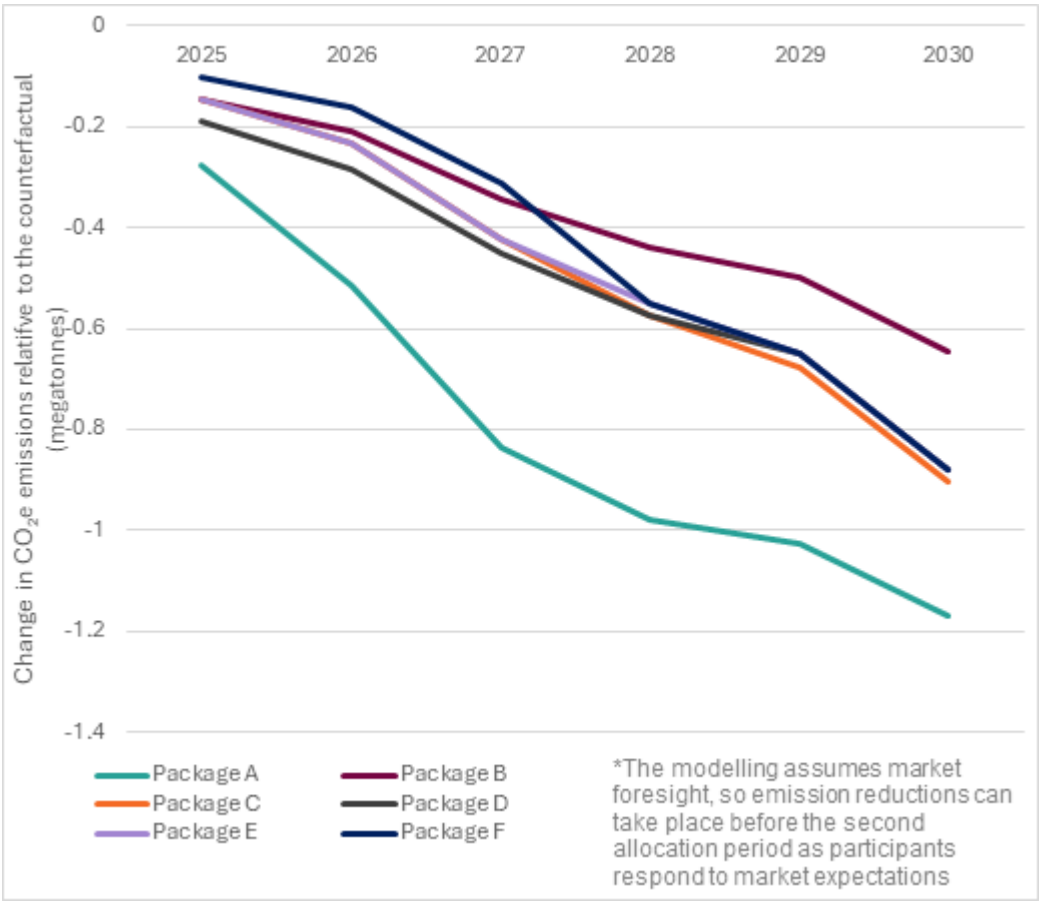
6.47 As shown, and comparable with the ICICL analysis above, Packages with the largest reductions in FA result in the largest emission impacts. Packages C, D and E are all expected to have very similar emission impacts, due to their similarities in FA impacts. Package F has a smaller initial reduction, due to the role of continued current benchmark values in 2027, reducing the demand for auctioned allowances, but catches up to align with Package E from 2028.

6.48 This result is intuitive, given that the reduction in FA reduces the total supply to market in any one year, increasing the effort of participants to abate their emissions. We use these emission impacts for the CBA appraisal.

Welsh emissions impact

6.49 To approximate Welsh emissions reductions, we can apply a simplifying assumption: that the proportion of reductions corresponds directly to each nation's share of ETS emissions. Since Wales accounted for 14% of ETS emissions in 2024, we assume Figure 3 attributes 14% of the overall emissions reduction to Wales.

Figure 3: Apportioned to Wales: estimated change in emissions across all ETS participants due to a change in FA



6.50 This is a simplistic approach and does not reflect more nuanced regional differences. Wales could experience greater or lesser emissions reductions.

6.51 Given the concentration of ETS emissions in Wales - largely attributable to a small number of installations - it would be overly speculative to assign specific likelihoods to outcomes. Any assumptions would hinge on the behaviours of just a handful of sites, making generalised projections both sensitive and unreliable.

Cost-benefit analysis

Table 10: The list of monetised and qualitative impacts considered within the cost-benefit analysis

Impact	Category	Scope	Description
Monetised impacts			
Domestic carbon emissions	Monetised	Society	Changes in domestic carbon emissions associated with UK production due to decarbonisation incentives and a reduction in the total supply of allowances

Marginal abatement costs	Monetised	Business	Changes in abatement costs due to changes abatement levels
Qualitative impacts			
Familiarisation costs to business	Qualitative	Business	Changes in costs for business for familiarisation with regulatory changes
Administration costs to government	Qualitative	Government	Changes in administrative costs needed to enforce FA policy changes
International carbon emissions	Qualitative	Society	Changes in international carbon emissions associated with UK production due to decarbonisation incentives
Indirect impacts	Qualitative	Various	Indirect impacts due to a potential change in the UK ETS price
Enabling benefits	Qualitative	Various	Alignment of UK ETS FA rules with the EU ETS, enabling benefits of any potential future linking arrangement
Market engagement	Qualitative	Business	Greater participation in the primary and secondary allowance markets due to a reduction in free allowances

Costs

6.52 The monetized cost (to business) estimates are derived using the Carbon Markets Model (CMM) to calculate total changes in marginal abatement costs.

6.53 The CCM (CMM v1, previously referred to as UK CPM) is a model held by DESNZ for the purposing of assessing how changes to the UK ETS can impact on carbon values and emission reductions. Carbon values are estimated in the CMM as the equilibrium point where demand for abatement (the required effort) is matched by the supply of abatement through use of carbon abatement technologies.

6.54 This model cannot produce Welsh specific results.

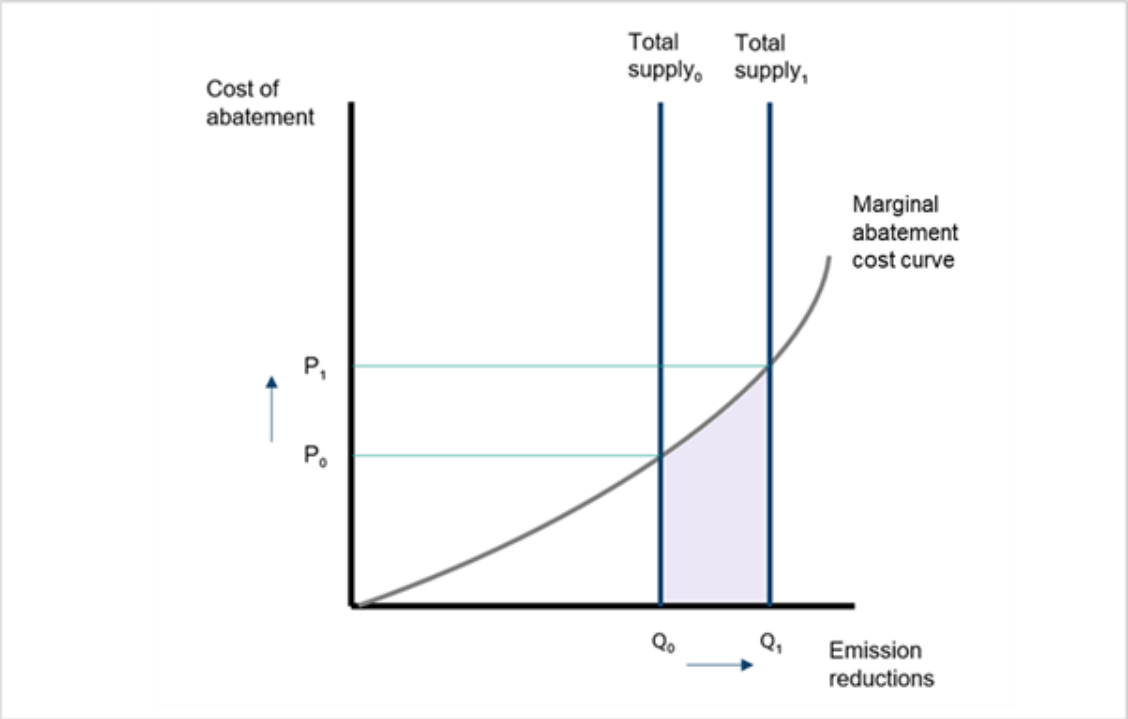
6.55 This model was used extensively in the *Developing the UK ETS* IA. As

such, further information on the assumptions, limitations and model calculations is presented there. Further information can be found here.

6.56 A reduction in total supply of allowances, due to a reduction in the level of FAs, shifts the total supply curve from TS0 to TS1 in Figure 4. This occurs due to a tightening cap implying additional emissions reductions, pushing up the cost of abatement on the MAC curve, increasing the cost of abatement and as such, the cost of allowances

6.57 The shaded region in Figure 4 shows the additional total marginal costs of abatement incurred by UK ETS participants due to lower total supply of allowances.

Figure 4: The illustrative impact on marginal abatement costs due to a reduction in free allowances



6.58 Across the policy packages, the estimated monetised costs range between £2.7 billion and £5.2 billion over the appraisal period of 2025 – 2037.

6.59 As with the emissions reduction estimate, we apply a simplifying scalar and assume Welsh businesses bear 14% of the cost impact - reflecting their share of ETS emissions - since the carbon price increase will occur uniformly across the UK market.

6.60 This means that, across the policy packages, the estimated monetised costs for Wales range between £0.4 billion and £0.7 billion.

6.61 The central assessment assumes that producers receiving fewer free allocations will absorb the additional compliance costs associated with purchasing allowances. This reflects the principle that all allowances carry the

same opportunity cost, whether freely allocated or acquired through auctions or trading. However, if the overall cost of allowances increases, it may lead to some degree of cost pass-through to consumers—this is explored further under 'Indirect Impacts'

Benefits

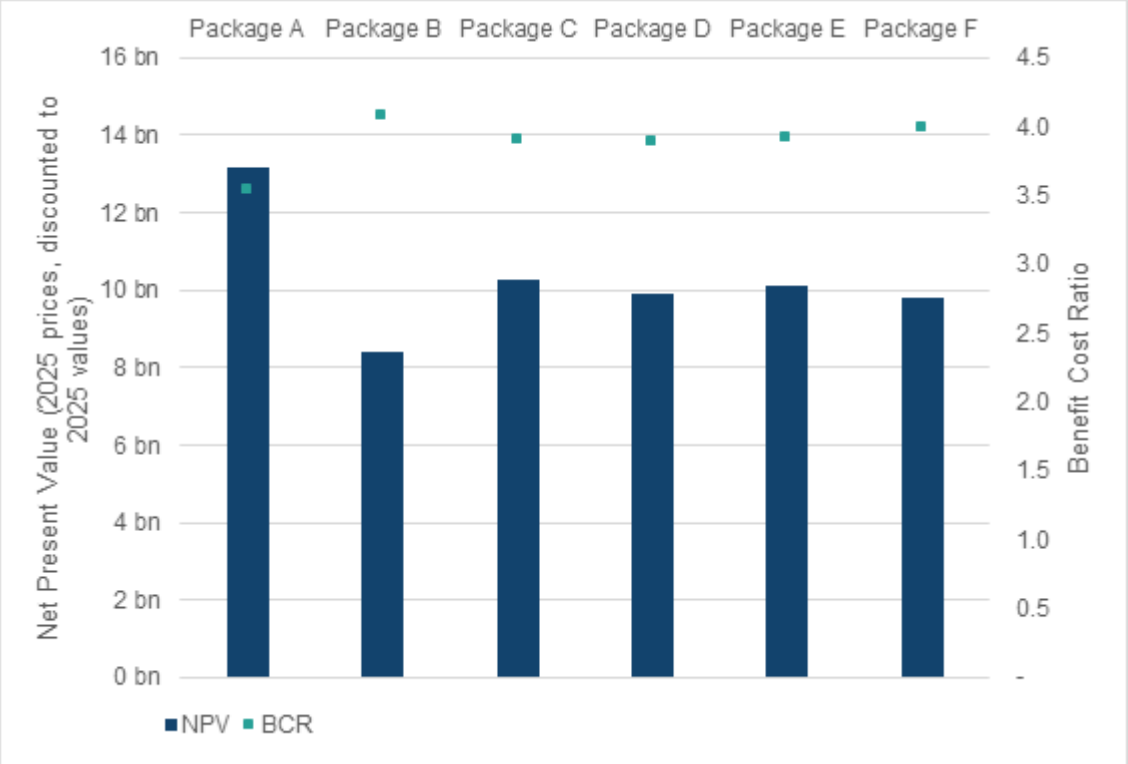
6.62 The monetised societal benefits are estimated by multiplying the change in emissions by DESNZ carbon values, followed by applying the appropriate discount rate and 2025 GDP deflators.

6.63 These values are estimated by considering the abatement costs incurred to meet the UK Government's Net Zero consistent emission targets.[6]

Net Present Social Value (NPSV)

6.64 The private cost of abating these emissions is then considered relative to the benefit of the emission reductions to society. Figure 5 presents the Net Present Social Value (NPSV) and Benefit Cost Ratio (BCR) for each policy package across the UK

Figure 5: The total central NPSV impact and BCR for each policy package (UK wide)



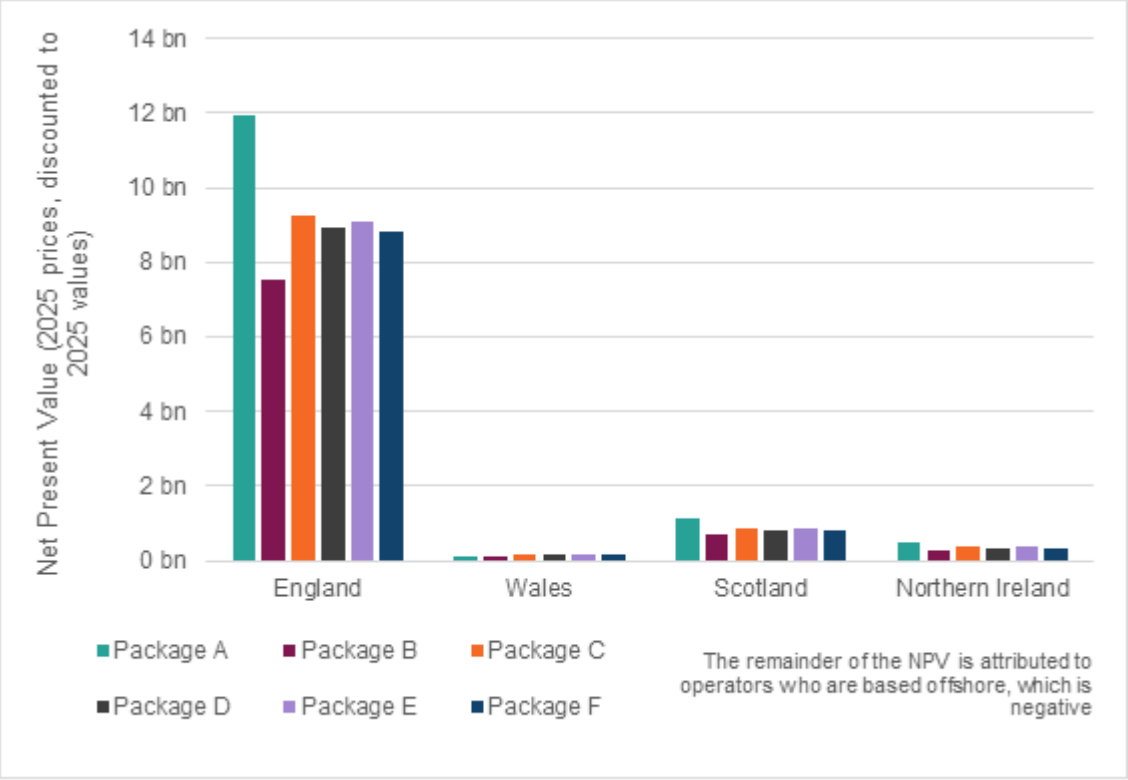
6.65 Based on the monetised impacts alone, each policy package demonstrates a positive NPSV in the billions of pounds. That is an expected outcome, given the private cost of abating emissions is lower than the value of those emission reductions to society.

Table 11: The full monetised impacts estimated for each policy package under the central assessment

	Package A	Package B	Package C	Package D	Package E	Package F
NPSV	£13.2bn	£8.4bn	£10.3bn	£9.9bn	£10.1bn	£9.8bn
Monetised benefits (emission savings)	£18.4bn	£11.1bn	£13.8bn	£13.4bn	£13.6bn	£13.1bn
Monetised costs (abatement costs)	£5.2bn	£2.7bn	£3.5bn	£3.4bn	£3.5bn	£3.3bn
BCR	3.5	4.1	3.9	3.9	3.9	4.0

6.66 The NPSV for each country is shown in Figure 6. While this is lower in Wales than in other parts of the UK there is still a positive NPSV in taking forward these changes.

Figure 6: The total NPSV impact by region for each package



6.67 These values assume that total marginal abatement cost is distributed across regions by their share of emissions in 2024, whilst the benefits of emissions savings are distributed according to population size.

6.68 With Wales' relatively high share of emissions and smaller population size, these assumptions result in Wales having a relatively small NPSV compared to other regions.

Figure 7: The total central NPSV impact and BCR for each policy package (Wales)

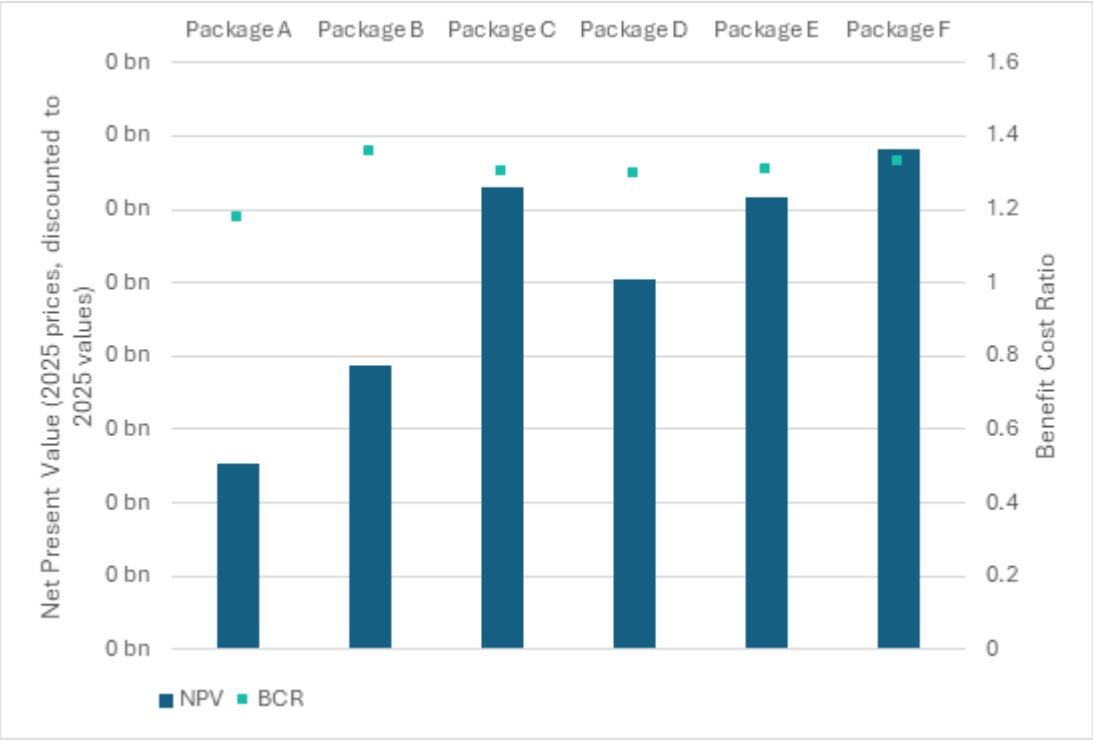


Table 12: The full monetised impacts estimated for each policy package under the central assessment (Wales)

	Package A	Package B	Package C	Package D	Package E	Package F
NPSV	£128mn	£134mn	£147mn	£140mn	£146mn	£149mn
Monetised benefits (emission savings)	£846mn	£511mn	£635mn	£616mn	£626mn	£603mn
Monetised costs (abatement costs)	£718mn	£373mn	£483mn	£469mn	£483mn	£455mn

BCR	1.2	1.4	1.3	1.3	1.3	1.3

Sensitivity

6.69 If both the costs and benefits of emission reduction were distributed based on the regional share of emissions in 2024, Wales' NPSV values are significantly higher, as shown in Table 13.

Table 13: The full monetised impacts estimated for each policy package under the central assessment (Wales) – costs and benefits distributed according to Welsh emission share

	Package A	Package B	Package C	Package D	Package E	Package F
NPSV	£1.8bn	£1.2bn	£1.4bn	£1.4bn	£1.4bn	£1.4bn
Monetised benefits (emission savings)	£2.5bn	£1.5bn	£1.9bn	£1.8bn	£1.9bn	£1.8bn
Monetised costs (abatement costs)	£0.7bn	£0.4bn	£0.5bn	£0.5bn	£0.5bn	£0.5bn
BCR	3.5	4.1	3.9	3.9	3.9	4.0

6.70 Although estimating the size of these impacts helps us understand the expected overall welfare effects, it's also important to consider non-monetised factors that could influence the results. The following sections address some of those impacts.

Familiarisation costs to businesses

6.71 The final policy position introduces several significant changes to FA policy, necessitating a period for eligible participants to familiarise themselves with these adjustments.

6.72 The extent of familiarisation required will vary among participants, with those experiencing a greater impact on their business operations needing more time to understand the policy changes. Additionally, these participants may need to develop re-evaluate abatement plans to determine the most appropriate pathway to compliance.

6.73 We would expect familiarisation costs to detract from the NPSV. However, given the uncertainty in the time for familiarisation for each sector and that these costs are expected to be negligible when compared to the monetised impacts, it was deemed unproportional to assess them quantitatively.

Administration costs to government

6.74 Administration costs refer to those costs that are incurred by governments and regulators for the operation and monitoring of the UK ETS.

6.75 The final policy position is not expected to have any significant impact on the way in which governments or regulators undertake their engagement with the UK ETS, and therefore we expect very marginal administration costs that are negligible relative to the monetised impacts.

International carbon emissions

6.76 Higher carbon price exposure is expected to raise compliance costs, which could reduce relative international competitiveness. As noted previously, the direction and size of this impact is highly dependent on the market conditions faced by each sector. Based on the analysis from ICICL, we estimate that emissions associated with imports could feasibly fall, specifically driven by the size of emission reductions in the Iron and steel sector.

6.77 That said, the UK (and Wales) is a price-taker in many markets and represents a relatively small share of global industrial output. As a result, while shifts in international competitiveness could lead to changes in imports into the UK (affecting emissions associated with UK consumption) or changes in exports from the UK (potentially affecting emissions from international producers supplying sectors previously served by UK exports), the degree to which these emission changes are truly additional remains uncertain.

6.78 While this RIA considers changes in international emissions as a significant potential impact, it does not attempt to monetise them given the uncertainties associated with the ICICL model, the limitations of only partial coverage without export emissions, and the challenge of emissions additionality.

6.79 In the Authority RIA, they explore the potential scale of export leakage risk, particularly for UK CBAM sectors who may be more carbon leakage exposed and will see their FA phased out more quickly.

Enabling benefits

6.80 In May 2025, the UK Government and the EU announced that they have agreed to work towards linking the UK ETS and the EU ETS[7]. To that end the UK Government has agreed parameters for a new agreement. The UK and EU are working closely with the EU to agree a timetable for linking negotiations to try and deliver a successful agreement.

6.81 At this stage, there is uncertainty over what any potential future

agreement could look like, at how that might directly or indirectly impact on FA policy. However, decisions on the final policy position of the FAR have been made with a potential link in mind.

6.82 On that basis, any final policy position which facilitates alignment in FA policy between the UK ETS and the EU ETS, and therefore facilitates a successful linking arrangement, will enable the benefits of linking. The benefits of linking could include:

- More efficient, least cost decarbonisation
- Improved, more liquid ETS markets
- Potential UK/EU CBAM exemption
- Energy security
- Business certainty and investment

6.83 However, given there are also many other policy decisions in scope of linking negotiations, the quantification and analysis of those benefits fall outside of the scope of this assessment.

Indirect impacts

6.84 As shown by the monetised appraisal impacts, marginal abatement costs (and costs of purchasing UKAs) are expected to increase under all scenarios, given the greater exposure in carbon price.

6.85 However, while the direct increase in compliance costs initially falls on businesses, economic theory suggests that the full burden - or incidence - does not necessarily remain with them. Businesses may pass some of these costs on to households through higher prices.

6.86 The extent to which this cost is passed on to households will depend on the dynamics of the market in which the business operates (perfect competition, homogenous products, price inelastic demand). Equally, it is also plausible that a reduction in marginal costs brought about by more efficient low-carbon technologies could reduce costs for consumers; although we expect this is unlikely in the short-run.

6.87 Faced with higher prices, consumers could reduce their demand, resulting in losses in both consumer surplus and producer surplus. However, the UK ETS Phase I evaluation report concluded that the sectors most at risk of carbon leakage may find it more challenging to pass on additional compliance costs to consumers[8], as, by definition, they are more exposed to international competition so increasing cost would risk loss of competitiveness or market share. For this reason, our working assumption in the central assessment is that any indirect impacts would be more concentrated to those sectors which are considered less at risk of carbon leakage.

6.88 If increases in cost are sufficient to result in non-viable supply to the

market, the operator could choose to cease operations, or move their production abroad, reducing the size of the UK industrial production base. This loss of production and therefore profits to UK business is a potential welfare loss to society, which may instead be captured by international competitors.

6.89 Due to the possible significance of these impacts, we used an alternative appraisal methodology with ICICL to verify our central assessment results of the final policy position.

6.90 Finally, reductions in the total supply of allowances could raise carbon prices for all UK ETS participants. As such, there is a potential for wider indirect impacts to sectors who are not eligible for FA, increasing costs and potentially raising prices for consumers.

Market engagement

6.91 Given the reduction in FA, this could lead to more operator engagement in primary and secondary allowance markets. This could include operators engaging for the first time or increasing the level of engagement, both which of which could incur time costs for business. The monetised impacts assume that free allowances carry the same opportunity cost as auctioned allowances, implying that businesses will buy and sell allowances regardless of how they were obtained. This assumption further relies on a scenario of perfect information, where all participants have complete knowledge of their marginal abatement costs and face no transaction costs when engaging in trading.

6.92 In practice, these assumptions are unlikely to hold, which could result in further costs. While we cannot quantify these potential costs, they are expected to be relatively minor compared with the marginal costs of abatement or the total costs of purchasing allowances.

Un-monetised impacts

6.93 Based on the assessment above, Table 14 summarises the potential impacts of each un-monetised impact.

Table 14: Quantitative assessment of impact for each un-monetised impact

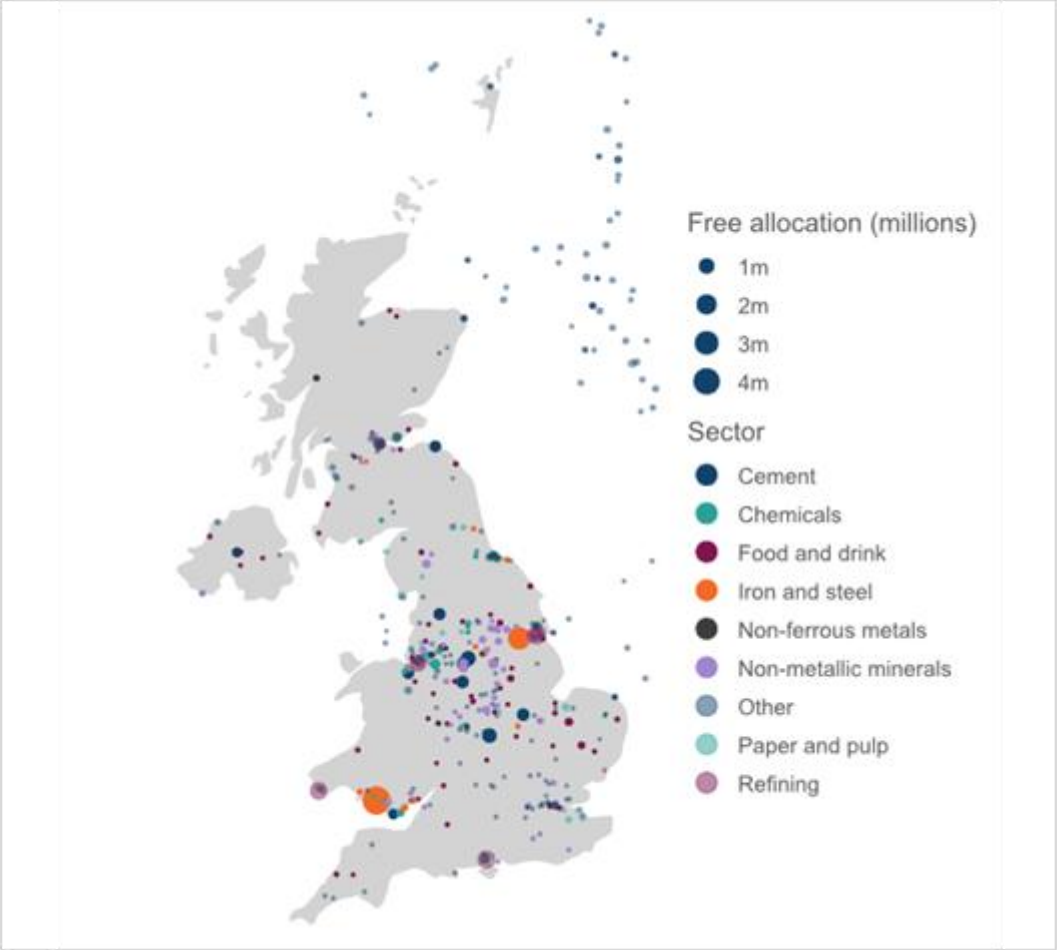
	Qualitative assessment
Familiarisation costs to business	Negligible
Administration costs to government	Negligible
International carbon emissions	Uncertain, but some evidence to suggest positive
Enabling benefits	Strong positive

	(conditional)
Indirect impacts	Uncertain, but likely negative
Market engagement	Negative

Regional impacts

6.94 UK ETS participants that are eligible for FA are distributed across England, Scotland, Wales and Northern Ireland, as well as some offshore operators. Within regions, there are often different clusters of sector activity. Figure 8 demonstrates the distribution of FA by sector and geographical location in 2024.

Figure 8: FA by industry sector and geographical location, 2024



6.95 As a result, the impacts of FA changes are expected to vary across regions. In regions with a higher concentration of sectors that have relatively low-cost abatement options, there may be greater inflows of economic

transfers from the sale of allowances to sectors facing higher abatement costs. However, due to the uncertainty surrounding these transfers, and given that the central appraisal has been conducted at the UK level, incorporating these transfers into region-specific analysis was not considered proportionate.

Analytical justification for the final policy position

6.96 The Authority Response to the FAR consultations provides a comprehensive explanation of the strategic rationale for each policy option included within **Package F**, which together form the final policy position

6.97 The analysis of Package F presents a clear economic case for this position, with impacts expected to be positive and large, mainly due to the significant value of emission reductions, although noting some uncertainty with the size and direction of non-monetised impacts. However, as noted previously, this position has also been chosen with a potential link between the UK ETS and the EU ETS in mind.

6.98 Any policy option which supports the UK's strategic objective of maintaining alignment to facilitate potential future linking would enable the benefits of linking. It should be noted that the UK's FA policy in a linked market will be subject to negotiation, we will provide further updates related to linking negotiations at the appropriate times.

6.99 From here onwards, this RIA will consider analysis that is relevant to the final policy position only.

Uncertainty

6.100 To see the full assessment of uncertainty, please refer to the Authority-wide Impact Assessment (IA).

6.101 Below is a summary of how uncertainty was tested and what each test showed on UK wide results

Table 15: Risks, limitations and assumptions

Uncertainty Area	Test Description	Key Findings	NPSV
Industry Cap [Post-2030 UK ETS Policy]	Reduce cap by 20% from 2030	CSCF triggered in 2036 – a year earlier than counterfactual; final policy avoids CSCF; reduced FA certainty	Central: £9.8bn Low industry cap: £7.0bn
Flexible Reserve [Post-2030 UK ETS Policy]	Reduced post-2030 reserve by 40m allowances	CSCF triggered by 2033 in counterfactual; high sensitivity to reserve size; risk to market stability	Central: £9.8bn Reduced flexible reserve: £1.2bn

Marginal Abatement Costs – future abatement technology	Applied high and low cost curves	Higher costs reduce abatement and NPSV; lower costs increase both	Central: £9.8bn High marginal abatement cost: £8.5bn Low marginal abatement cost: £11.4bn
Market Activity	Tested high and very high activity levels	FA may exceed cap but sufficient allowances available; no alternative NPSV calculated	
Appraisal Carbon Values	Used high and low DESNZ carbon values	Reflects societal valuation of emission reductions	Central: £9.8bn High appraisal carbon values: £16.4bn Low appraisal carbon values: £3.3bn
Benchmarking	Applied max/min ARR thresholds to UK benchmarks	Sectoral FA impacts vary; central method falls mid-range	Central: £9.8bn Max ARR: £7.1bn Min ARR: £12.1bn
Optimism Bias	Adjusted benefits/costs by ±20%	NPSV remains positive across all cases	Benefits -20%: £7.2bn Costs +20%: £9.2bn Both: £6.5bn
Switching Values	Assessed NPSV change needed for net negative welfare	Non-monetised costs >£9.8bn (central) or >£3.3bn (low carbon value) could lead to negative impact	
Indirect Impacts (ICICL)	Used ICICL model as an alternative to	Net welfare gain of £4bn; confirms positive case despite	

	assess welfare impacts	different methodology	

Competition assessment

6.102 The proposed legislation does have an impact on businesses, particularly due to the removal of free allocations. The quantified costs presented refer specifically to business impacts, and this focus has been maintained consistently throughout the Regulatory Impact Assessment (RIA).

6.103 The impact on businesses is expected to be negative, reflecting both the anticipated increase in carbon prices and the costs associated with familiarisation and compliance.

6.104 The UK ETS is a carbon pricing mechanism designed to address the negative externality of greenhouse gas emissions, applying the "polluter pays" principle. So, while this policy change likely introduces additional costs for some businesses, these are a recognised part of the transition to a low-carbon economy.