



Department for
Energy Security
& Net Zero



HM Treasury

Addressing carbon leakage risk to support decarbonisation

Summary of consultation responses and government response

Date: 18 December 2023



Department for
Energy Security
& Net Zero



HM Treasury



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Introduction

Why the government consulted about carbon leakage

The UK has made world-leading commitments to decarbonise across the economy, reaching a reduction in emissions from 1990 levels of 68% by 2030 and net zero by 2050.^{1, 2} Decarbonising UK industry is crucial to reaching net zero: reducing emissions by two-thirds before 2035 is projected to be necessary to stay on track, relative to 2020 levels.³ This industrial transformation will have far-reaching benefits to the UK, contributing to the fight against climate change, our energy security and the UK's support for economic growth and jobs. The government is committed to reducing emissions in a way that grows the UK economy and supports our energy security.

There is risk, however, that the objective of decarbonisation - to reduce global emissions - could be undermined by carbon leakage. 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. The UK's current main measure to mitigate carbon leakage risk is the system of free allocation under the UK Emissions Trading Scheme (ETS).

The government is committed to putting in place the necessary policies and measures for UK industry to successfully decarbonise. The 'Addressing carbon leakage risk to support decarbonisation' consultation, which ran from 30 March to 22 June 2023, provides an important part of the evidence base for the government's approach to managing carbon leakage throughout the UK's transition to net zero.

¹ The UK is committed by law to achieve net zero by 2050 under the Climate Change Act 2008. (<https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law>).

² The UK has additionally committed to reduce its emissions by at least 68% by 2030 on 1990 levels via its nationally determined contribution under the Paris Agreement. (<https://www.gov.uk/government/news/uk-sets-ambitious-new-climate-target-ahead-of-un-summit>).

³ Industrial Decarbonisation Strategy, 2021 (<https://www.gov.uk/government/publications/industrial-decarbonisation-strategy>).



About the consultation

The Department for Energy Security and Net Zero and His Majesty's Treasury consulted on the risk of carbon leakage and a range of potential mitigation measures. The consultation sought views on:

- The nature and extent of carbon leakage risk to UK industry
- Potential design and implications of a carbon border adjustment mechanism in the UK
- Potential design and implications of mandatory product standards in the UK
- Other decarbonisation policies with potential to mitigate carbon leakage, including voluntary product standards, labelling, and green procurement
- What embodied emission reporting requirements would be required to underpin potential carbon leakage policies

During the consultation window, the government engaged extensively to encourage and support responses.

The consultation built on previous government publications exploring carbon leakage. These include the 2020 Treasury-led Net Zero Review⁴, the 2021 Call for Evidence 'Toward a market for low emissions industrial products'⁵, and the 2021 Industrial Decarbonisation Strategy⁶, which committed to consult further.

Potential policy measures explored in the consultation:

- **A carbon border adjustment mechanism (CBAM)** would introduce a carbon price on imported products. This would reflect both the carbon emitted in their production together with any gap between the carbon price applied in the country of origin and the carbon price that is incurred by UK-based production
- **Mandatory product standards (MPS)** would set an upper limit on the embodied emissions for individual products placed on the UK market, or produced in the UK, prohibiting products which are more emissions intensive than a defined limit. This could apply to both domestically produced and imported products
- **Additional demand side policies** would aim to grow the market for low carbon products. Options could include voluntary product standards, product labelling, changing public procurement guidelines to prioritise low carbon products, and encouraging private procurers to do the same. Growing demand for low carbon goods could increase the incentive for businesses in the UK and overseas to decarbonise and help to mitigate carbon leakage by improving the competitiveness of their products.

⁴ Net Zero Review: Interim Report, 2020 (<https://www.gov.uk/government/publications/net-zero-review-interim-report>).

⁵ Towards a market for low emissions industrial products: call for evidence, 2021 (<https://www.gov.uk/government/consultations/towards-a-market-for-low-emissions-industrial-products-call-for-evidence>).

⁶ Industrial Decarbonisation Strategy, 2021 (<https://www.gov.uk/government/publications/industrial-decarbonisation-strategy>).

- **Embodied emissions reporting**, which would be required to underpin new carbon leakage policy measures. The consultation explored a potential emissions reporting framework, the specific methodology for calculating reported emissions, and the design and delivery of the reporting system

Clarification of Terminology

Through the consultation period and supporting engagement, it became apparent that some of the terms used to describe different aspects of product standards were not sufficiently clear to all stakeholders. For reference, the government has used terms as below for this consultation and response:

- **Voluntary Product Standards (VPS)** describes a system for benchmarking products based on their embodied emissions. They would be used to help define, and differentiate between, lower and higher carbon versions of products. The standards would be ‘voluntary’ in the sense that a manufacturer would not be required to meet any one of these standards specifically
- **Mandatory Product Standards (MPS)**, if introduced, would be a form of regulation to set a maximum limit on the embodied emissions for a product. This could use the VPS system, for example in an A to G range, ‘G-rated’ products could be prohibited
- **Product Labels** would provide information about a product’s embodied emissions. Product labels could be used to communicate which voluntary standard a product meets and can be used to display a products embodied emissions data. The goal of product labelling is to empower consumers and businesses to make informed purchasing decisions

Responses to the consultation

The consultation ran for 12 weeks from 30 March 2023 until 22 June 2023, and received 162 responses over email and the government’s Citizen Space online platform.

A wide range of sectors, from both the UK and overseas, responded to the consultation. The largest group of respondents were UK industry with 104 respondents, followed by non-governmental organisations (NGOs), think-tanks, and academia with 28 respondents in total. In total, 24 submissions were received from international or overseas respondents.

- The 104 UK industry responses came from trade associations, large companies, and small and medium enterprises (SMEs). These responses represented more than 20 sectors, including all the sectors identified in the consultation as being potentially in scope of new measures. There were particularly high numbers of responses from the power generation sector (16 responses), the iron and steel sector (12 responses) and consultancy, accountancy, or legal services (10 responses)



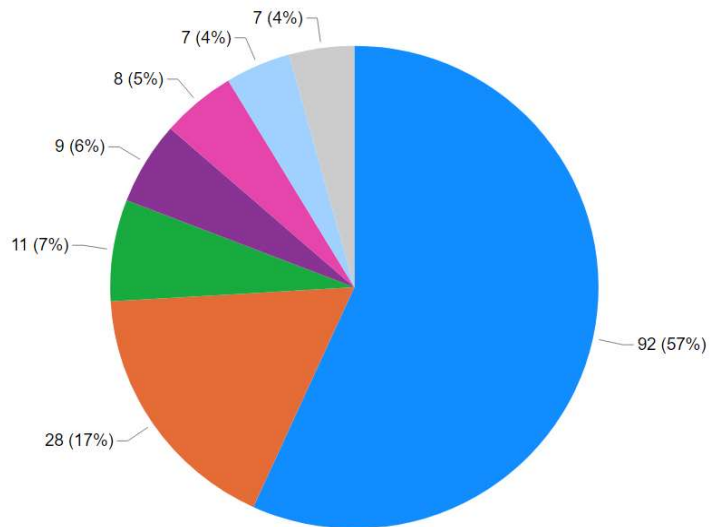
- 26 responses were submitted by non-governmental organisations, think-tanks, and academic bodies. Of these, 24 were UK-based and two were from respondents overseas
- Six responses were submitted by industry respondents internationally
- Five private citizens responded to the consultation
- The consultation also received returns from several government bodies overseas, which have been reflected in this summary of responses

The government is grateful for all responses submitted to this consultation, which will inform future policy development.

Type of stakeholder responding to the consultation

Type of stakeholder

- Industry/business/trade body
- NGO/thinktank/academia
- SME
- Overseas industry/business/trade body
- Government body
- Multiple types
- Private citizen



Chapter 1: Carbon leakage policy measures

Responses to this chapter have been considered as part of the government's announcement on a Carbon Border Adjustment Mechanism and will be taken into account in further development of measures being taken forward following this consultation.

Chapter overview

Chapter 1 of the consultation set out that:

- 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. As a result, the objective of decarbonisation efforts – to reduce global emissions – would be undermined
- Carbon leakage risk is likely to be greatest for highly traded and carbon intensive sectors which are subject to climate policies that are not implemented consistently internationally. Other factors can affect the risk, such as the domestic cost and availability of decarbonisation technologies, a sector's ability to transition to low emission production processes, and the ability of customers to switch to low carbon alternatives
- Any potential new carbon leakage policy measures would be considered as part of a complementary framework alongside other government policies which could impact the risk of carbon leakage. This includes the UK's current main measure to mitigate carbon leakage risk - the system of free allocation under the UK ETS. In July 2023, the ETS Authority published a response to the 2022 consultation 'Developing the UK Emissions Trading Scheme'⁷. Announcements included: setting the UK ETS cap⁸ to be consistent with net zero and doing this at the top of the net zero consistent range; setting the 'Industry Cap'⁹ at 40% of the overall UK ETS cap; and guaranteeing industrial free allocations at current levels until 2026. The Authority is consulting on the methodology for calculating free allocations for stationary installations under the UK ETS, with an aim to better target support from 2026 for sectors most at risk of carbon leakage

⁷ Developing the UK Emissions Trading Scheme: main response, July 2023 (<https://www.gov.uk/government/consultations/developing-the-uk-emissions-trading-scheme-uk-ets>).

⁸ The UK ETS cap sets a limit on the total allowances that can be created within the scheme (and therefore a limit on the volume of greenhouse gases participants captured by the scheme can emit).

⁹ The 'Industry Cap' sets a limit on the quantity of allowances available to be given to industrial participants for free.



- Where there is potential to apply more than one measure to a sector, the government will aim to ensure these work in tandem to promote the UK's decarbonisation objectives in a way that minimises burdens on businesses in the UK and overseas

Chapter 1 of the consultation sought views on four questions to inform development of government policy on carbon leakage policy measures. These were:

- Whether the government's definition of carbon leakage reflected respondents' understanding (Question 1.0)
- How respondents expected the risk of carbon leakage in the UK to change or if carbon leakage is occurring now (Question 1.1)
- What factors contribute to the risk of future carbon leakage that the government should seek to address (Question 1.2)
- Whether the government should act on carbon leakage risk through domestic or international action, or both (Question 1.3)

Summary of responses to this chapter

Questions in Chapter 1 were answered by 126 respondents in total, with the largest group of respondents being industry, business, or trade bodies (76 respondents), followed by NGOs, thinktanks, or academia (21 responses) and SMEs (10 responses). Industry respondents covered all 22 sectors responding to the consultation overall.

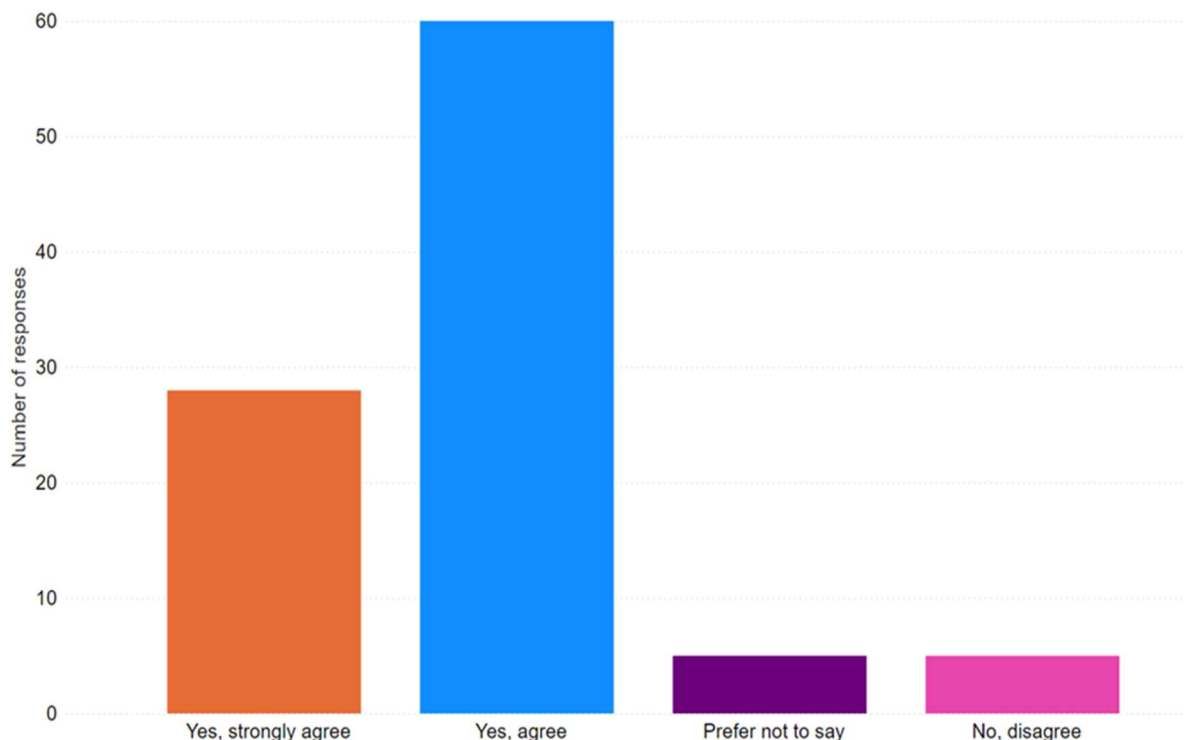
The majority of respondents agreed that the government's definition of carbon leakage reflected their understanding and responded that the risk of carbon leakage will increase or is currently happening. The risk factor for carbon leakage that most responses selected was the UK carbon price relative to other jurisdictions. Most respondents wanted the government to take measures both domestically and internationally.

Defining carbon leakage (Question 1.0)

The majority of respondents agreed that the government's definition of carbon leakage matched their understanding.

Question 1.0 asked respondents whether the government's definition of carbon leakage, outlined in the consultation, reflected their understanding of the issue.

1.0 Does government's definition of carbon leakage reflect your understanding of the issue?



There were 98 responses to the multiple choice section of this question and 63 responses to the open text section.

A large majority of respondents to this question agreed (60 responses) or strongly agreed (28 responses) that the government's definition of carbon leakage reflects their understanding of the issue.

A small number of respondents disagreed (five responses). Some of the reasons for disagreement were that:

- The definition needs to limit carbon leakage to those countries that have not committed to global decarbonisation targets. Whereas countries which have committed to global decarbonisation targets should not be treated as a carbon leakage destination by the UK as they should be held accountable by the UN
- The definition of carbon leakage needs to encompass all UK consumption emissions including from transport of goods
- The UK should adopt the Intergovernmental Panel on Climate Change (IPCC)'s definition of carbon leakage¹⁰

Other key themes from the open text responses included that:

¹⁰ The IPCC's definition of carbon leakage: "Carbon leakage is defined as the increase in CO₂ emissions outside the countries taking domestic mitigation action divided by the reduction in the emissions of these countries." https://archive.ipcc.ch/publications_and_data/ar4/wg3/en/ch11s11-7-2.html



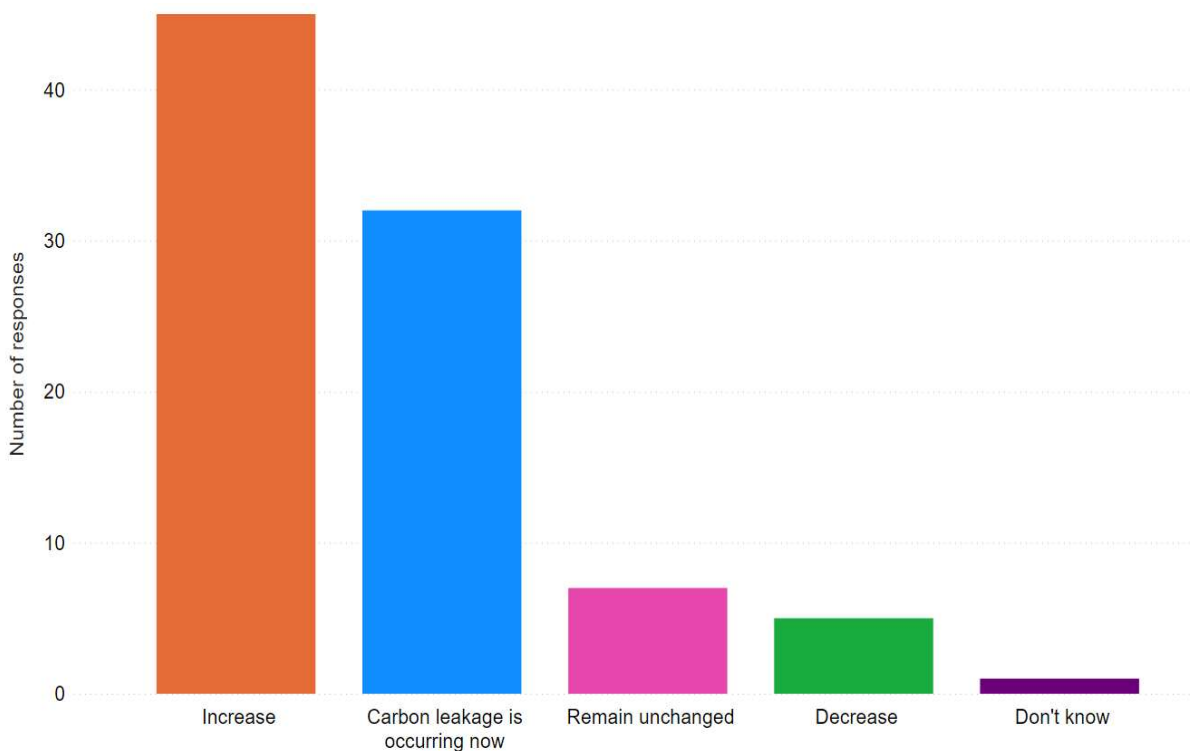
- It could be difficult to prove that climate measures have directly resulted in carbon leakage as defined by the government (20 responses). Some of these respondents suggested that the definition could cover investment and profitability, not just production; that it is hard to pinpoint carbon leakage as a sole driver of production displacement; and that the definition does not cover non-carbon pricing or regulation factors which can contribute to carbon leakage
- Respondents suggested that the definition was not precise enough (10 responses), with six of these respondents arguing that the definition should cover all greenhouse gases. The government's understanding of carbon leakage includes all greenhouse gas emissions
- Respondents suggested that carbon footprints or consumption emissions could be considered (11 responses), for example that all non-UK produced consumption emissions in the UK should count as carbon leakage (five responses) or are key to understanding carbon leakage (five responses)

Risk of carbon leakage in the UK (Question 1.1)

The majority of respondents answered that the risk of carbon leakage in the UK is likely to increase and/or that carbon leakage is occurring now.

Question 1.1 asked respondents how they believed the risk of carbon leakage was likely to change, or if carbon leakage is occurring now.

1.1 Do you believe that the carbon leakage risk is likely to



There were 90 responses to the multiple choice aspect of this question and 82 responses to the open text section.

Half of respondents answered that the risk of carbon leakage in the UK is likely to increase (45 responses). This includes five respondents from the electricity, gas, and steam sector, four from the aluminium sector, and four from the iron and steel sector.

32 respondents answered that carbon leakage is occurring now, including five respondents from the electricity, gas, and steam sector and five from the iron and steel sector. Of the respondents who answered that carbon leakage is occurring now, five also stated that it is likely to increase further.

A small number of respondents answered that the risk of carbon leakage in the UK is likely to remain unchanged (seven responses). This included respondents from the consultancy, accountancy, and legal sector, electricity, gas, and steam sector, iron and steel sector, wholesale trade, and wood and timber sector.



A small number also suggested that the risk of carbon leakage in the UK is likely to decrease (five responses). This included respondents from the fertiliser, other metals, scientific, and warehousing sectors. These respondents suggested that increased availability of low emissions alternative products in their sector could lead to decreased risk of carbon leakage.

Notable themes from the open text responses included that:

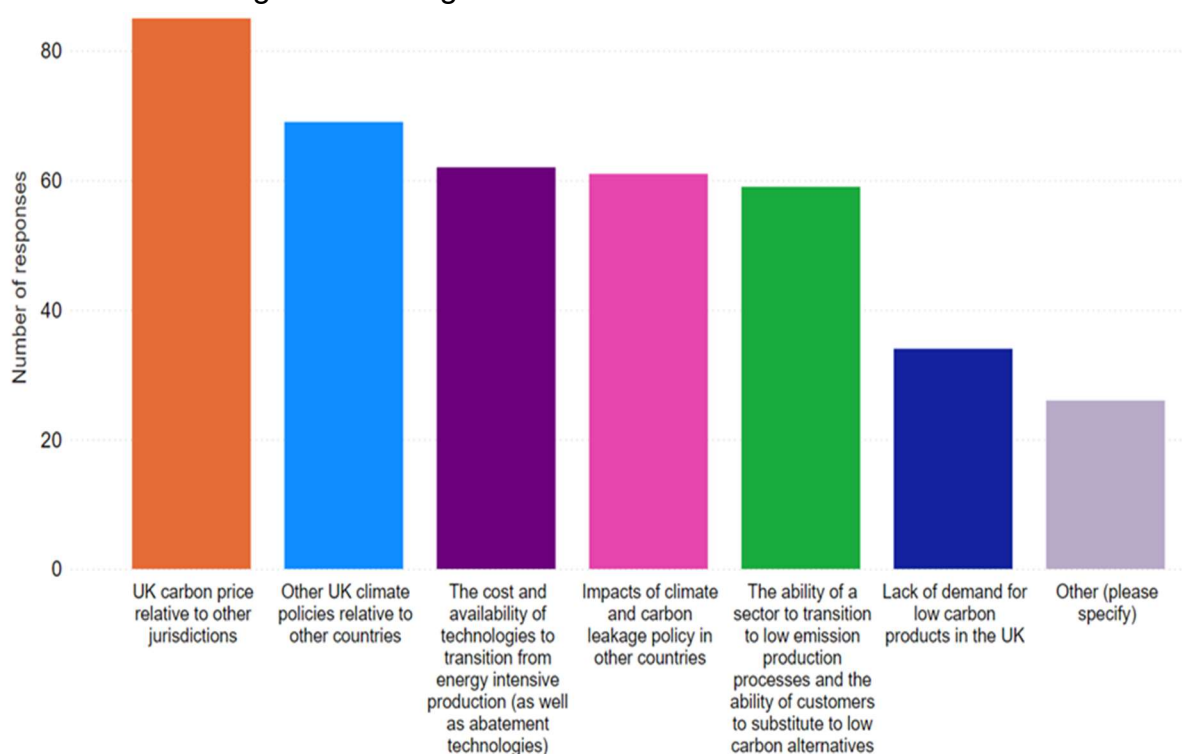
- The UK's exposure to the risk of carbon leakage was likely to increase as a result of reforms to the UK ETS cap for free allocation of allowances, known as the 'Industry Cap' (33 responses)
- The relative gap in emissions intensities between the UK and other countries is a source of carbon leakage risk (33 responses). Seven respondents suggested that supporting decarbonisation in other countries could reduce the carbon leakage risk to the UK
- Some respondents referenced approaches to decarbonisation adopted by other countries. 24 responses referenced measures adopted in the EU and/or the US to drive decarbonisation or mitigate carbon leakage risk, with four respondents suggesting that the risk of carbon leakage in the UK is raised by adoption of a CBAM by the EU
- There is a lack of evidence of carbon leakage (4 responses)

Factors contributing to the risk of future carbon leakage (Question 1.2)

Respondents suggested a range of factors contribute to carbon leakage risk, with most respondents to this question answering that the UK carbon price relative to other jurisdictions contributes to the risk of future carbon leakage.

Question 1.2 asked respondents for their views on which factors contribute to carbon leakage which the government should be looking at and should address. Respondents were able to select more than one factor from a list set out in the consultation.

1.2 What factors contribute to the risk of future carbon leakage that government should be looking at and that government should address?



There were 111 responses for the multiple choice question with the option to choose multiple factors, and 63 responses to the open text section.

The category selected by the largest group of respondents was 'UK carbon price relative to other jurisdictions' (85 responses), although there is some variation by sector. The majority of respondents from agriculture, chemicals, multiple sectors, scientific, and wood and timber sectors chose 'Other UK climate policies relative to other countries' most. Whereas cement, plastics, fertiliser and wholesale trade sectors chose the option of 'cost and availability of technologies to transition from energy intensive production (as well as abatement technologies)' most. Key themes from free text responses included:

- 51 respondents suggested that the carbon cost differential between the UK and other countries contributes to the risk of carbon leakage, with 23 responses pointing to higher carbon costs in the UK relative to no or low carbon pricing in competing

countries, whilst 28 responses highlighted the potential for reductions in UK ETS free allocation levels as a potential driver of carbon leakage risk

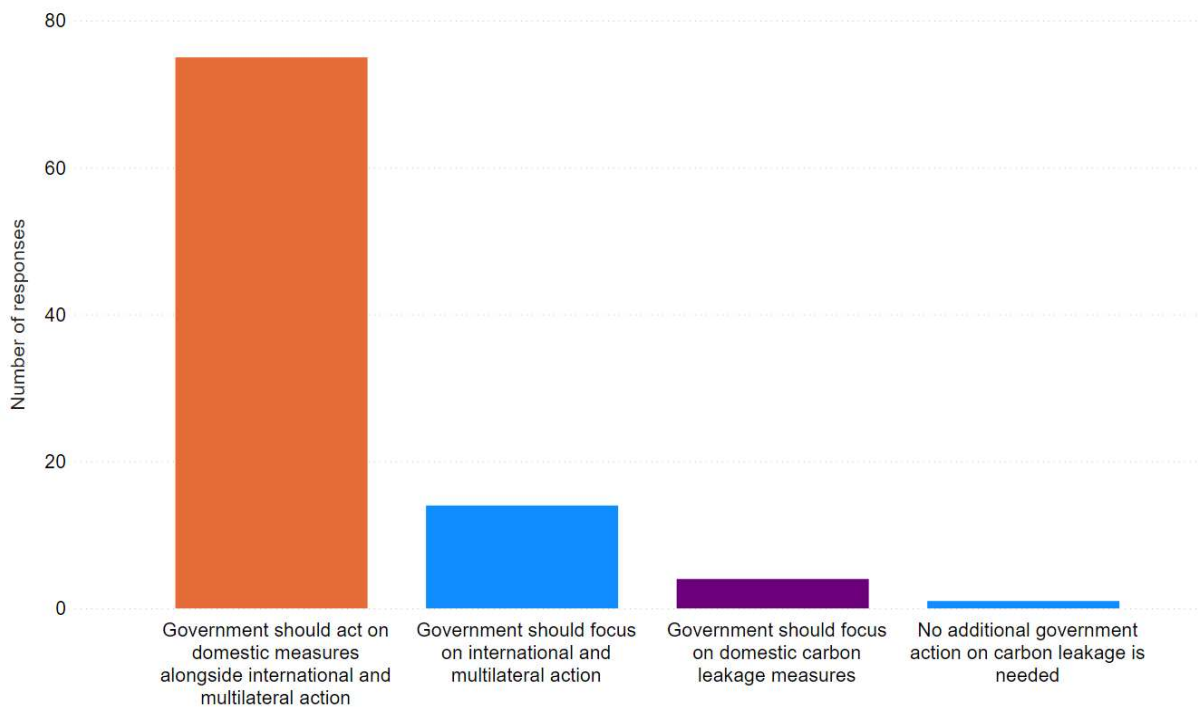
- 35 respondents suggested that there could be a lack of, or uncertain, access to decarbonisation technologies or uncertain decarbonisation trajectories for industry. In particular, 12 responses pointed to limits and costs of CCUS technology impacting ability to decarbonise and avoid carbon leakage
- 33 respondents suggested that factors beyond climate policy, such as the UK's wider economic outlook or geopolitical considerations, could impact the UK's exposure to carbon leakage risk

The government's approach to addressing carbon leakage risk (Question 1.3)

The majority of respondents to this question answered that the government should act on both domestic measures alongside international and through multilateral action, rather than just domestic or international action.

Question 1.3 asked respondents for their views on how the government should act to mitigate future carbon leakage risk.

1.3: How should the government act to mitigate future carbon leakage risk?



There were 95 responses to the multiple choice aspect of this question and 96 responses to the open text section.

A majority of respondents selected the option for the government to implement both domestic and international measures (75 responses). 14 respondents wanted the government to focus on international and multilateral action. Of the four respondents that wanted government to focus on domestic carbon leakage measures, this consisted of one response from the wood and timber industry, two from other manufacturing, and one from the aluminium sector. Notable themes from the free text responses included that:

- The government should provide domestic policy certainty to create conditions for investment in decarbonisation (85 responses referenced this theme). In particular, 58 responses within this theme said that government action could address market barriers to decarbonisation
- The government should align and coordinate carbon leakage measures with others internationally (105 responses referenced this theme). There were 57 responses that noted coordinated international action is needed to tackle climate change whilst 12 responses referenced alignment with the EU
- Domestic UK measures are necessary to supplement international action, with 55 responses referencing this theme. 37 respondents also said domestic action was needed to create a level playing field for industry
- Multilateral solutions to carbon leakage should be prioritised over unilateral measures (4 responses).
- Carbon leakage measures should form part of a wider support package to incentivise decarbonisation (32 responses).
- The government's approach to mitigating risk of carbon leakage needs to be consistent with WTO rules and the principle of common but differentiated responsibility and respective capabilities. (See chapter four for details).



Chapter 2: Carbon border adjustment mechanism

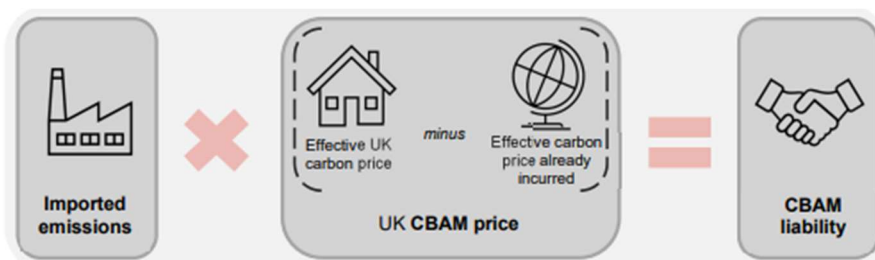
Following an analysis of the responses received, the government will implement a carbon border adjustment mechanism (CBAM) by 2027 applying a carbon price to imported goods from the following sectors: aluminium, cement, ceramics, fertiliser, glass, hydrogen, iron, and steel. The CBAM will be applied to Scope 1, Scope 2 and select precursor product emissions embodied in imported products to ensure comparative coverage with the UK Emissions Trading Scheme. The carbon price will adjust for free allowances and other reductions to the carbon price paid domestically, and will account for explicit carbon prices in other jurisdictions. Further design and delivery of the CBAM will be subject to further consultation in 2024.

Chapter overview

Chapter 2 of the consultation set out the following:

- A carbon border adjustment mechanism (CBAM) could be an appropriate policy measure to mitigate carbon leakage risk to the UK in the future
- A CBAM would apply to imported products to ensure they are subject to a comparable carbon price to that incurred by UK-based production
- A CBAM would reflect the carbon emitted at production together with any gap between the carbon price applied in the country of origin and the carbon price is incurred by UK-based production

Determining UK CBAM liability



The consultation sought views on six overall topics to inform development of government policy on a carbon border adjustment mechanism. These were:

- Sectoral targeting within a CBAM (Questions 2.1-2.4)
- Emissions measurement within a CBAM (Questions 2.5-2.8)
- Emissions scope within a CBAM (Questions 2.9-2.19)
- Calculating the CBAM price (Questions 2.20-2.24)
- Implementing a CBAM (Questions 2.25-2.28)
- Timing for introducing a CBAM (Question 2.29)

Summary of responses to this chapter

Questions in Chapter 2 were answered by 132 respondents in total, with the largest group of respondents being industry, business, or trade bodies with 81 respondents. Industry respondents covered all 22 sectors responding to the consultation overall.

Sectoral targeting within a CBAM (Questions 2.1 - 2.4)

The consultation set out that the purpose of a UK CBAM would be to mitigate the risk of carbon leakage resulting from domestic carbon pricing and, therefore, the government would be minded to only consider a potential CBAM for products in sectors subject to the UK ETS in the first instance. Given a CBAM would be a complex measure, the consultation also set out that a CBAM may not be deemed suitable for products in all sectors subject to the UK ETS and at risk of carbon leakage. Furthermore, it set out that a CBAM should be used in a proportionate and specific manner, to target sectors most at risk of carbon leakage.

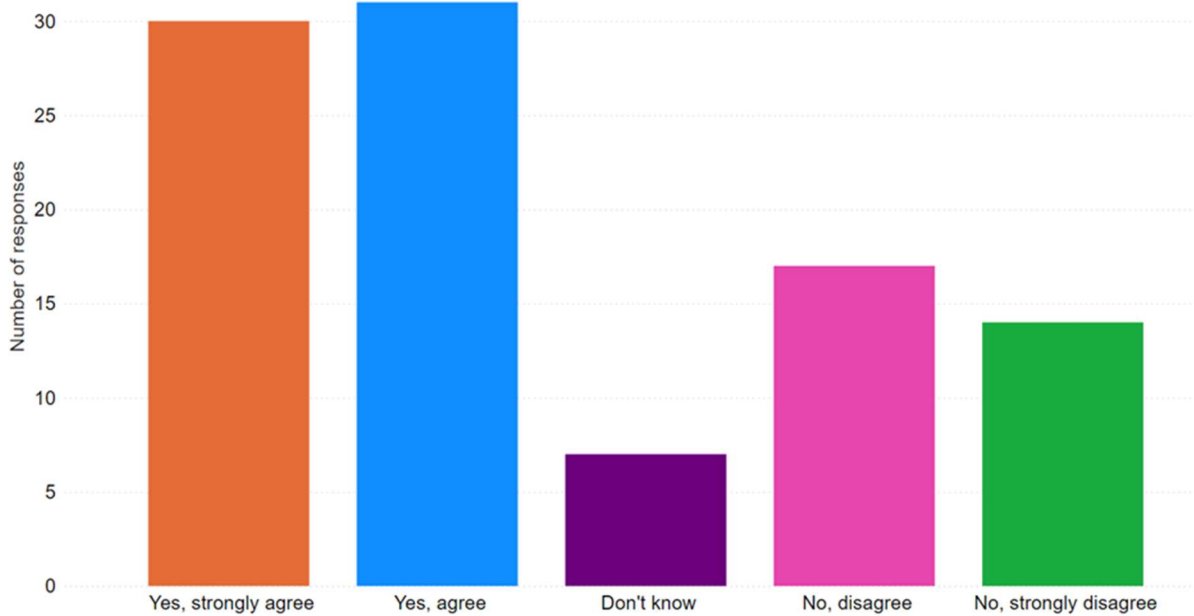
A majority of responses agreed that it is logical that a UK CBAM should only apply to products in sectors subject to the UK ETS, referencing the importance of coherence between a UK CBAM and UK carbon pricing policy, and where those sectors are at risk of carbon leakage.

Question 2.1 asked respondents whether they agreed that a CBAM should only apply to products in sectors that are subject to the UK ETS.

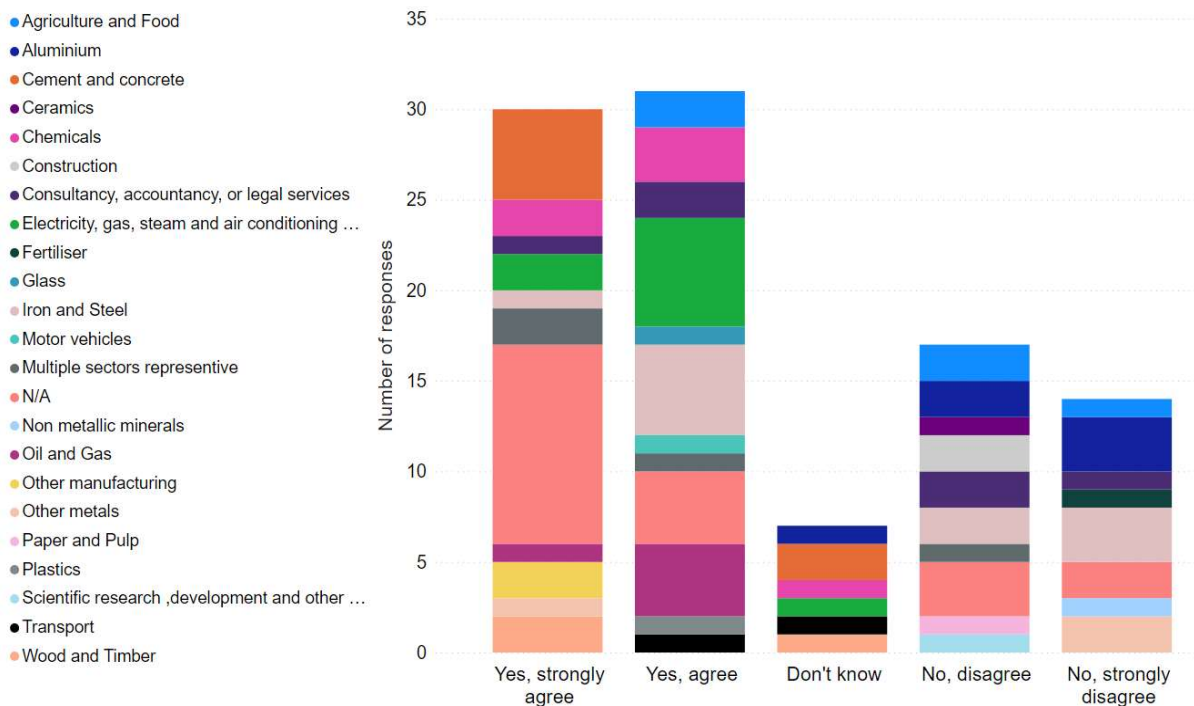
The government received 99 responses to the multiple choice element of this question and 100 responses to the open text section. Within responses to the multiple choice element of the question, 30 strongly agreed that a CBAM should only apply to products in sectors that are subject to the UK ETS, whilst 31 agreed, seven did not know, 17 disagreed and 14 strongly disagreed.



2.1: Should a CBAM only apply to products in sectors that are subject to the UK ETS?



Sectoral breakdown of responses to Question 2.1.



When explaining their reasoning, the most commonly referenced explanations were: the need for coherence with UK carbon pricing policy (64 responses); that implementation would be better suited to sectors currently subject to the UK ETS who would better understand the operation of a new scheme (20 responses); consistency with WTO rules (10 responses); and coherence with the EU CBAM (16 responses).

Other responses (24) suggested widening the scope, either immediately, or as part of a phased implementation. Examples of other products suggested for inclusion within a UK CBAM were hydrogen (citing that this is part of the EU CBAM design), critical minerals (which the respondent noted may face future risk of carbon leakage), aviation fuels and downstream products which use raw materials subject to the UK ETS, agriculture and end-to-end food systems, electronics and textiles.

Of the specific 17 responses which disagreed and the 14 which strongly disagreed that a CBAM should only apply to products in sectors that are subject to the UK ETS, the majority then suggested that a CBAM should apply to all UK ETS sectors, or only apply to a sub-section of UK ETS participants when asked to explain their reasoning. A minority of responses, then suggested that a UK CBAM should also apply to downstream goods in those sectors.

When asked about sectors where a CBAM would *not* be effective or feasible, the most commonly listed sectors were electricity, agri-food, complex goods and industrial fasteners, while 18 responses reiterated that all carbon intensive products should be included.

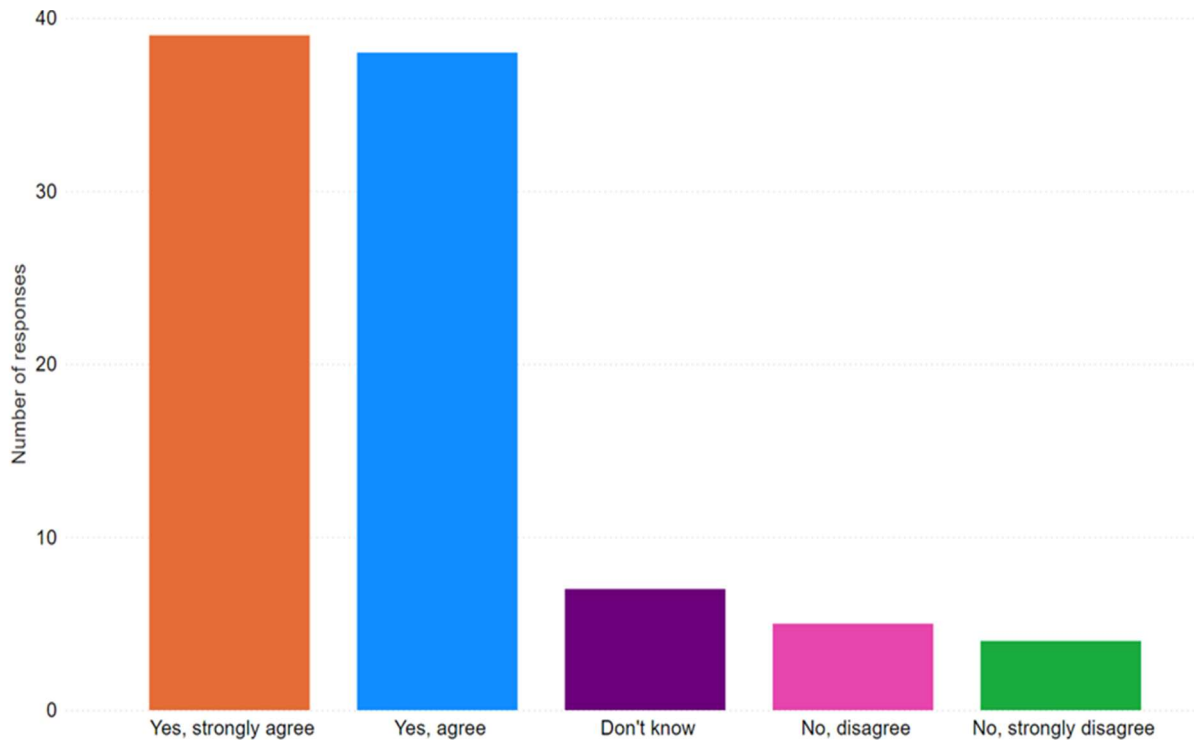
Question 2.2 asked respondents if there are products in their sector where a CBAM would not be effective or feasible.

The government received 55 responses to this question. 18 responses stated that all carbon intensive products should be included, whilst 33 responses identified a specific sector where a CBAM would not be effective or feasible. The most commonly listed sectors were: electricity; agri-food; industrial fasteners (e.g. screws), and complex 'downstream' goods where it would 'be almost impossible to assign a standard carbon cost' like automobiles. Further consideration of treatment of 'downstream' goods was given in response to Chapter Four of the consultation. On electricity, responses noted the complexity of measuring carbon leakage and likelihood of low risk of carbon leakage because of proximity to the EU, where electricity is already subject to a comparable carbon price. These responses were of the view that issues would be better addressed through alignment of carbon taxation and linking the UK and EU ETS. Other products identified by some respondents as potentially not being suitable, included: forging products; asphalt; container glass; scrap aluminium; certain steel components; and timber.

The majority of responses agreed that a UK CBAM should be designed to potentially cover other products in the future, with a majority of open text responses pointing to the changing risk of carbon leakage.

Question 2.3 asked respondents if they agreed whether, if the scope of a CBAM is initially limited, it should be designed to potentially cover further products in future. The government received 93 responses to the multiple choice element of this question and 91 responses to the open text section.

2.3: If the scope of a CBAM is initially limited, should it be designed to potentially cover other products in future?



Of the 93 responses to the multiple choice element of this question, the majority of responses agreed that there should be the option for a UK CBAM to expand over time as carbon leakage risk changes.

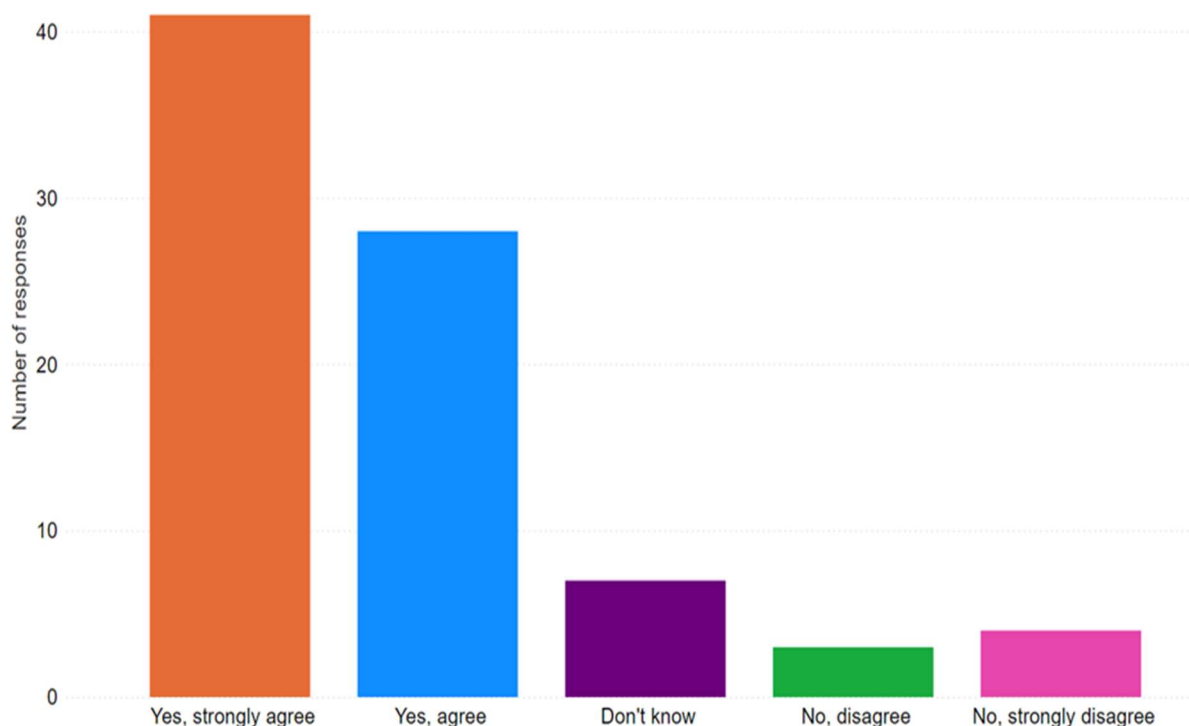
In response to the open text element, 55 responses noted the need for any expansions to be based on clear evidence of carbon leakage risk and that the government should take a sector by sector approach. In terms of how any changes are made, some responses noted that the government should set a clear direction of travel, seek to make any changes in consultation with impacted sectors, and set out a clear process for expanding scope to new products. Responses also noted that a CBAM may need to adjust in response to international policy change, including to ensure alignment with the EU CBAM.

The majority of responses agreed that the importer should be responsible for meeting all CBAM requirements. However, some responses did raise concerns around potential admin burdens for the importer.

Question 2.4 asked respondents whether the importer should be responsible for meeting all CBAM requirements, and if not, then who should be.

The government received 83 responses to the multiple choice element of this question and 63 responses to the open text section.

2.4: Should the importer of products covered by a CBAM be responsible for meeting all CBAM requirements?



There were 83 responses to the multiple choice element of this question, of which 41 strongly agreed, 28 agreed, seven did not know, four strongly disagreed and three disagreed. Of those who agreed, the majority of responses (49) noted that it would make most sense for the importers to meet the requirements, and they must also be the ones to demonstrate that products meet CBAM requirements. Responses did, however, identify concerns around potential adverse impacts on importers given the additional burdens that this would impose.

Emissions measurement within a CBAM (Questions 2.5 - 2.8)

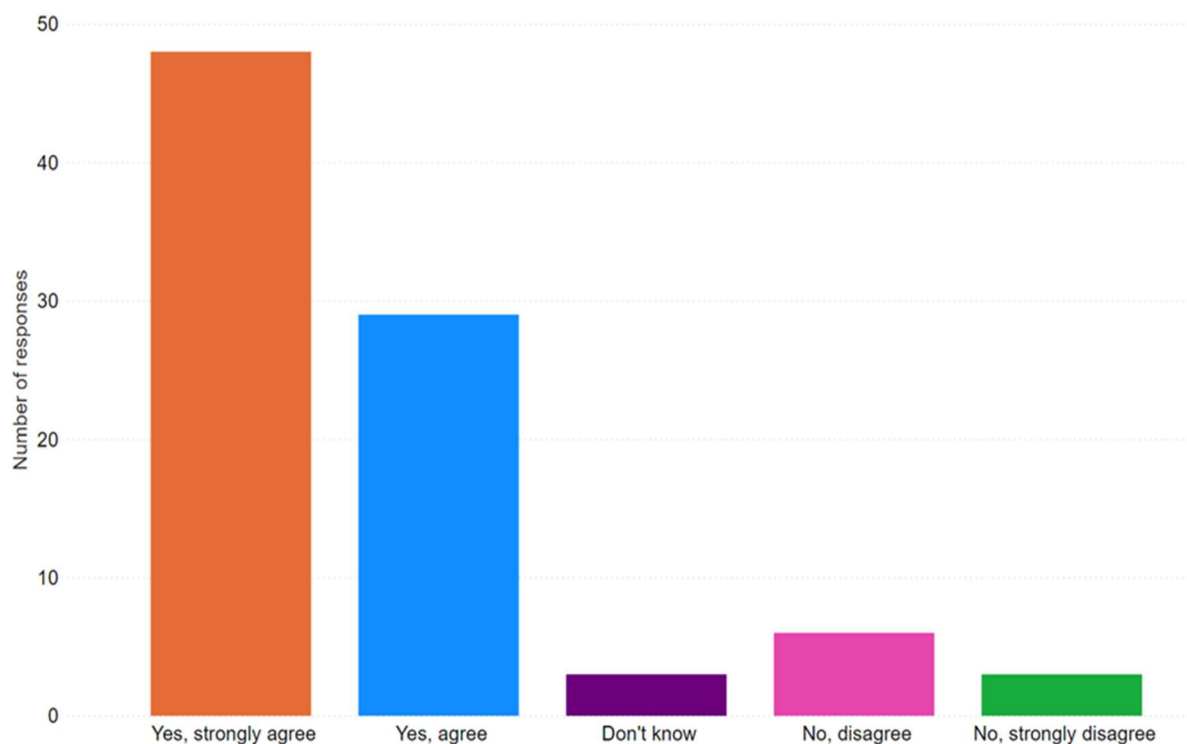
This section sought views on which emissions embodied in products produced outside of the UK would be relevant for a UK CBAM, how data on those emissions should be collected and assessed, and who should be responsible for providing this information. The consultation set out that within a potential UK CBAM, a price would be applied to these relevant emissions embodied within imported products to reflect any difference between the carbon price paid by the trading partner where the goods were produced, and the carbon price which would be paid for like goods produced in the UK. These questions complement the exploration of emissions reporting in Chapters 6 and 7 of the consultation.

The majority of responses agreed that importers should be required to provide accurate, independently verified emissions data.



Question 2.5 asked respondents if importers should be required to provide accurate, independently verified emissions data for the products they import, where available. The government received 89 responses to the multiple choice element of this question and 87 responses to the open text section.

2.5: Should importers be required to provide accurate, independently verified emissions data for the products they import where available?



Most responses agreed, or strongly agreed (77 responses) with the prospect of requirements for importers to provide accurate, independently verified emissions data for products they import where possible.

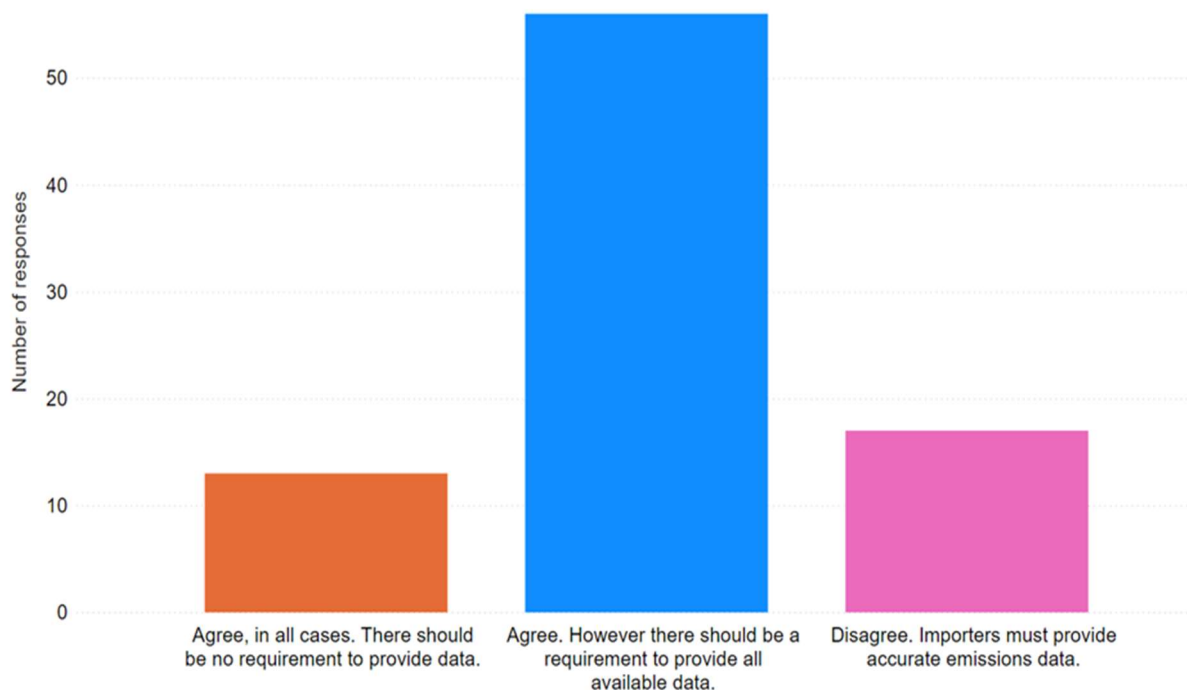
When asked to explain their reasoning, respondents cited the need to ensure environmental integrity of reporting and to ensure equal treatment of partners (46 responses). Respondents (18 responses) suggested using existing external mechanisms from other carbon pricing systems or industry level standards. However, many (36 responses) raised concerns around the risk of administrative burdens, difficulty for importers to provide data and risks around data confidentiality. The issue of providing data was also raised in response to Chapter Four of the consultation with regard to compliance challenges for developing countries.

The majority of respondents agreed that there should be an option for importers to use default emissions values *in addition to* a requirement to provide all available data.

Question 2.6 asked respondents whether importers should be able to use default values where they do not or cannot provide accurate emissions data.

The government received 87 responses to the multiple choice element of this question and 89 responses to the open text section.

2.6: Should there also be an option for importers to use default values, where they do not or cannot provide accurate emissions data?



13 responses agreed that in all cases there should also be an option for importers to use default values and considered that there should be no requirement to provide data. 56 responses agreed that in all cases there should also be an option for importers to use default values and considered that there should be a requirement to provide all available data. 17 responses disagreed and suggested that importers must provide accurate emissions data.

When asked to explain their reasoning, several themes were identified within responses. Half (46 responses) commented on the stringency of default values – within this, views varied on whether default values ought to be stringent to encourage accurate reporting or whether they ought to reflect emissions as accurately as possible using available data. A minority of responses (32) suggested that the inclusion of default values would mean importers would rely on default values to hide high embodied emissions, 'game the system' and reduce costs.

Respondents raised a variety of additional factors for the government to consider including encouraging the use of accurate emissions over default values, difficulties when setting default values, and the need for default values to be fair.

Question 2.7 asked respondents whether there are additional factors not captured in Chapter 2 of the consultation which the government should consider for the calculation of default values.

The government received 50 responses to this open text question. Within those responses, 15 responses said that the use of accurate emissions data should be



encouraged over a reliance of default values, 10 responses raised the difficulty of setting default values for specific sectors due to their features (seven of these responses related to the electricity sector), and nine responses referred to default values needing to be fair or to be compatible with international trade law.

On the monitoring, reporting and verification of emissions, respondents noted the potential for international alignment, alongside challenges around compliance and reporting burdens.

Question 2.8 asked respondents if there are additional challenges or opportunities around the monitoring, reporting and verification of emissions that were not considered in Chapter 2 of the consultation.

The government received 55 responses to this open text question. The most frequent themes within those responses were compliance, audit and the standardisation of methodologies (19 responses), the potential for international alignment (18 responses) and that emissions monitoring, reporting and verification may be difficult or burdensome to calculate (18 responses). Further concerns over reporting challenges for countries at different stages of development to the UK were raised in response to Chapter four of the consultation.

Emissions scope within a CBAM (Questions 2.9 - 2.19)

Emissions embodied in imported products come from different sources, parts of the supply chain and production processes. On this basis, emissions embodied in imports can be categorised into Scopes 1, 2, and 3. In this section of the consultation, the government sought to better understand the value in seeking to account for each of these categories of emissions in UK imports, and how evidence of these could be gathered on a product level basis for use in the determination of a CBAM liability. Scope 1 and 2 emissions were also referred to as 'direct' and 'indirect' emissions by respondents.

Scope 1

More than half of respondents suggested that importers should provide accurate Scope 1 emissions data.

Question 2.9 asked respondents what data UK importers could provide for Scope 1 emissions embodied within imported products on a product basis.

The government received 62 responses to this open text question. Around half (34 responses) were of the view that importers should provide accurate Scope 1 emissions data for the imported products. Around a third (19 responses) noted that complexity of the process would be a key issue – with a focus on making any reporting requirements as straightforward or easy to comply with as possible. Some (14 responses) suggested that using existing international standards and data sources could support with this.

A majority of respondents suggested that default values could be used as an alternative to accurate emissions data, if required, whilst a third of

respondents suggested the use of existing data including Environmental Product Declarations (EPDs).

Question 2.10 asked respondents which alternative data sources the government would need to consider when determining Scope 1 imported emissions on a product basis if data cannot be provided by an importer.

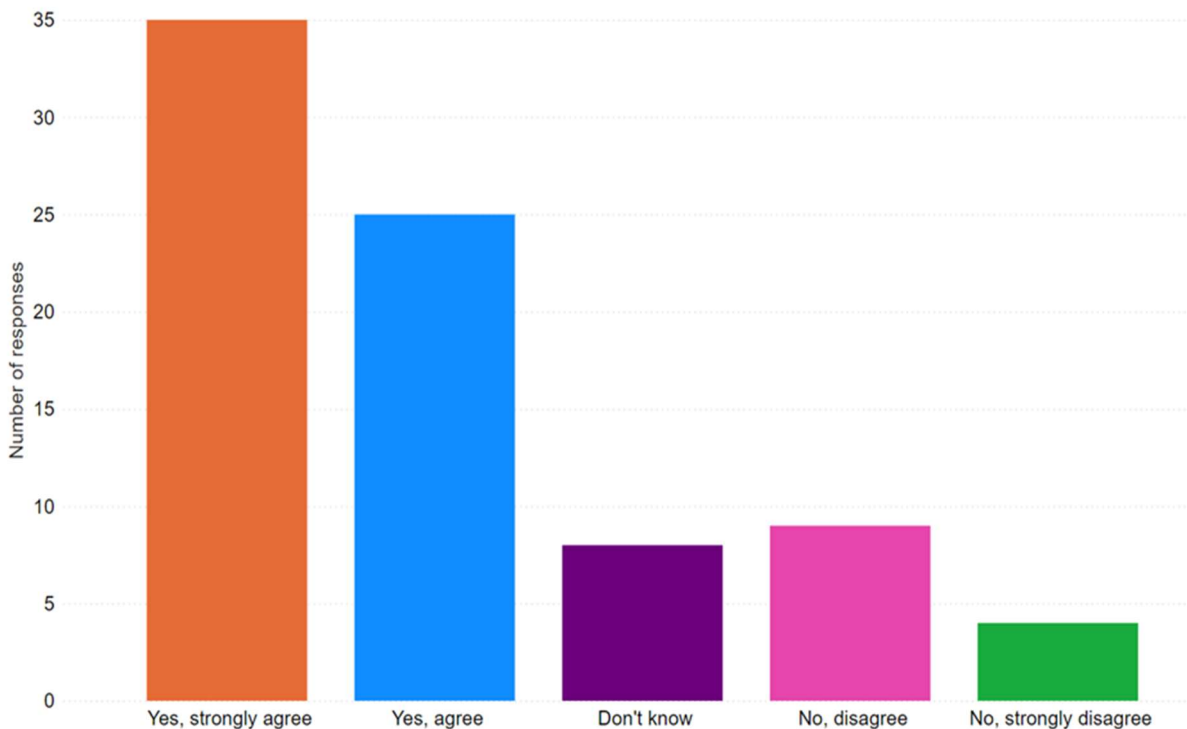
The government received 46 responses to this open text question. Two thirds (29 responses) suggested that where the importer cannot provide accurate Scope 1 data, the government should provide default values which could be substituted, and one third (16 responses) noted the use of existing data returns such as Environmental Product Declarations (EPDs). Some (11 responses) did not think the government should consider alternative data sources – either because it would be too complex, or because the responsibility for providing verified emissions should lie with the importer.

Scope 2

The majority of responses agreed that a CBAM should be applied to embodied Scope 2 emissions.

Question 2.11 asked if respondents agreed or disagreed that a CBAM should be applied to Scope 2 emissions embodied within imported products.

2.11: Do you agree or disagree a CBAM should be applied to Scope 2 emissions embodied within imported products?



The government received 81 responses to the multiple choice element of this question and 78 responses to the open text section. The majority of responses agreed that a CBAM should be applied to Scope 2 emissions embodied within imported products within scope of a CBAM.



When asked to explain their reasoning, several main themes were identified within responses. The most common theme identified within responses (55) was that the inclusion of Scope 2 emissions supports the effectiveness of a CBAM in mitigating the risk of carbon leakage. Some (18 responses) noted the complexity of providing information on Scope 2 emissions, since those emissions are not directly owned by the manufacturer exporting the good. Some (16 responses) also raised the need to consider international alignment of scope, including with the EU CBAM. A minority (seven responses) said Scope 2 emissions should only be included or considered at a later date, to allow a CBAM to be established.

A majority of responses suggested it should be the responsibility of the importer to provide accurate Scope 2 emissions data.

Question 2.12 asked respondents what data UK importers could provide on Scope 2 emissions embodied in imported goods.

The government received 60 responses to this open text question. Two thirds of responses (39) stated that it should be the responsibility of the importer to provide accurate emissions data, some responses (16) suggested that existing international data could be of use and some responses (15) suggested that the government would need to provide data or default values. A minority of responses (four) concluded that the provision of data on Scope 2 emissions was too complex.

Just under half of responses suggested that government ought to use default values to determine Scope 2 emissions if importers are not able to provide accurate data.

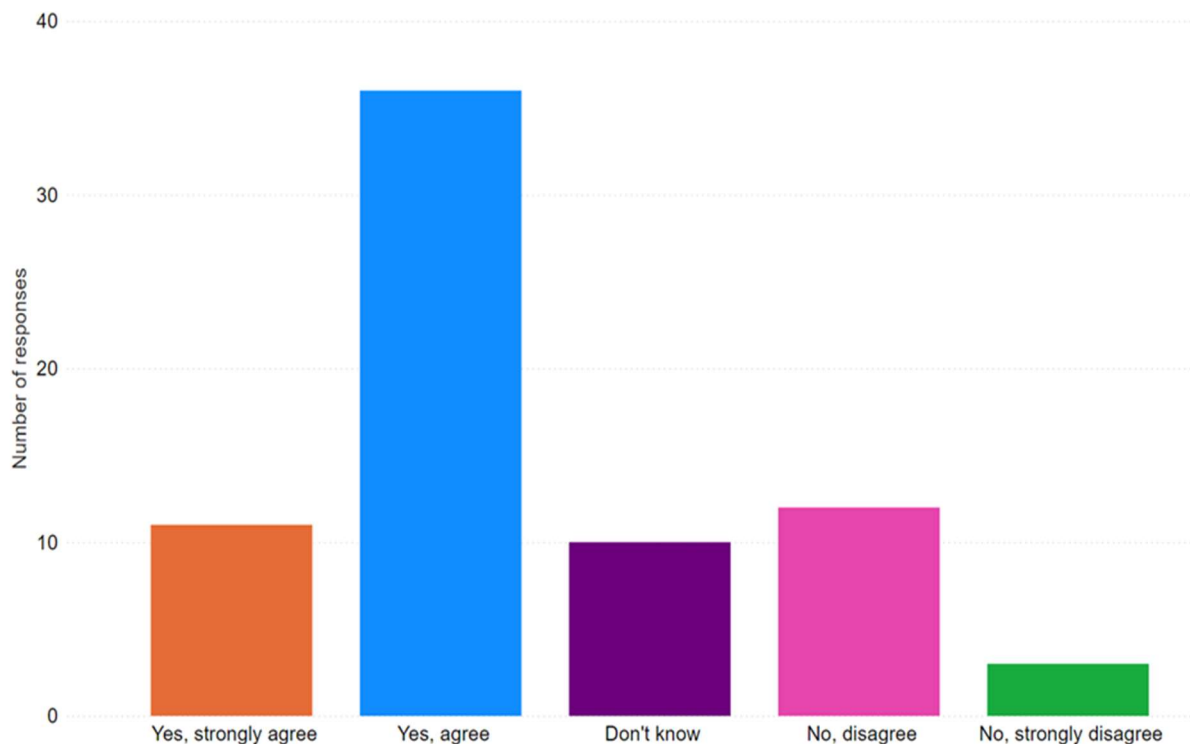
Question 2.13 asked respondents which alternative data sources government would need to consider when determining Scope 2 imported emissions on a product basis if importers cannot provide these data.

The government received 45 responses to this open text question. Just under half (22 responses) suggested that the government would need to determine Scope 2 emissions using default values, whereas others (14 responses) noted that existing data sources could be of use – including Environmental Product Declarations and Eurostat.

The majority of responses agreed that the government should consider the use of product level electricity ‘content’ benchmarks and country level averages to calculate Scope 2 emissions.

Question 2.14 asked respondents whether the government should consider the use of product level electricity ‘content’ benchmarks and country level emissions averages to calculate Scope 2 emissions from purchased electricity.

2.14: Should the government consider the use of product level electricity ‘content’ benchmarks and country level averages to calculate Scope 2 emissions from purchased electricity?



The government received 72 responses to this multiple choice question. Of these responses, 11 strongly agreed, 36 agreed, 10 did not know, 12 disagreed and three strongly disagreed. Therefore, the majority of responses agreed that the government should consider the use of product level electricity ‘content’ benchmarks and country level averages to calculate Scope 2 emissions from purchased electricity.

More than half of responses suggested that country level Scope 2 average emissions would need to be calculated jointly with other countries or by using existing international data sets.

Question 2.15 asked respondents how the government should calculate country level Scope 2 average emissions if these are used.

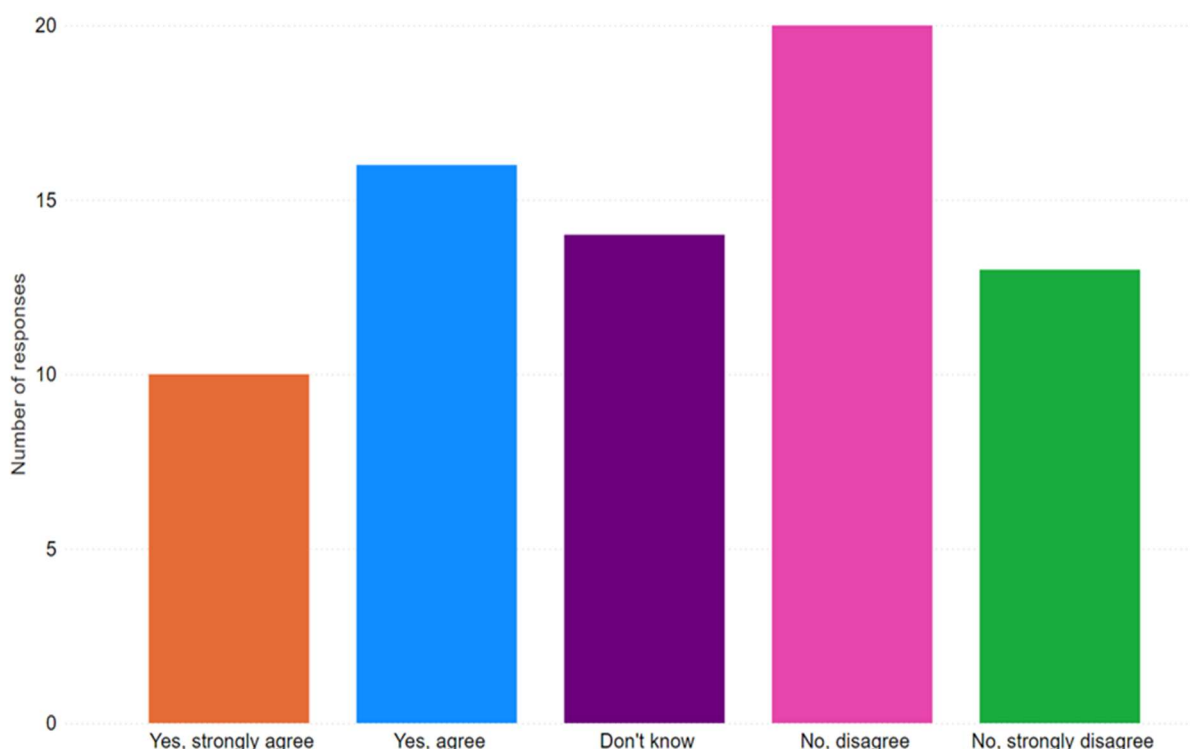
The government received 49 responses to this open text question. Of these, 34 responses suggested that country level Scope 2 average emissions would need to be calculated jointly with other countries or by using existing international data sets. A further 13 responses suggested that Scope 2 average emissions should not be used as this would not effectively recognise where action has been taken to reduce electricity emissions intensity. Eight responses noted particular issues for the calculation of Scope 2 average emissions including the treatment of renewables and Power Purchase Agreements. Four responses noted the importance of alignment with the EU CBAM.

Scope 3

Responses were mixed and there was not majority agreement for the application of a CBAM to Scope 3 emissions embodied within imported products where indirectly covered by the UK ETS.

Question 2.16 asked respondents whether a CBAM should be applied to the Scope 3 emissions embodied within imported products that are indirectly covered by the UK ETS.

2.16: Should a CBAM be applied to the Scope 3 emissions embodied within imported products that are also indirectly covered by the UK ETS?



The government received 73 responses to the multiple choice element of this question and 66 responses to the open text section. There was not majority agreement for the application of a CBAM to Scope 3 emissions embodied within imported products, where these are indirectly covered by the UK ETS.

Within written responses, 39 responses focused on Scope 3 emissions being too complex to effectively measure or share information on for the purposes of a CBAM. However, 29 responses noted that the inclusion of Scope 3 emissions in a CBAM, where those emissions are indirectly covered by the UK ETS, would improve the effectiveness of a CBAM to mitigate against carbon leakage risk and ensure equal treatment between goods manufactured in the UK and abroad. 13 responses suggested that government ought to consider the inclusion of Scope 3 emissions in a CBAM at a later date. A minority (seven responses) noted the importance of aligning with EU CBAM plans, while six respondents suggested that the inclusion of Scope 3 emissions would unfairly disadvantage imports.

There were a limited number of responses on the data UK importers could provide on Scope 3 emissions, though over half of responses pointed towards the use of existing datasets or securing emissions data from upstream producers.

Question 2.17 asked respondents what data UK importers could provide for Scope 3 emissions embodied within imported products on a product basis.

The government received 37 responses to this open text question. Of these responses, 17 suggested using existing data sets or securing emissions data from upstream producers. 15 responses noted that whilst data on Scope 3 emissions could be provided, this would likely be based on estimates, or that the data availability will vary depending on the country of origin. Nine respondents noted that the reporting of Scope 3 emissions would be particularly difficult.

There was a particularly low response rate on alternative data sources which the government could use to determine Scope 3 emissions. Of those received, a large majority suggested that existing datasets, supply chain information or default values ought to be considered.

Question 2.18 asked respondents which alternative data sources the government would need to consider to determine Scope 3 imported emissions on a product basis if this data cannot be provided by an importer.

The government received 24 responses to this open text question. Of these responses, 18 mentioned that the government could source Scope 3 emissions data from either existing data sets or supply chain information, or noted that default values would need to be provided. Five responses suggested that there are no viable alternatives to accurate emissions data for Scope 3 emissions.

More than one third of responses noted the importance of enabling compliance and minimising impacts of circumvention on the inclusion and measurement of emissions.

Question 2.19 asked respondents to comment on the inclusion and measurement of emissions embodied in imported products as part of a CBAM.

The government received 33 responses to this open text question. Of these, 14 responses noted that enabling compliance and minimising the impacts of circumvention were the most important factors to consider when setting rules for emissions scope and measurement. Eight responses suggested that an alternative approach to considering embodied emissions would be preferable, with six of these responses referring to the use of Environmental Product Declarations/ lifecycle emission assessments approach (instead of Scopes 1, 2 and 3). A further six responses noted the importance of aligning with other schemes – particularly the EU CBAM.



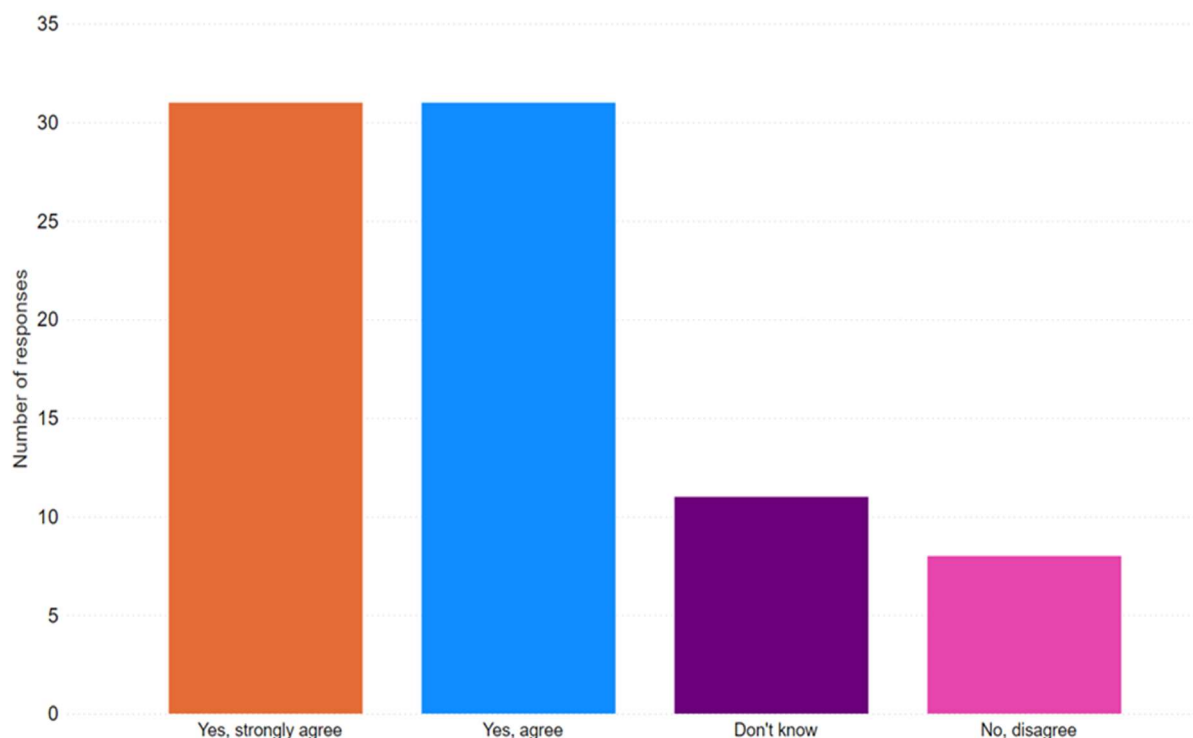
Calculating the CBAM price (Questions 2.20 - 2.24)

In the UK, the carbon price is paid on the final emissions of production regardless of the wider regulatory or non-pricing carbon reduction measures implemented to reduce those emissions. The consultation set out that a CBAM would ensure that imports are treated in an equivalent manner to domestic production by applying a CBAM price only to residual emissions. This section of the consultation considered how a UK CBAM price could be calculated using the differential between the explicit effective carbon price in the UK and the country of origin.

A majority of responses agreed that a CBAM should apply a price comparable to the domestic carbon price paid accounting for discounts.

Question 2.20 asked respondents if the price applied by a CBAM should be comparable to the *effective* domestic carbon price paid, including accounting for any discounts available through free allowances or compensation.

2.20: Should the price applied by a CBAM be comparable to the effective domestic carbon price paid, including accounting for any discounts available through free allowances or compensation?



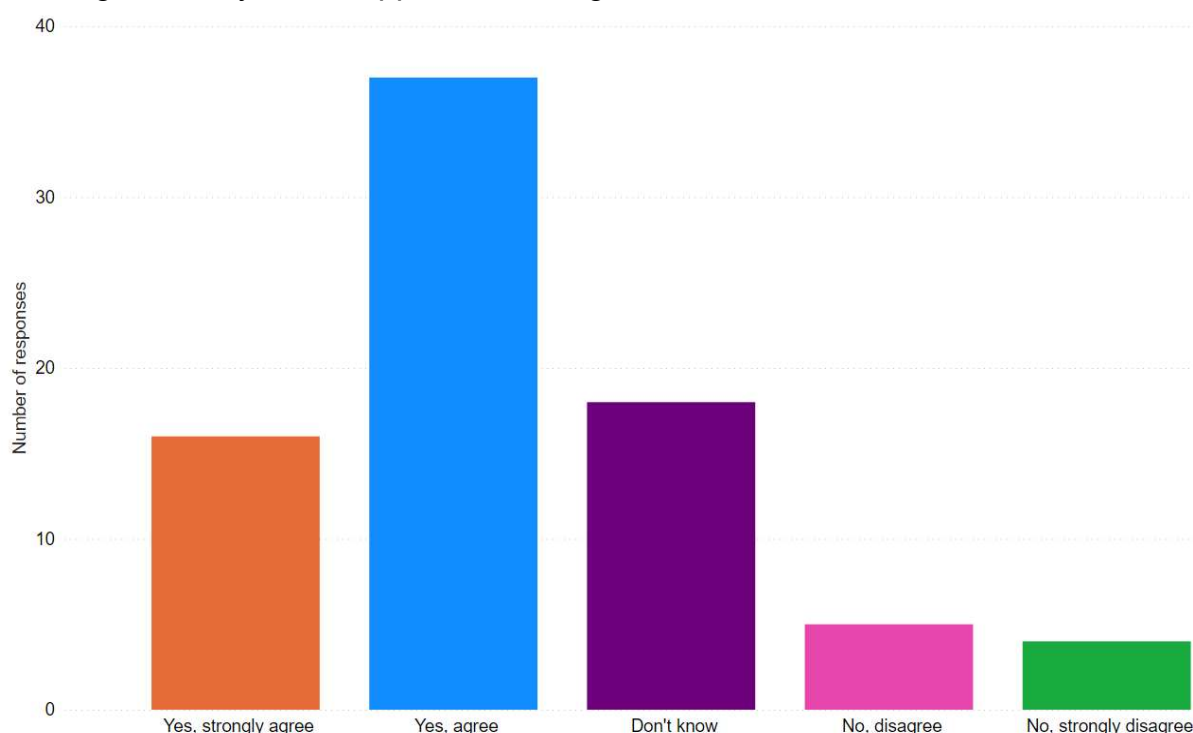
The government received 81 responses to the multiple choice element of this question and 65 responses to the open text section. Of the responses to the multiple choice element of this question, the majority of responses agreed that a CBAM should apply a price comparable to the domestic carbon price paid, including accounting for any discounts. Within written responses to the open text element, a key theme identified (54 responses) was the importance of a CBAM price having parity with the UK carbon price in order to ensure the equal treatment of imports with domestically produced goods, and to ensure

compliance with WTO rules. 27 responses raised questions about how the effective carbon price may be calculated.

A majority of responses agreed that a CBAM price should track the prevailing UK ETS price.

Question 2.21 asked respondents if the price applied by a CBAM should track the prevailing UK ETS price throughout the year, as opposed to being set at a fixed annual rate.

2.21: Should the price applied by a CBAM track the prevailing UK ETS price throughout the year, as opposed to being set at a fixed annual rate?



The government received 80 responses to the multiple choice element of this question and 71 responses to the open text section. Of the responses to the multiple choice element of this question, the majority of responses agreed that a CBAM price should track the prevailing UK ETS price.

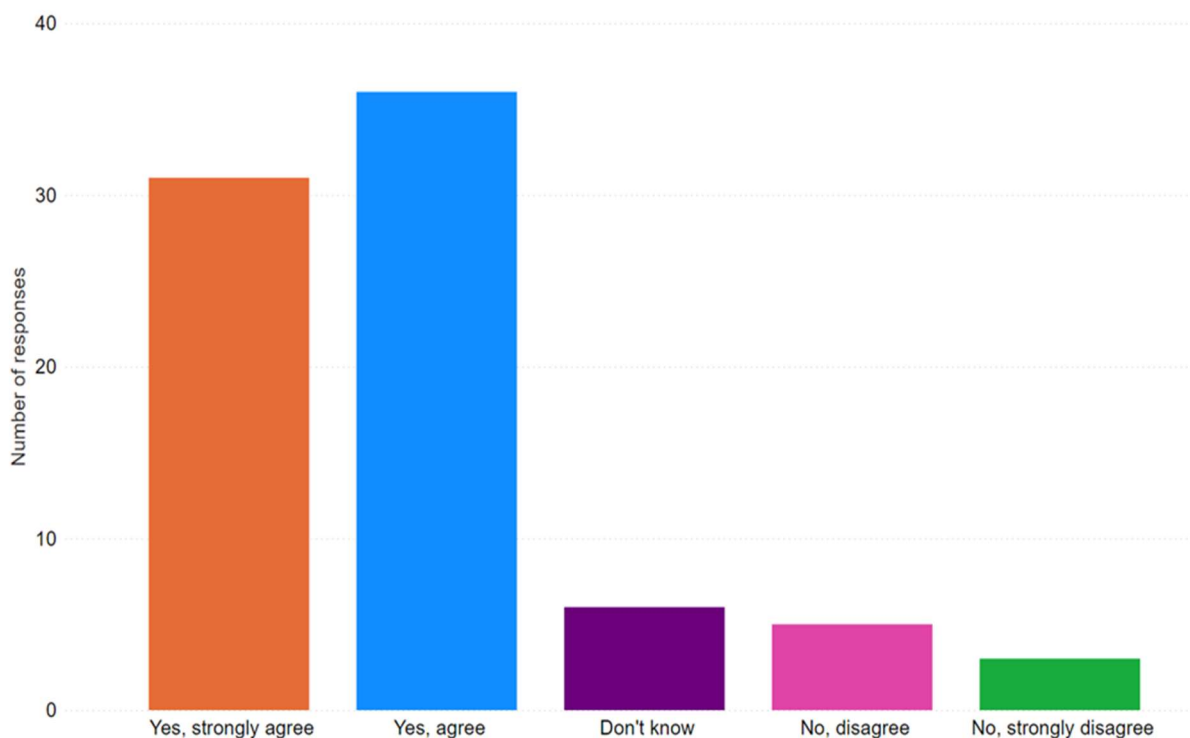
Within the open text element to this question, the most common theme explored (52 responses) was the option of tracking auction prices, with a focus on ensuring fairness. Other responses suggested that whilst the tracking of prevailing UK ETS prices throughout the year may be theoretically optimal, this would increase compliance difficulties. In line with this, 14 suggested an annual price and nine responses favoured a monthly or quarterly price.

A majority of responses agreed that the CBAM price should be based on the value of the effective price differential between the UK and where the good was produced.



Question 2.22 asked respondents whether the price applied by a CBAM to imported products should be based on the value of the effective carbon price differential between the UK and the country where that good was produced.

2.22: Should the price applied by a CBAM to imported products be based on the value of the effective carbon price differential between the UK and the country where that good was produced?



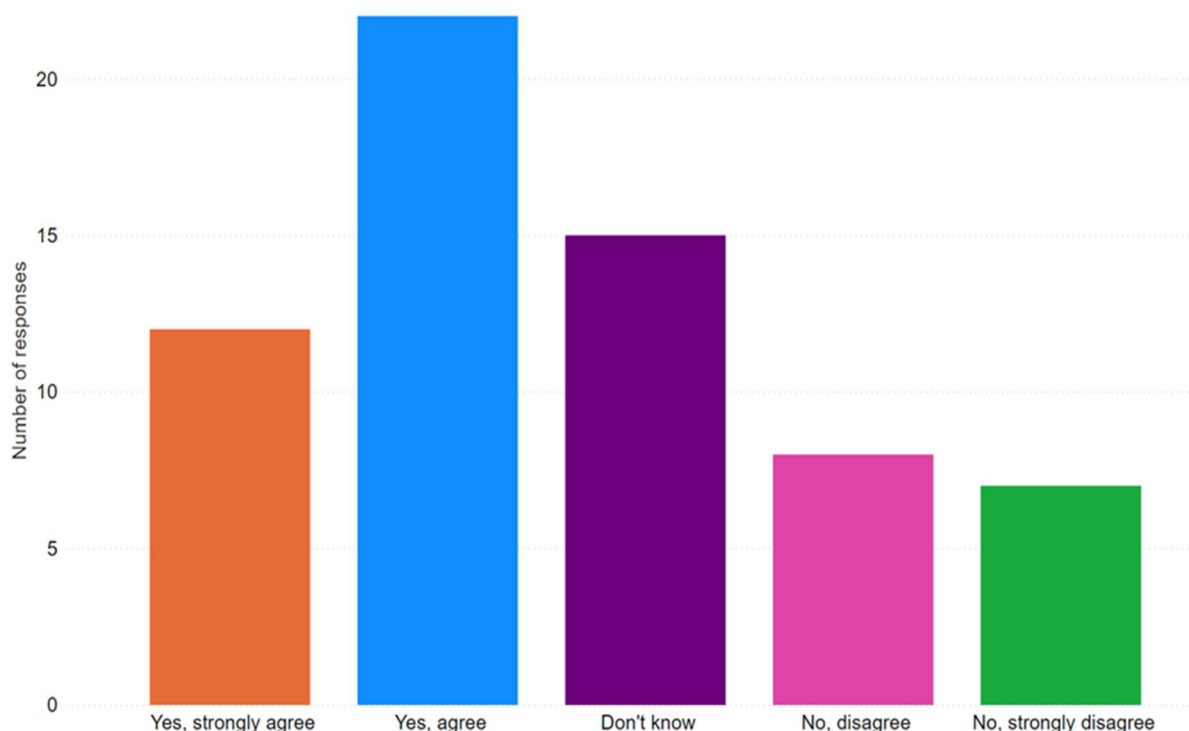
The government received 81 responses to the multiple choice element of this question and 71 responses to the open text section. Of the responses to the multiple choice element of this question, the majority agreed that a CBAM price should be based on the value of the effective price differential between the UK and where the good was produced.

When asked to explain their reasoning, the most common theme (52 responses) was fairness and WTO compliance: ensuring that where a carbon price has already been paid that is reflected in the CBAM liability, and ensuring that where relief from that price has been given that is also reflected. Other themes within responses included the complexity of calculating an effective carbon price (38 responses) and concerns that accounting only for 'explicit' and not 'implicit' carbon would be unfair to countries who have taken different policy routes to decarbonise (eight responses).

A majority of responses agreed that it would be practicable for importers to provide information on the effective carbon price already paid in the originating country.

Question 2.23 asked respondents if it would be practicable for importers to provide information on the effective carbon price already paid on products in the originating country.

2.23: Would it be practicable for importers to provide information on the effective carbon price already paid on products in the originating country?



The government received 64 responses to the multiple choice element of this question and 55 responses to the open text section. Of the responses to the multiple choice element of this question, the majority of responses agreed that it would be practicable for importers to provide this information.

Within written responses, 27 responses suggested that the UK government ought to take a role in ascertaining the effective carbon price already paid on products in the originating country, including suggestions of a UK government maintained database of carbon prices. Further themes within responses included suggestions that it would be burdensome for UK importers to provide this information (24 responses) and suggestions that data which are already held by producers in the originating country could be used (18 responses).

Implementing a CBAM (Questions 2.25 - 2.28)

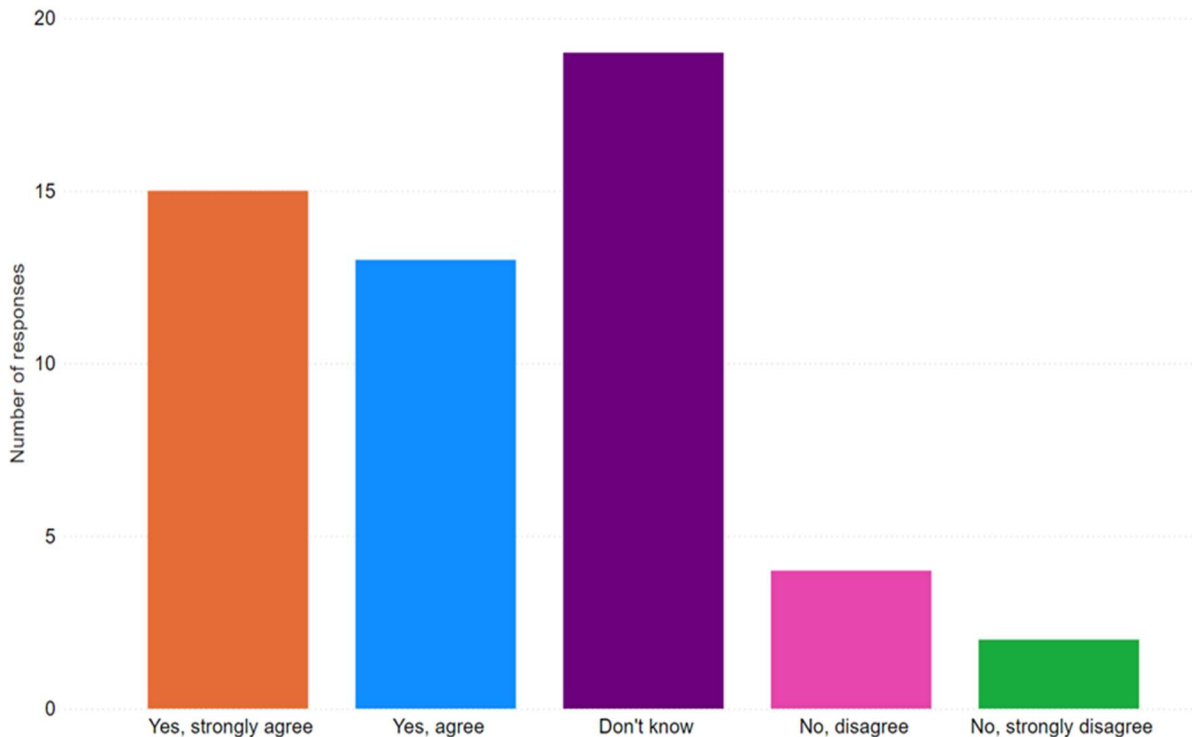
Over half of the responses who expressed views on CBAM design, mentioned the importance of aligning with international mechanisms citing the EU CBAM as an example.

Question 2.25 asked respondents for views on how a CBAM could be designed to ensure maximum simplicity.

The government received 53 responses to the multiple choice element of this question and 61 responses to the open text section. Of the responses to the multiple choice element of this question, 15 strongly agreed, 13 agreed, 19 did not know, four disagreed and two strongly disagreed.



2.25: Do you have any views on how a CBAM could be designed to ensure maximum simplicity?



Within written responses, 34 suggested that a CBAM should be designed to align with international mechanisms such as the EU CBAM or with international engagement to reduce frictions. 15 responses noted that processes in a CBAM ought to be streamlined, for example via the integration of technological solutions to reduce administrative burdens.

Respondents were also asked if there are further actions the government could take to design a CBAM to facilitate the smooth flow of trade.

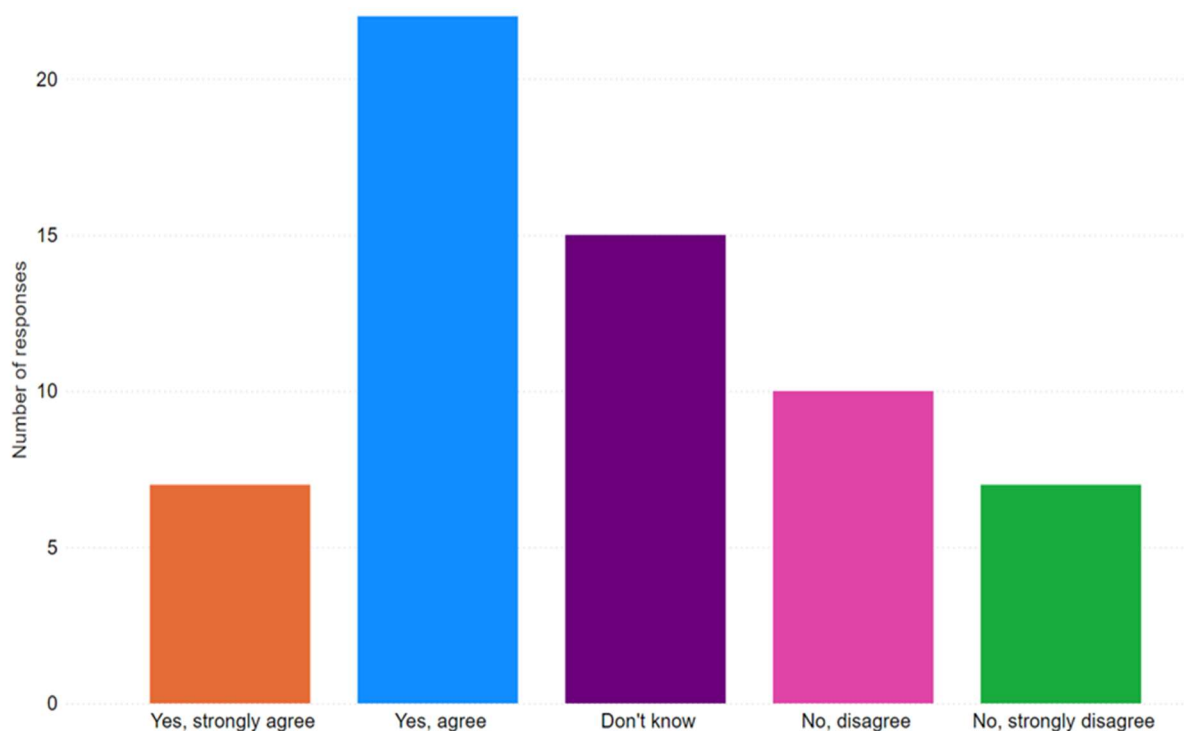
The government received 50 responses to this open text question. Of these, 31 responses suggested that the UK ought to seek alignment with international mechanisms, in particular the EU CBAM, 13 responses sought admin simplification, and nine responses sought further support for UK importers.

The largest group of respondents agreed that the government ought to prioritise reflecting the flexibility offered by the UK ETS in a CBAM regarding point of compliance, however there was not absolute majority agreement.

Question 2.26 asked respondents if the government should prioritise reflecting the flexibility offered by the UK ETS in a CBAM.

The government received 61 responses to the multiple choice element of this question and 47 responses to the open text section. Of the responses to the multiple choice element of this question, seven strongly agreed, 22 agreed, 15 did not know, 10 disagreed, and seven strongly disagreed. Whilst this indicates greater agreement than disagreement, there was not absolute majority agreement.

2.26: Should government prioritise reflecting the flexibility offered by the UK ETS in a CBAM?



Within written responses, the most common theme (20 responses) was that a CBAM should be aligned with the UK ETS, including for the point of payment. A further theme (17 responses) was that paying at the point of import is beneficial, in particular to reduce non-compliance with a CBAM. In contrast, 10 responses also suggested that requiring payment at the point of import would be disruptive.

Respondents suggested that the government ought to consider alignment to future border and customs strategies when developing a CBAM.

Question 2.28 asked respondents if there are further interactions with customs and/ or border systems which the government should take into account for the development of a CBAM.

The government received 25 responses to this open text question. Of these, 11 responses suggested that a CBAM would need to align with future border and customs strategies, 10 suggested that new requirements ought to be kept to a minimum, with some suggesting that existing systems and data ought to be utilised.

Timing for introducing a CBAM (Question 2.29)

Around half of responses said the timeline for the introduction of a UK CBAM should be aligned with the EU's introduction of their fully operational CBAM in 2026.



Question 2.29 asked respondents whether there are further policy interactions the government should consider on the implementation timelines for a CBAM not set out in the consultation.

The government received 65 responses to this open text question. Within responses, the most common theme was aligning the timeline for introduction of a UK CBAM with the EU's introduction of their fully operational CBAM in 2026 (32 responses). 28 responses suggested that a UK CBAM ought to be introduced from 2026 to align with plans to reduce the total number of free allowances available in the UK ETS. 27 responses urged the government to align the timeline for introduction of a CBAM with wider climate policies including potential changes to the Carbon Price Support and future Carbon Capture and Storage plans. 23 responses suggested that a key interaction would be the level of business readiness for compliance. 19 responses advised that the urgency for climate policy will influence timelines.

Chapter 3: Mandatory Product Standards

The government will continue to explore whether there is a role for Mandatory Product Standards (MPS) from the late 2020s but does not intend to implement MPS for any specific sector at this point. In the first instance, the government will pursue other policies, in particular Voluntary Product Standards, that could also enable the later implementation of any MPS.

Chapter overview

Chapter 3 of the consultation set out the government’s proposal for mandatory product standards (MPS) policy and set out the understanding that:

- MPS could be an appropriate policy measure in the future to mitigate carbon leakage risk and support decarbonisation
- MPS would work by creating a form of product regulations that would set upper limits on the embodied emissions of industrial products either produced in the UK or placed on its market, potentially including imports
- MPS would relate to the way products are made, rather than their characteristics. In this way these MPS would differ from other standards, for example minimum energy performance standards (MEPS), which are a separate existing set of standards which focus on the operational emissions associated with the use of a product
- The overarching aims of any MPS policy would be to:
 - Set a minimum expectation on the pace of decarbonisation in targeted sectors, supporting efforts in the UK and internationally to reduce global greenhouse gas emissions
 - Mitigate carbon leakage risk in future by preventing the highest carbon products from being placed on the UK market, which could undercut lower carbon alternatives
- If introduced, MPS could be a part of a broader system of demand-side policies, including voluntary product standards and product labelling (see Chapter 5 of the consultation). Together, demand-side policies could enable manufacturers to distinguish their products as lower carbon, reach new markets and potentially attract ‘green premiums’
- Some of the key challenges identified in the consultation included:



- Where to target any initial product standards, such as for sectors and products, and how this could change over time
- How to balance ambition and practical considerations in the design and implementation of any product standards
- The risk of unintended consequences of implementing product standards and how these could be mitigated

The consultation sought views on nine overall questions to inform development of government policy on MPS, and product standards in general. These were:

- The criteria used to decide the initial sectoral scope and targeting (Question 3.1)
- The initial sectoral scope for targeting an MPS (Question 3.2)
- The emissions scope for targeting an MPS, in terms of Scopes 1, 2, and 3 (Question 3.3)
- The stage of the manufacturing value chain to which MPS would be applied (Question 3.4)
- The point of obligation for an MPS for domestically produced goods (Questions 3.5 and 3.6)
- Whether an MPS should apply to imports (Question 3.7)
- The proposed principles for setting thresholds and increasing the stringency of MPS (Question 3.8)
- Whether an MPS should be delivered in stages (Question 3.9)

Summary of responses to this chapter

Responses in this chapter came from the full range of industrial sectors and other stakeholders. The government received responses from sectors both in support and opposition to the implementation of MPS in principle, and for their own sector. Some respondents cited the importance of implementing MPS to create a holistic package of policies to meaningfully address carbon leakage. Some also supported the potential role an MPS could have in accelerating decarbonisation and creating a market for low carbon products. However, respondents raised concerns regarding risk of product substitution, supply chain impacts, and potential unintended consequences of targeting particular sectors.

The two areas with greatest consensus were that any MPS should also apply to imports, and for the proposed principles for setting and changing thresholds. A majority also supported proposals for the emissions scope of MPS to include Scope 1, Scope 2, and at least some upstream Scope 3 emissions, with some respondents also supporting the inclusion of downstream Scope 3 emissions. The proposal to take a staged approach to the implementation of any product standards, starting from a relatively narrow, less stringent application and taking a broader, and more stringent approach over time, also received broad support.

A large majority of respondents agreed with the government's proposed criteria for determining which sectors could be appropriate for the implementation of MPS, as well as the need for some sort of initial targeting before wider implementation. The proposal that

steel could be an appropriate initial sector received broad support, including from the sector itself. However, respondents from the steel sector also argued that an MPS would only be appropriate in addition to a UK CBAM, and that steel should not be the only sector in scope due to concerns about substitution.

There was much less agreement on the potential targeting of other sectors. For example, responses from the cement and concrete sectors broadly opposed the introduction of any MPS for their sectors, on the basis that for their sectors there was a high risk of unintended consequences and limited potential for any MPS to mitigate the risk of carbon leakage. In the chemicals sector, there was some support for MPS, at least for initially targeting some chemical sub-sectors, including fertilisers, olefins, and aromatics. Other respondents from the sector cited concerns about the impact of any MPS on carbon leakage risk in export markets.

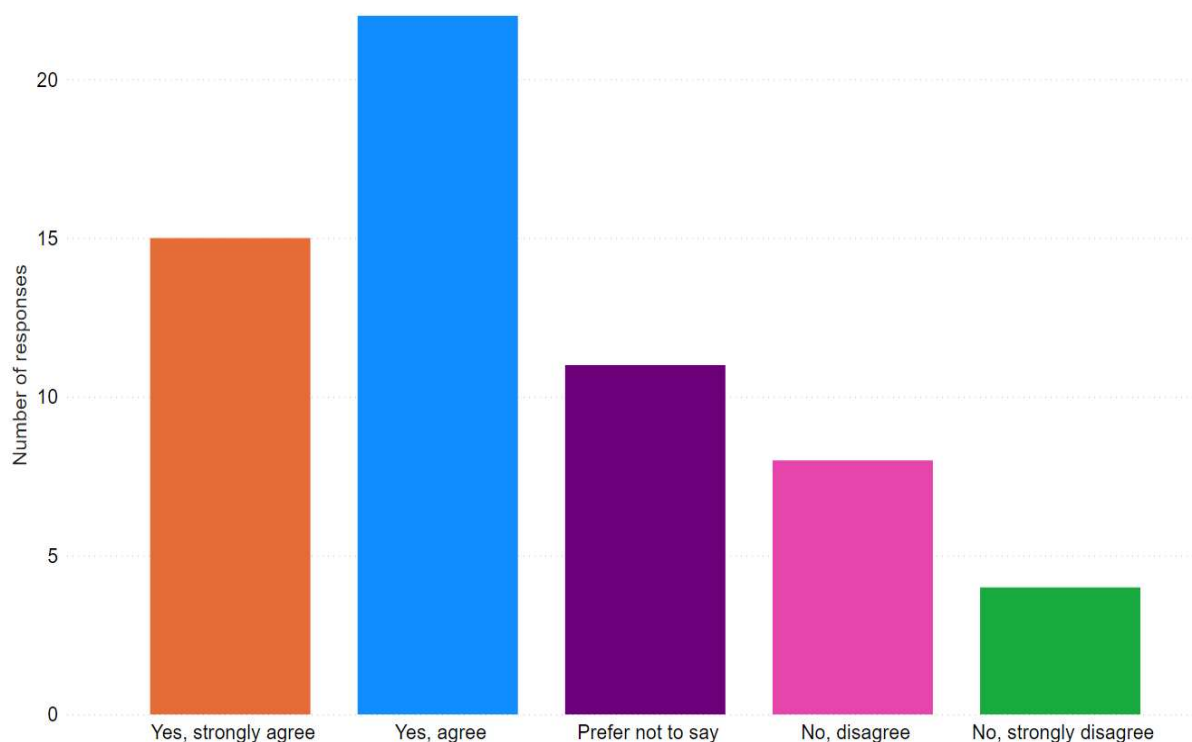
Respondents across all sectors were generally split across other questions, for example, on value chain targeting, where a large minority did not favour any of the proposed options.

Sectoral Targeting (Questions 3.1 and 3.2)

A majority of respondents agreed with the government's proposed criteria for initial sectoral targeting of any MPS.

Respondents were asked whether they agreed with government's proposed criteria for sectoral targeting of MPS, set out on page 48 of the consultation. These criteria included (i) exposure to carbon leakage risk, (ii) impact on industrial decarbonisation and net zero, (iii) deliverability, and (iv) international alignment.

3.1 Were mandatory product standards introduced, should the above criteria be used to decide on its initial sectoral scope?



There were 60 responses to the multiple choice aspect of this question and 57 responses to the open text section.

Out of 60 respondents, 37 either agreed or strongly agreed with the proposed criteria for MPS. 12 respondents disagreed or strongly disagreed with the proposed criteria, while 11 respondents preferred not to say.

Some respondents who broadly agreed with the criteria still stressed the importance of taking the complexity of individual sectors fully into account, as well as the risk of creating additional costs and administrative burdens. Three respondents also stressed the importance of sector buy-in for any implementation. One respondent suggested that, of the criteria, exposure to carbon leakage risk should be prioritised.

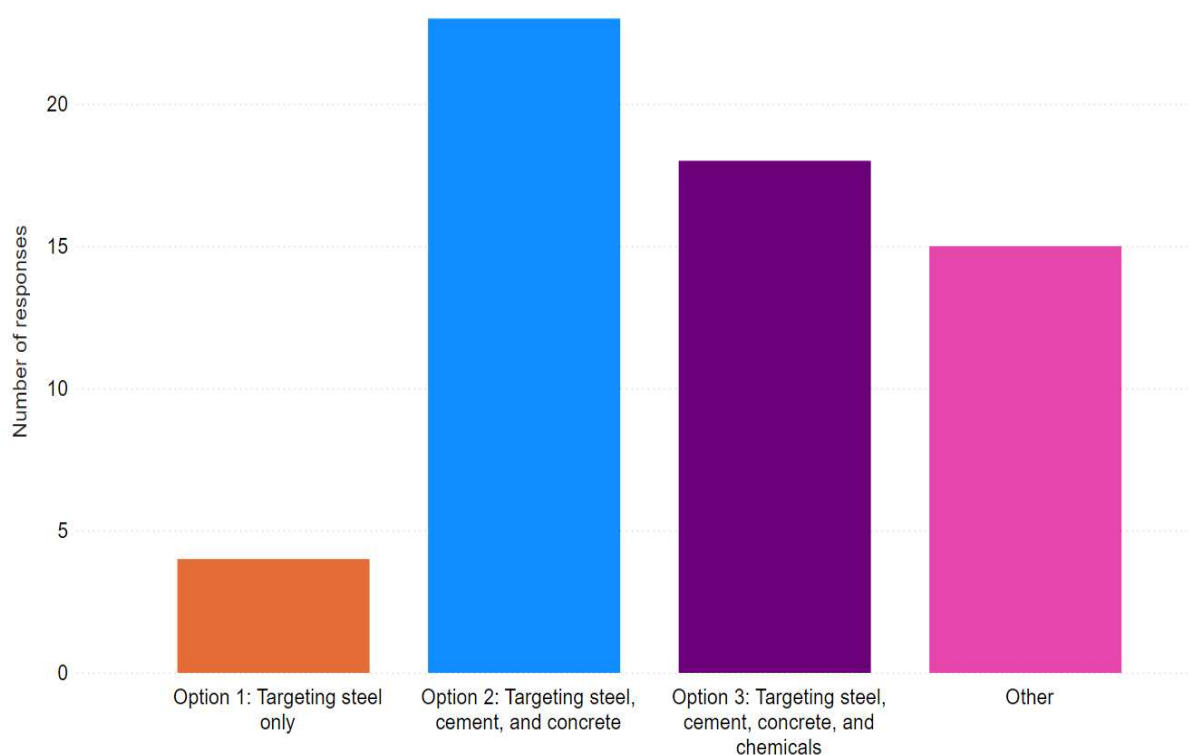
Of those respondents who disagreed or strongly disagreed, six respondents cited their reason being opposition to MPS as a policy option in general, as they mentioned that MPS would not be appropriate for their sector due to the complexity of their sector.

One respondent suggested that any MPS should first be introduced in a sector which has limited exports. This was on the basis that they were concerned that an MPS could increase the risk of carbon leakage in export markets.

The options for initial sector targeting with the strongest support was to target steel, cement and concrete in initial implementation of any MPS. Responses from the steel sector supported its inclusion in the scope of an MPS, however they did not support being the sole included sector, citing concerns surrounding the risk of product substitution. There was disagreement about whether cement and concrete should be included alongside steel; most respondents from outside of cement and concrete sectors supported including cement and concrete, but respondents from the sector itself were opposed.

Question 3.2 asked respondents whether they agreed that a combination of steel, cement, concrete, and chemicals should be the initial targets of any MPS, and if so which combination.

3.2 Which option, if any, would be most appropriate for the initial sectoral targeting of a mandatory product standard?



There were 60 responses to the multiple choice aspect of this question and 57 responses to the open text section.

Out of 60 respondents, a majority (45) agreed with at least one of the proposed options for initial sectoral targeting. The most popular option, favoured by 23 respondents, was Option 2, to target a combination of steel, cement, and concrete. 18 respondents favoured Option 3, to target chemicals in addition to steel, cement, and concrete. However, 15 respondents suggested other sectors should be included. Only four respondents preferred Option 1, to target only steel.



Of the 23 respondents who supported Option 2, to target a combination of steel, cement, and concrete, the main reasons cited were that it would give the opportunity to compare and learn lessons from implementation in different but comparable sectors. Four respondents suggested that Option 2 provided the best balance between ambition and deliverability, and that these sectors had a good foundation in terms of data and widespread use of EPDs. Some respondents suggested that, if successful, the policy should then be considered for other sectors, such as chemicals and timber. However, other respondents were explicit that Option 2 was preferable because chemicals were not suitable for product standards.

The main reasons cited for supporting Option 3 were that all these sectors are high emitters and have access to suitable data. Some respondents suggested that some chemical sub-sectors would be suitable for product standards, but that the chemical sector would need to be engaged to decide which sub-sectors to target. It is noted that some responses suggested that organic chemicals specifically would not be suitable for an MPS because the UK exports a large quantity of these, and there were concerns that an MPS could increase the risk of carbon leakage in export markets.

The main reasons cited for supporting Option 1 were that the initial scope for any MPS should be as limited as possible to demonstrate its value. Having only one sector would be preferable to understand how the MPS works, which would help other industries prepare for any expansion of the policy.

Across all options, there was broad agreement that steel would be a suitable candidate for initial targeting, whether on its own or jointly with some other sectors. Respondents from the steel sector itself were also broadly supportive of this option, although with the caveat that it should not be the only target of these policies, so as not to increase the risk of product substitution.

However, there was no clear consensus which other sectors may be suitable for initial targeting. Regarding cement and concrete, although a majority of respondents (41) favoured one of the two options that included cement and concrete, respondents from these sectors expressed strong opposition. The sector cited the complexity of its industry, technical barriers to accessing deep decarbonisation technology, and the risk of supply chain impacts.

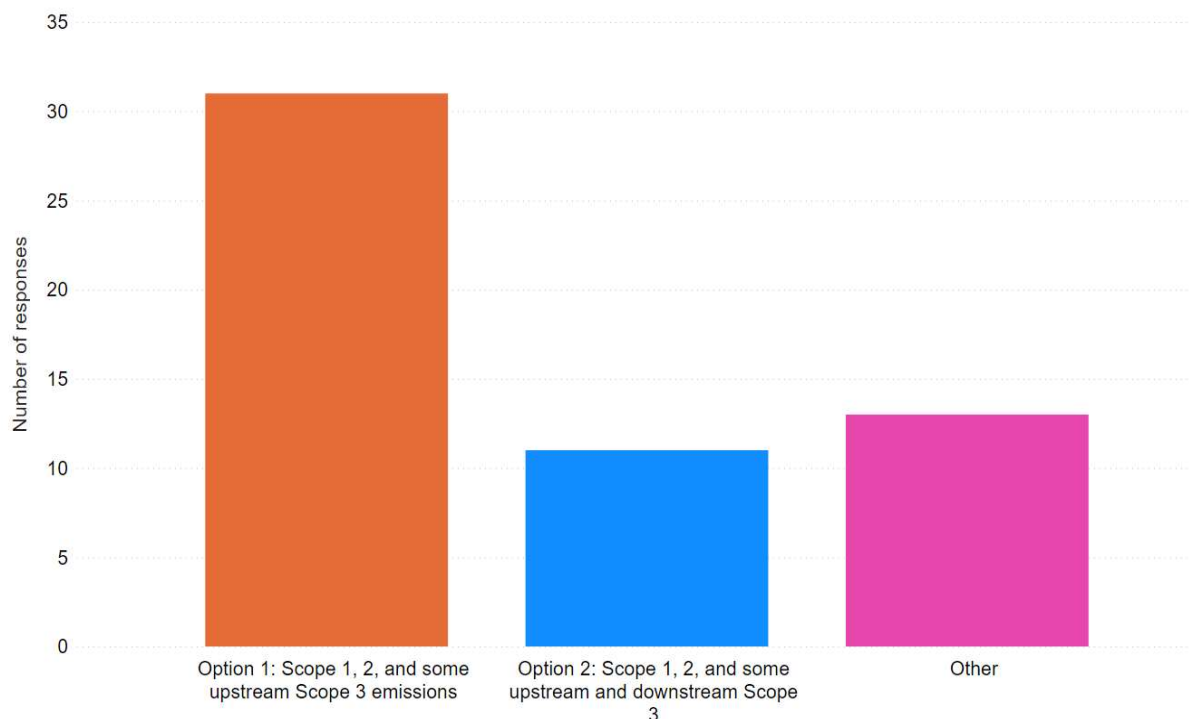
Although respondents suggested other sectors that could be initial targets of any MPS as well, there was not a clear consensus on an alternative. There was a range of suggestions made, but no single alternative sector was suggested more than three times, while most were suggested just once or twice. Suggestions included agriculture, glass, automotive, food, aviation, timber, ammonium fertiliser, and aluminium.

Emissions Scope (Question 3.3)

Most respondents agreed with the government's proposal that any mandatory product standard should include Scope 1, Scope 2 and at least some upstream Scope 3 emissions.

Respondents were asked which option would be the most appropriate for emissions scope of an MPS: 1) Scope 1, 2 and some upstream Scope 3, 2) Scope 1, 2 and some upstream and downstream Scope 3, or 3) Other.

3.3 Which option, if any, would be most appropriate for emissions scope of a mandatory product standard?



There were 56 responses to the multiple choice aspect of this question and 39 responses to the open text section.

Of 56 responses, a small majority (31) of respondents favoured Option 1, with 11 favouring Option 2. Fewer than a quarter of respondents (13) chose neither of the proposed options and suggested alternative approaches, such as taking different approaches for different products or sectors, expanding the scope over time, or having separate scopes for upstream and downstream products.

13 respondents set out that targeting downstream Scope 3 emissions could pose practical difficulties, often citing the challenges in monitoring downstream usage and the likelihood that midstream manufacturers would have to make assumptions about these emissions. However, eight respondents argued that downstream Scope 3 emissions should be targeted. These respondents often argued that downstream emissions can constitute a major proportion of a products' overall emissions, and that this is where carbon leakage would be more likely to occur.

Suggestions for alternative approaches included taking different approaches for different products or sectors, for example, by setting different emissions scopes for different

products in a single sector to reflect their place in the value chain. Two respondents suggested taking a phased approach that would expand the emissions scope over time.

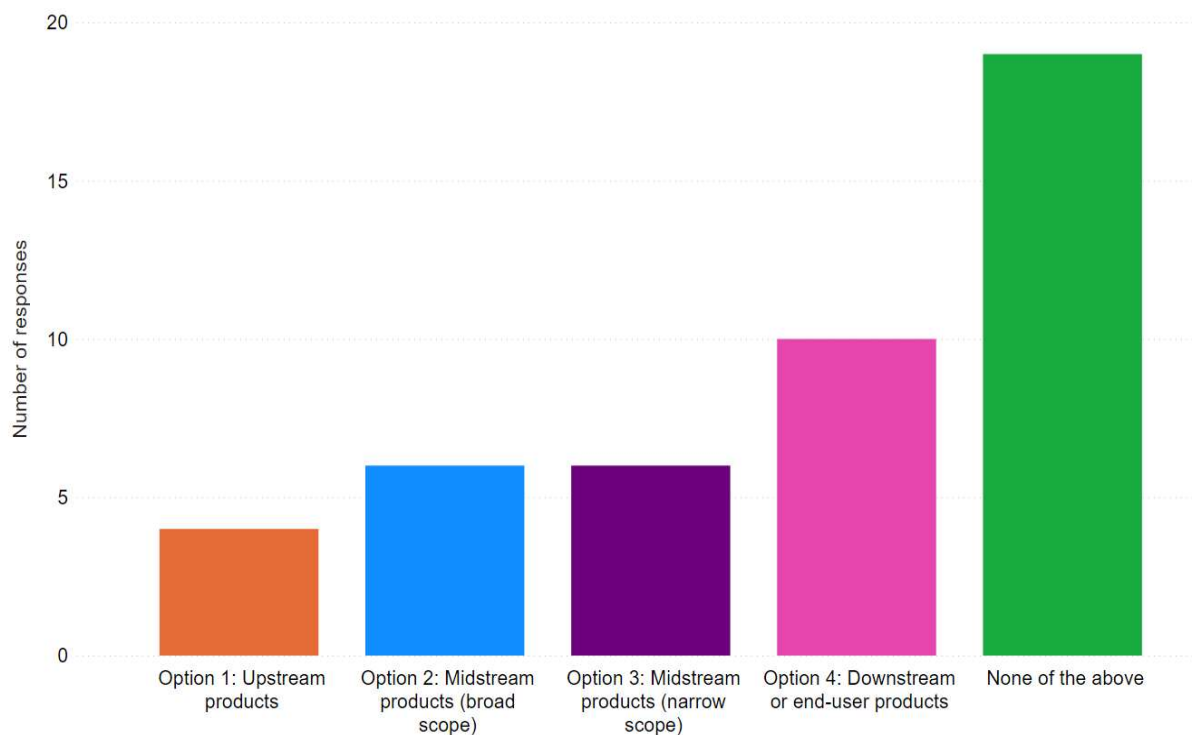
Broader feedback included seven respondents stating the need for the government's approach to be pragmatic, and minimise the risk of unintended consequences, or excessive administrative burdens. Six respondents suggested the government consider the potential of Environmental Product Declarations (EPDs) which already provide Scope 1, 2 and 3 data.

Value Chain Targeting (Question 3.4)

There was not a clear endorsement of any option, as a plurality of respondents disagreed with all options proposed and instead suggested alternative approaches. Of the options suggested, there was a relatively close split between preferences for targeting midstream products and targeting downstream products.

Respondents were asked where in the value chain the government should target an MPS. The options included: upstream products, midstream products (broad scope), midstream products (narrow scope), downstream or end-user products and other.

3.4 Which value chain option, if any, would be most appropriate to target with a mandatory product standard?



There were 45 responses to the multiple choice aspect of this question and 43 responses to the open text section.

Of 45 responses, a small majority (26) favoured one of the options proposed for targeting in the manufacturing chain, a large minority (19) did not agree with any of the options.

Of those who agreed with one of the options, the most popular option (12) was to target midstream products, whether in a narrow or broad way. The main reason cited was that this targeting would achieve an effective balance between policy goals and deliverability. However, this was only slightly larger than the group which favoured targeting downstream or end-user products (10). Of these, seven respondents argued that doing so would best mitigate the risk of carbon leakage, avoiding the risk of imports of downstream products circumventing policies. However, a couple of respondents suggested targeting downstream products could introduce significant complexity and that for the time being this option would not be practically feasible.

Of those respondents who did not favour any of the options, the majority (14) cited the risk of negative impacts on the supply chain if an MPS were introduced at any stage. The risks of unintended consequences included a potential increase in transport-related emissions, increased risk of resource shuffling, and potential for MPS to be overly restrictive for certain products such as those which have multiple downstream processes. Others felt the government should take a different approach, whether that be a case-by-case basis, a combination of options, or introduce parallel product standards simultaneously at different segments of the chain.

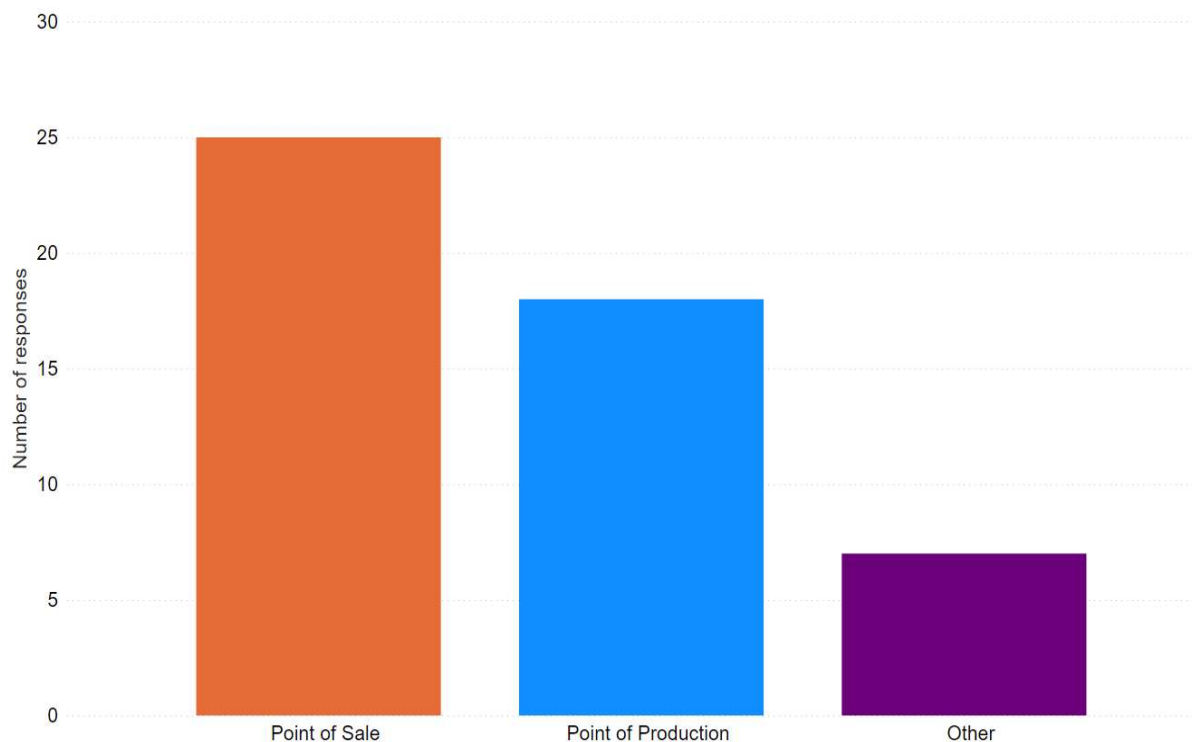
There was very limited support for targeting upstream products, one respondent that did make the case for doing so cited that this is where the most emissions are occurring.

Point of Obligation (Questions 3.5 and 3.6)

For domestic products, although more respondents favoured targeting the point of obligation at the point of sale than the point of production, the latter was still supported by a large minority of responses.

Respondents were asked whether to target an MPS at the point of production or point of sale for domestically produced goods, and what the government should consider when targeting the point of obligation for imported goods.

3.5 Which option, if any, would be most appropriate for targeting the point of obligation for a mandatory product standard for domestically produced goods?



There were 50 responses to the multiple choice section of Question 3.5 and 39 responses to the open text section. Question 3.6 was an open text only question which received 31 responses.

Of the 50 responses to this Question 3.5, 25 respondents preferred the point of sale and 18 preferred the point of production as the point of obligation for product standards, at least for goods produced in the UK.

The main reason cited by those preferring point of sale was that this would best align with existing legislation and processes. Some respondents also suggested that the point of sale would be simpler to administer.

Respondents preferring the point of production argued that this would create less regulatory burden and minimise complexity, especially for retailers. Some argued that a retailer should not be held responsible for a product bought in good faith from a producer, who should have the burden of regulatory compliance. One respondent suggested that the point of production option would minimise the risk of UK manufacturers exporting high carbon goods.

For imported products, some respondents emphasised the importance of parity between domestic and imported goods and added that point of sale would be the most appropriate option, as according to them, this would reduce the potential for challenge with reference to international trade agreements.

Other respondents suggested that the best place to target the point of obligation for imports would be when goods are cleared by the customs for free circulation, highlighting that this would likely require the adaptation of existing customs systems.

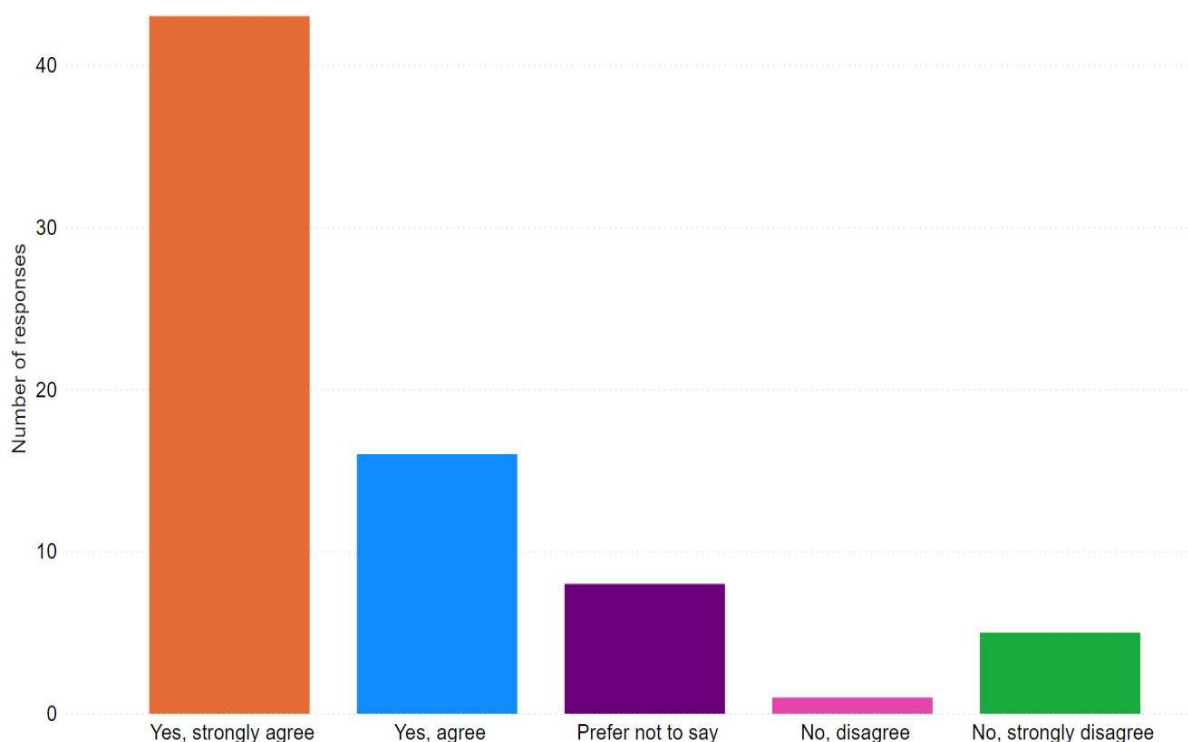
Those that responded 'other' did not provide alternative suggestions, and those that provided a qualitative response explained that this selection was on the basis of their opposition to any MPS in general.

Imports (Question 3.7)

A very large majority of respondents agreed or strongly agreed that an MPS should apply to imports.

Respondents were asked whether an MPS should apply to imports.

3.7 Do you agree or disagree that any mandatory product standard should apply to imports?



There were 73 responses to the multiple choice aspect of this question and 66 responses to the open text section.

Of the 73 responses to this question, a large majority (59) agreed, or strongly agreed with the governments' proposal that any MPS should also apply to imports. The main reason cited (44 respondents) was that not applying any regulations to imports could give them a competitive advantage and disadvantage UK produced and manufactured goods. Respondents warned this could lock in market distortion and unfair competition. 10 respondents also stated that not applying an MPS to imports would undermine the policy and would not mitigate against carbon leakage.



A small minority (six) disagreed or strongly disagreed to applying an MPS to imports. The main reasons cited were concerns over the risk of WTO compatibility, or opposition to an MPS altogether.

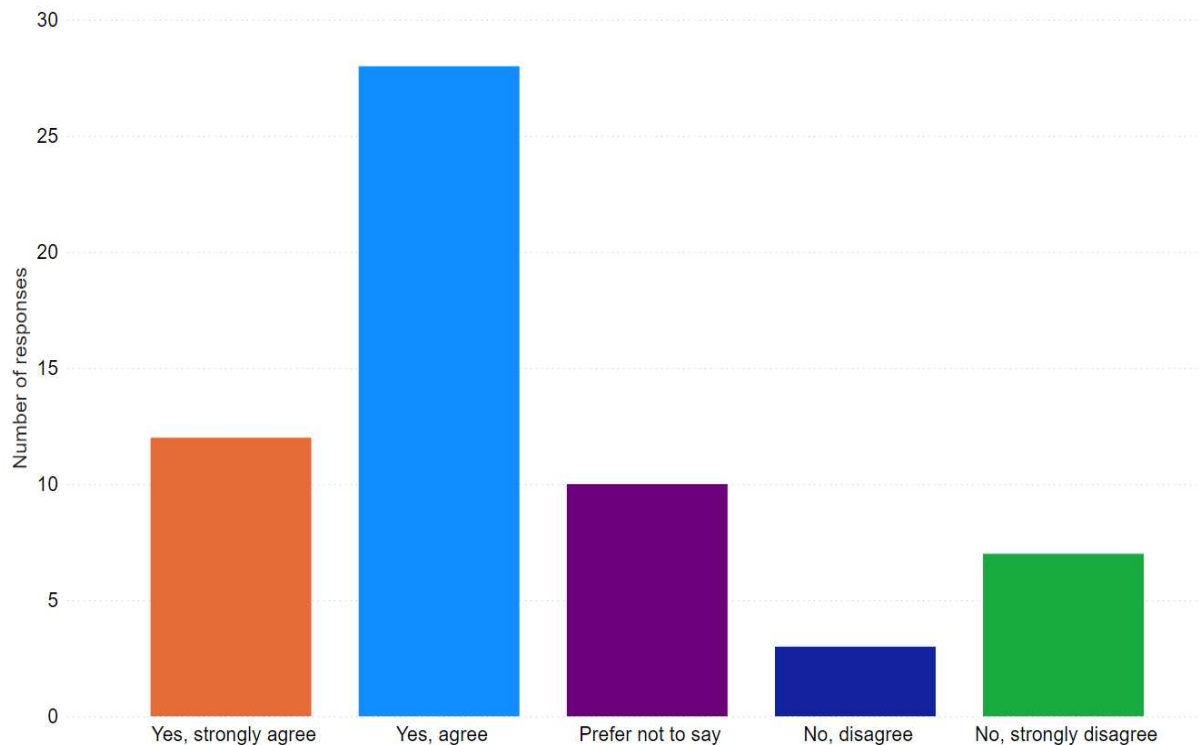
Other comments included that there should be consideration for how applying any regulations to imports would impact Least Developed Countries (LDCs). Potential mitigations were suggested including exemptions, longer implementation periods and providing financial support to LDCs.

Thresholds (Question 3.8)

The majority of respondents supported the government’s proposed principles for setting thresholds and increasing the stringency of MPS over time.

Respondents were asked whether they agreed with a list of principles which included: (i) a tailored approach for each sector, (ii) thresholds being ambitious but achievable, (iii) industry being provided with advance notice of changes, (iv) voluntary standards being set at intervals up to near or net zero, (v) linking the increasing stringency of any MPS to carbon budgets and net zero targets, (vi) increasing the stringency more significantly in response to any technological step change in decarbonisation, and (vii) having a clear process for reviewing thresholds.

3.8 Do you agree or disagree with the proposed principles for setting thresholds and increasing the stringency of mandatory product standards over time?



There were 60 responses to the multiple choice aspect of this question and 44 responses to the open text section.

Of a total of 60 respondents, two thirds (40) agreed or strongly agreed with the proposed principles for setting thresholds and increasing the stringency of MPS over time. 10 respondents disagreed or strongly disagreed with the government's approach, and the same number preferred not to say.

Many of the respondents who disagreed were from the cement or concrete sectors, and cited concerns about how to align with both the UK net zero targets and accounting for the step-change reductions. They argued that the principles could not do both, as due to decarbonisation options available to them, it may only be possible to align with those targets in 2050 and no sooner.

General feedback in response to the question included suggestions that:

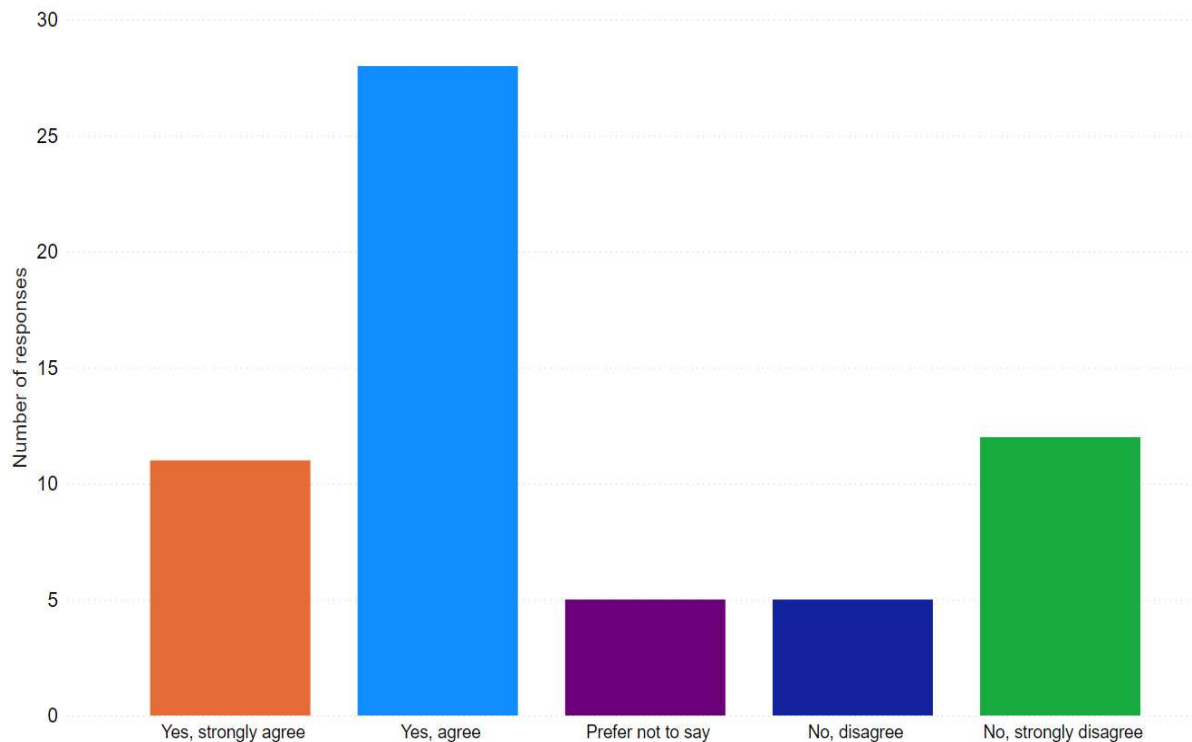
- 10 respondents stated any threshold be achievable from the outset
- Six respondents called for a level of flexibility within the thresholds. Flexibility included the way in which an MPS is designed so that Least Developed Countries (LDCs) are not inadvertently penalised, as well as the ability of the system to change to reflect any lessons learnt in the initial implementation
- Five respondents stated the implementation should be pragmatic, for example by setting a data gathering period before any thresholds are set
- Four respondents asked for a clear timeline to be set out that will effectively enable businesses to prepare
- Respondents also suggested that that the government should consider the international perspective and aim for consistency with other countries' systems and approaches, prioritise working with industry experts, and consider the complexity of different sectors to avoid unintended consequences, such as the risk of giving unfair competitive advantage to other sectors

Implementation (Question 3.9)

A majority of respondents supported the proposal that any MPS should be delivered in stages, broadly moving from a less stringent, relatively focussed application in the late 2020s to a more stringent and potentially broader application during the 2030s.

Respondents were asked whether MPS should be delivered in stages, broadly moving from a less stringent, relatively focussed application in the late 2020s to a more stringent, potentially broader application during the 2030s.

3.9 Should mandatory product standards be delivered in stages, broadly moving from a less stringent, relatively focussed application in the late 2020s to a more stringent and potentially broader application during the 2030s?



There were 61 responses to the multiple choice aspect of this question and 46 responses to the open text section.

Of the 61 responses to this question, 39 respondents agreed or strongly agreed with the proposed delivery in stages and timeline. 17 respondents disagreed or strongly disagreed.

The main reasons given in support of the proposed implementation approach were that this would be easier to implement and minimise compliance costs. Other reasons included that this approach could clearly signal to other sectors when the policy could be extended to them, and that it could help the development of data collection processes, including giving LDCs time to develop emissions reporting and data systems.

Five respondents, mostly from the cement and concrete sectors, disagreed on the basis that products produced at dispersed sites may not be able to meet more stringent criteria in 2030s due to technical barriers accessing deep decarbonisation technology. On the other hand, one respondent disagreed, arguing that a faster and more ambitious timeline is needed to meet climate obligations.

Some respondents suggested that different approaches should be taken for different products, taking into account different expectations for decarbonisation. This echoed feedback particularly from the cement and concrete sector about the dispersed nature of their sites and lack of easy access to deep decarbonisation technologies.

Government considerations

The government will continue to explore whether there is a role for Mandatory Product Standards (MPS) from the late 2020s or early 2030s but does not intend to implement MPS for any specific sector at this point.

The government has heard how MPS could play an important role by preventing the highest carbon versions of products from accessing the UK market, providing a strong protection against the risk of carbon leakage and strengthening investment confidence in the profitability of decarbonisation.

However, the government is not yet able to conclude that MPS should be implemented for any specific sector or product. Further work is needed to gather evidence and analyse the rationale for, and likely impacts of, any MPS for specific sectors, given differing views across stakeholders.

Alongside continuing to explore the potential role of MPS, the government will progress other demand side policies that could also complement any future MPS, in particular Voluntary Product Standards (VPS). Further information on the development of VPS can be found in Chapter 5.



Chapter 4: Cross cutting policy issues for CBAM and MPS

The government is firmly committed to working in collaboration with affected entities, both in the UK and internationally, to minimise the impact on trade and the necessary compliance steps of UK measures. As set out in the government’s International Development White Paper the government is committed to both tackling climate change and reducing poverty. The UK is committed to understanding the impacts of the introduction of a CBAM, particularly on least developed countries, and will continue to explore how their concerns could be mitigated, consistent with our commitment to WTO rules and our determination to reduce global emissions.

Responses to chapter will be considered as part of further development of measures, and consultations in 2024 where necessary, being taken forward following this consultation.

Chapter overview

Chapter 4 of the consultation considered cross-cutting policy issues for a carbon border adjustment mechanism (CBAM) and mandatory product standards (MPS). General design questions for these potential policies had been set out in chapters 2, 3 and 5.

The consultation sought views on six overall cross-cutting areas to inform development of government policy on potential CBAM or MPS policy. These were:

- The international and trade implications of potential measures, in particular for countries at differing stages of development and in light of the UK’s international objectives and commitments (Question 4.1 and 4.2)
- How carbon intensity measurements needed for CBAM or MPS could be made as simple as possible without compromising the accuracy and integrity of the data (Question 4.3 to 4.5)
- The extent of risks of circumvention and resource shuffling under a potential CBAM or MPS, how these risks differ across sectors, and how these risks could be managed (Question 4.6 to 4.9)
- The possible downstream impacts of a CBAM or MPS, focusing on how carbon leakage impacts further down the supply chain could be managed or limited (Question 4.10 to 4.14)

- The extent to which UK producers face carbon leakage risk in their export markets, and how this risk could be mitigated (Question 4.15 to 4.18)
- What role, if any, there should be for carbon credits in meeting MPS or CBAM obligations (Question 4.19)

Summary of responses to this chapter

105 respondents answered questions across Chapter 4. The majority of these were from industry (66) and think tanks, NGOs, or academia (17). Responses were also received from consultancies, SMEs; overseas bodies and private citizens. Responses highlighted potential impacts on developing countries in particular, and proposed mitigations. Many raised concerns about risk of resource shuffling, circumvention, downstream impacts and risk to exports, noting the risk of production processes moving outside of the UK and concerns over passthrough of costs to consumers. Respondents generally opposed the use of carbon credits.

International and trade impacts of potential measures (Question 4.1 - 4.2)

Responses expressed concern that measures would disproportionately impact developing countries because these countries tend to have more carbon intensive production, do not have emissions reporting in place, and do not use carbon pricing. Many were of the view that carbon leakage mitigation measures should form part of a wider package supporting and incentivising decarbonisation in the poorest countries. Responses on the potential role of flexibilities, including exemptions, varied.

Question 4.1 sought views on specific challenges for countries at differing stages of development to the UK that the government would need to consider in the future design of any carbon leakage measures. There were 42 open text responses from a range of respondents including think tanks, academia, UK industry and overseas respondents, raising a range of ways in which carbon leakage mitigation measures can create specific challenges for developing countries.

Many (23 responses) were concerned carbon leakage mitigation measures could disproportionately impact developing countries. Reasons given were that: developing countries were less likely to have emissions verification and monitoring systems in place (14 responses), creating a higher administrative burden and that these countries do not have the resources to comply (seven responses). Three responses also noted that developing countries have more carbon-intensive production methods and with specific regard to the use of CBAMs, two responses noted that these countries were also less likely to use carbon pricing and so would face a higher CBAM liability, questioning if that was fair. Some (two responses) were of the view that default values do not solve this issue unless they are designed to be less stringent. Seven responses raised the risk that, in response to the challenges of complying with measures, developing countries would simply send their goods elsewhere.



Eight respondents raised concerns about carbon leakage mitigation measures exacerbating challenges that developing countries, particularly least developed countries (LDCs), face in transitioning to a low carbon economy, with wider negative impacts on LDCs' welfare and development.

In addition to suggesting specific challenges for developing countries, 11 responses cited pre-existing obligations on the UK to understand and consider the impacts on third countries. Three responses questioned whether carbon leakage mitigation measures were WTO compatible (disagreeing on if exemptions would make them more or less so), and two responses suggested that a UK CBAM could run counter to the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC). Alternatively, one response was of the view that the principle of CBDR-RC was not relevant with regard to carbon leakage mitigation measures. Similar views were expressed in response to Chapter 2 of the consultation.

Question 4.2 sought views on how the government can best support countries at differing stages of development to the UK, in particular least developed and low-income countries. It received 42 open text responses from a range of respondents including think tanks, academia, UK industry and overseas respondents.

32 responses emphasised that carbon leakage measures should form part of a wider support package to incentivise decarbonisation. Of these, 30 were of the view that the UK should focus on technology transfer and capacity building, and 12 suggested using (a part of) CBAM revenue for international climate finance. 19 responses suggested support measures should be focused on implementation and compliance with carbon leakage measures, such as technical support for emissions measurement and setting up countries' own carbon pricing systems. 13 responses suggested support should be less ring-fenced and geared towards wider industrial decarbonisation.

A majority (37 responses) discussed whether potential exemptions and flexibilities in the design of carbon leakage mitigation measures would be necessary, desirable and legally justifiable. Nine responses, mostly think tanks and NGOs, favoured full exemptions, while others (six) were of the view that exemptions, including time limited ones, and other flexibilities could only be justified under certain conditions, such as whether a country was listed as an LDC and had overall low emissions. Five responses were of the view that exemptions could be based on the UK Developing Country Trading Scheme (UKDCTS).

However, 11 responses warned that exemptions would undermine the environmental objectives of measures, increase risk of circumvention, and create implications for WTO compliance. UK industry tended to not support use of exemptions, or only under strict review. Another respondent warned against exemptions based on analytical categories like 'least developed countries' noting the need to take a regional view when considering policy impacts and mitigations and suggesting exemptions based on different levels of stringency afforded under the UNFCCC framework. Other flexibilities raised included applying a discounted carbon price; allowing for longer implementation periods to enable countries to prepare monitoring, verification and reporting systems; and allowing LDCs to import a predefined amount with less stringent targets. On MPS specifically, two responses suggested a two-tiered or scaled system to allow for flexibility.

10 responses suggested that the government should proactively engage with countries at differing stages of development to the UK in order to identify adequate support measures. This could be done via existing channels, such as relevant multilateral, plurilateral and bilateral forums.

Simplification of carbon intensity (Questions 4.3 - 4.5)

Responses raised the importance of data being accurate and robust, with some responses pointing to advantages of simplification. There was some support for using existing standards or data to simplify requirements where possible, and for developing more accurate data reporting over time.

Question 4.3 sought views on the importance of finding ways to simplify the process for estimating product level emissions and received 48 open text responses. Over half of responses (26) raised the importance of ensuring that data is accurate, including some responses noting potential unintended consequences of simplification. Some responses linked simplification to potential circumvention.

The benefits of simplification were referenced in a third of responses (16) including minimising administrative burden. 12 responses suggested aligning requirements with existing standards such as environmental product declarations (EPDs), the UK ETS, or international standards.

Question 4.4. asked respondents on what the different options are for simplifying the process for estimating product level emissions intensities without compromising the integrity of estimates. This open text question received 34 responses. Around half of respondents (18 responses) referenced using existing standards or data to report product level emissions intensities, with some explicitly suggesting EPDs. Nine respondents suggested using default values or estimates, for example initially using sector level aggregate data for some sectors or for SMEs. Four respondents argued that simplified estimates should not be used at all, including arguing that simplification could reduce the incentive for decarbonisation, or create unintended consequences.

Question 4.5 asked respondents for views or empirical data on the trade-offs between accuracy and reductions in administrative costs, in the generation of product level data. This question received 30 open text responses. Most respondents (18) acknowledged the trade-off, with some referencing the need to ensure data is accurate enough to drive decarbonisation, and some pointing to potential differences in the administrative cost of complying with domestic reporting compared to reporting requirements on overseas producers. Eight responses mentioned expanding current reporting systems, and some suggested using estimated values at first before developing more accurate reporting. Seven responses stressed the difficulty of measuring data accurately.

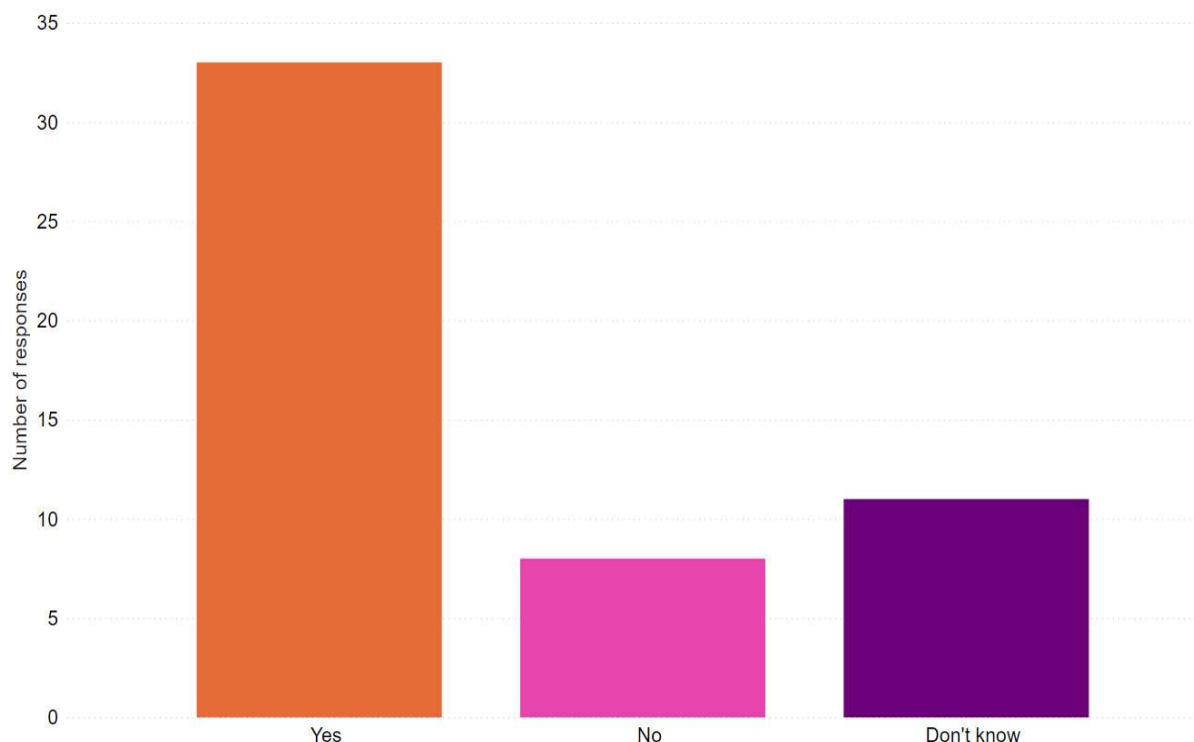
Circumvention and resource shuffling (Questions 4.6 - 4.9)

The majority of respondents were of the view that circumvention of carbon leakage mitigation measures and resource shuffling are risks for their sector, with a range of drivers, particularly where a range of production methods are

available. Respondents pointed to the need for international agreements on standards and processes, international efforts to decarbonise electricity supplies, and for domestic measures to be broad in scope to limit product substitution and combined with domestic enforcement and penalties.

Question 4.6 asked respondents if circumvention was a risk in their sector.

4.6: Is circumvention a risk in your sector(s)?



The government received 51 responses to this question.

The majority of responses (33) noted a risk of circumvention. Many identified the potential for substitution in the value chain, expecting importers to shift to importing products not covered by an MPS or a CBAM where possible. Some responses also described the possibility of circumventing a CBAM by moving relevant production operations (e.g. container filling operations) outside of the UK and importing 'input' or 'completed' products less affected by a CBAM from upstream or downstream in the production chain. Some responses identified the potential for mislabelling or false declarations, particularly on products where verification is difficult (e.g. high carbon vs low carbon cement), or where very minor value-add operations (e.g. drilling a single hole) are technically viable options for changing the product's classification to avoid a CBAM.

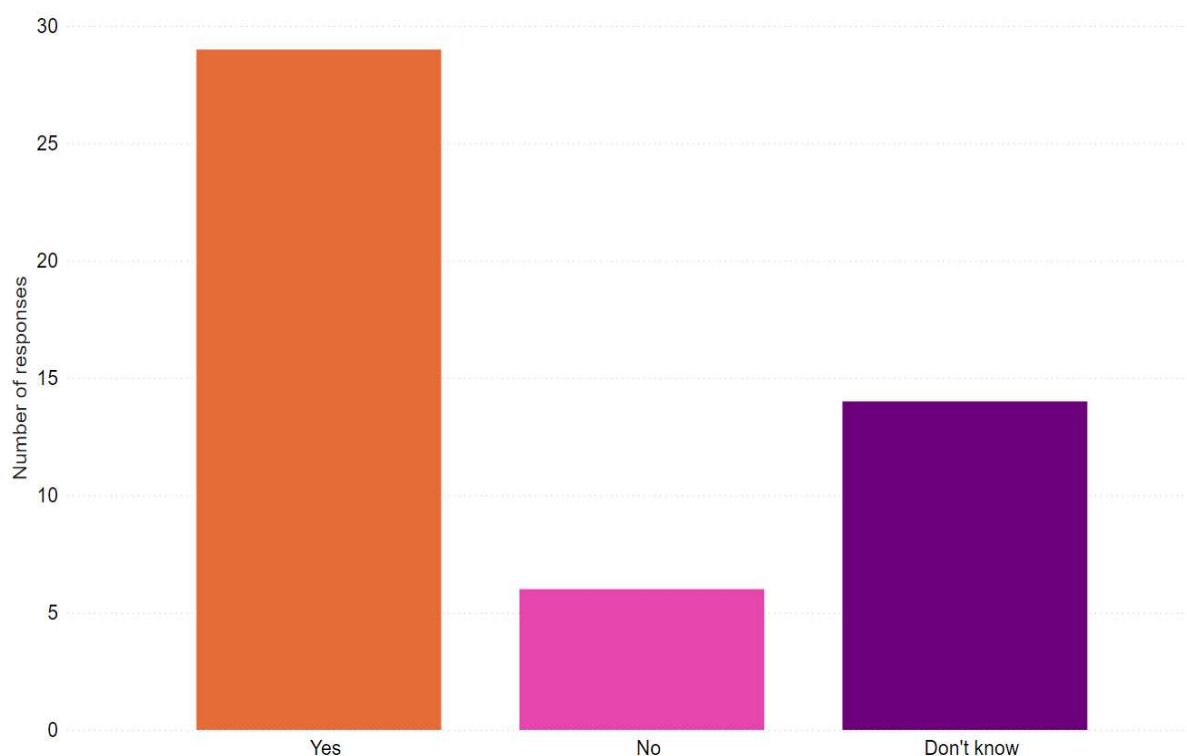
Some responses saw support or subsidy for decarbonisation in other countries as a significant driver of resource shuffling, as manufacturers may simply choose to move UK operations to other more supportive countries in order to improve their ability to meet CBAM requirements.

Only eight responses suggested that there was no risk of circumvention, because the product in question was not substitutable, or because the firm's value chain did not involve CBAM-relevant goods.

Question 4.7 asked respondents how carbon leakage measures could best be designed to limit risk of circumvention. Most responses did not address this question directly. Respondents who did argued for a clear and standardised framework that could address intra- and inter- sectoral resource shuffling across all product categories, as well as be applied equally by international customs regimes regardless of the source country of imports. Commonality and broadness of scope were the two key themes identified as contributing to an effective regime that would limit resource shuffling. Additionally, many responses highlighted the need for sufficient enforcement and 'heavy penalties' to act as deterrents for circumvention to be a part of the regime. Responses suggested both sufficient power for regulators, as well as the ability to insist on certifying the source of origin.

Question 4.8 asked respondents if resource shuffling is a risk in their sector.

4.8: Is resource shuffling a risk in your sector(s)?



Responses identified similar themes to question 4.6. Differences in carbon regimes across international jurisdictions, as well as flexibility in production methodologies and locations for different stages of manufacturing and refinery were the two factors identified as driving potential resource shuffling.

Many responses identified that risk of resource shuffling is higher where there are range of production methods available. Shuffling within individual companies was identified by some responses as a possible risk, as companies could divert their lowest emissions products, for example from particularly efficient refineries, or production which recycles



more scrap materials, to the UK, whilst continuing with carbon intensive methods for products destined elsewhere. Some responses suggested that third party producers will simply sell their carbon intensive products to markets without CBAM restrictions where possible, resulting in no global reduction overall but lower supply for the UK.

Question 4.9 asked how carbon leakage mitigation measures could best be designed to limit risk of resource shuffling. Almost all the responses acknowledged the difficulty in addressing discrepancies between jurisdictions and across different products that lead to shuffling. Breadth of scope and the need for both domestic and international frameworks were commonly identified. Domestic solutions alone were considered to be unable to contend with the problem of resource shuffling.

Some responses stated the need for transparent company-level reporting, clearly linked to commodity codes and CBAM requirements, to compare company average performance (across all their processes/sites, not just selective carbon-efficient ones) with industry averages, as a way to identify circumvention.

Other responses argued that CBAM frameworks needed to be supported by research into technological innovation in different sectors, to both regulate behaviour and develop solutions that industry could adopt. Some responses also identified reducing the cost of renewable electricity to encourage use of CBAM compliant manufacturing processes as standard and minimise the financial incentives to use carbon intensive energy.

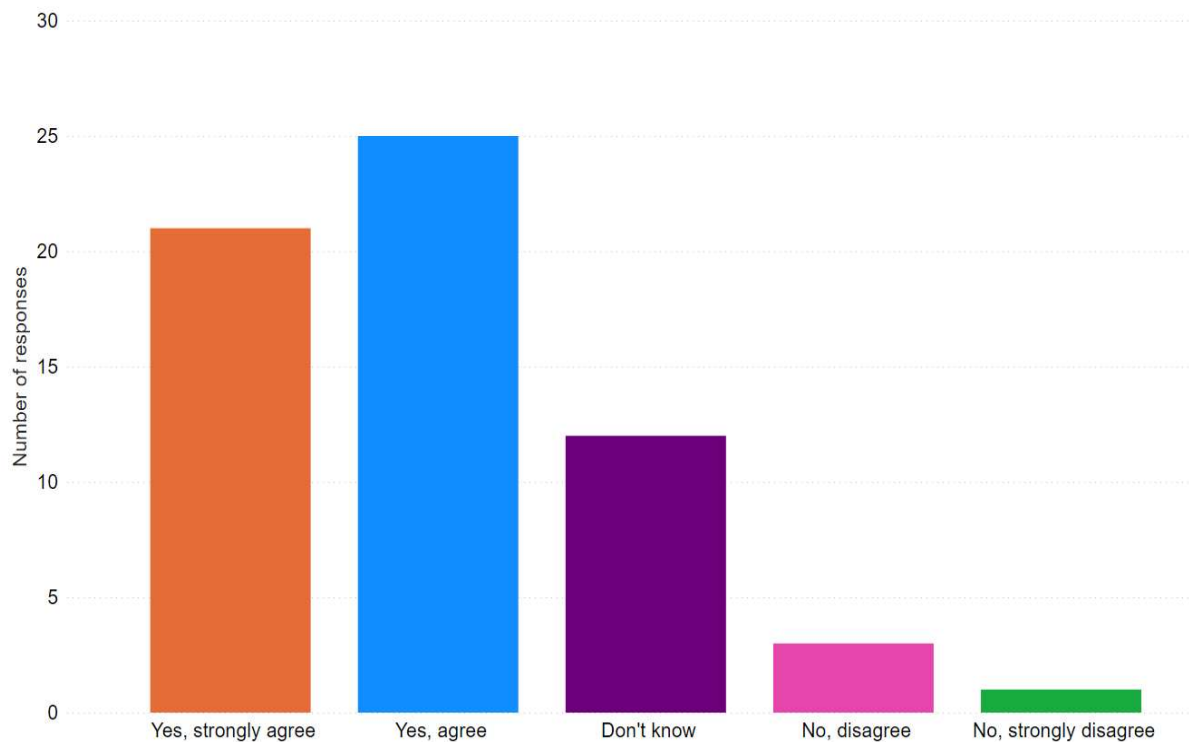
Possible downstream impacts (Question 4.10 - 4.14)

Many respondents were concerned about potential downstream impacts of carbon leakage, noting the risks of production processes moving outside of the UK, or product substitution. Long or complex supply chains were seen as likely to increase risk. Respondents saw broad sectoral coverage of measures and transparent, standardised reporting as potential mitigations, and some noted the importance of alignment with the EU in this regard. Respondents also noted concern about passthrough to consumers of increased costs associated with a CBAM.

There were 140 responses to questions 4.10-4.14 on the topic of downstream impacts and material issues on production and trade processes, with some variation in the number of responses across the individual questions.

Question 4.10 asked respondents if potential risk of carbon leakage from increased imports of processed products produced, using intermediate inputs that would have been covered by UK carbon leakage measures if imported directly, is a significant concern.

4.10: There may be a risk of carbon leakage from increased imports of processed products produced using intermediate inputs that would have been covered by UK carbon leakage measures if imported directly. Is this a significant concern for you?



Many responses identified that increased imports of processed products using intermediate inputs or imports of partially completed ('semi-finished') products would create risk of additional carbon leakage. Some responses argued that measures should be broad in scope to manage a wide variety of risks, with some sector-specific examples of preparatory stages or products which could be covered by measures to reduce carbon leakage risk. And some responses suggesting that this risk is already present in the chemicals sector, with UK businesses losing out to imports of products made from higher-emissions coal-based chemicals. Offshoring of domestic processing (such as container filling operations) was also highlighted by some responses as a potential avenue for carbon leakage, as operations outside of the UK would potentially circumvent stricter CBAM requirements onshore.

One respondent stated that there was a need for relief from a UK CBAM for goods which are used in exports, which would work similarly to inward processing relief.

Some responses flagged that relevant comparisons in agricultural products (milk and butter, vs. milk powder and bulk butters) appeared to be of lower concern, as carbon pricing measures were perceived by some responses to be already more standardised and all-encompassing.

Question 4.11 asked respondents that if they answered yes to Question 4.10, in which sectors do they foresee material issues, and why. The sectors most frequently identified were those with high volumes of raw or compound material inputs with multiple stages of processing required, including construction, chemicals, and glass. Other sectors identified



highlighted involved advanced manufacturing, such as automotive, aerospace, and electronics manufacturing sectors.

Factors frequently identified as increasing risk were those that increased the possibilities for offshoring and manipulating the point at which import and production of products at different stages might occur; longer value chains, availability of products abroad, and higher variability in manufacturing stages. Some responses flagged that consistency and 'smoothness' across charges and import duties for associated products (i.e., minimising step changes between charges on precursor- vs end-products) would help minimize the incentives for companies to 'game' the regime.

Question 4.12 asked respondents for their views on the merits of the potential options explored in the consultation for addressing potential downstream impacts of carbon leakage measures, and whether there are any alternative options. Most responses focused on support for either an implied carbon price/standard, or support for a CBAM charge linked to percentage of embedded intermediate product (e.g. 'clinker' embedded in cement) within an end product (the cement end product).

Many responses also noted hypothetical support for common CBAM accounting standards to apply across multiple (if not all) import products, to ensure consistency in how different stages of production are considered, including on intermediate components, and to mitigate unintended consequences of partial coverage. Some responses argued that there could be an irreversible negative impact on UK industry if an approach to precursor materials and downstream risk was not embedded in measures early on.

In general, responses were supportive of applying a standardised CBAM to imports, or of working out the number of intermediate inputs, though responses caveated that it was difficult to select a specific preference at this early stage specific, as these might depend largely on the eventual design of measures. Notably however, some responses answered that they actively did not want to limit circumvention or resource shuffling. Some also outlined concerns about the administrative complexity, the cost which might pass through to UK consumers, and the WTO legal compatibility of the options presented.

Question 4.13 asked about thresholds under which the levels of relevant intermediate inputs would be exempted, with no action taken if relevant intermediate inputs are sufficiently small in volume or significance. The majority of responses opposed introducing a particular threshold, largely because of the complexity of the threshold setting process, variability across sectors, and because any circumvention of carbon leakage would be detrimental in principle. For those few responses that did acknowledge a threshold (sometimes reluctantly) as a second or third possibility, in general there was preference for extremely low and tailored thresholds to be applied.

Question 4.14 asked how the government should strike the right balance between the need to address material downstream effects and the implications for administrative complexity and consumer impacts. Responses raised the possibility of implementing a standardised system or online portal (similar to VAT/PAYE) related to manufacturing, distribution, and tracking of live data. For sectors such as cement, it was acknowledged that the relevant information required to apply a proportional CBAM based on input constituent products should be available based on existing industry practices. Many responses suggested that a core risk of a partial regime would be loss of UK

competitiveness, meaning addressing complexity and ensuring ‘completeness’ of the regime was important, including testing phases to allow for assessment and early identification of unintended consequences and misaligned incentives. Some responses noted the importance of alignment with the EU in this regard. Concern for passthrough to consumers of increased costs associated with CBAMs was re-flagged in responses on the administrative complexity.

There was broad similarity in responses across major sectors, with differences in views largely relating to different types of imported product. Electronics and advanced manufacturing responses focused on the risk of production processes being offshored to more carbon-intensive regimes, and the risk of complex production processes being ‘gamed’ to evade a UK CBAM. Bulk materials and chemicals manufacturing responses centred more on concerns around how precursor materials should be captured under the eventual CBAM accounting regime when established.

Responses to questions about carbon leakage risk for exports (Question 4.15 - 4.17)

Many responses identified the same carbon leakage risk factors in export markets as in import markets and warned that left unmitigated, impacts would be significant. The most common potential mitigations discussed were rebating or removing domestic carbon costs or maintaining free allowances for goods intended for export. Several respondents raised the potential for rebates to be challenging to design in line with WTO rules, and may undermine the environmental integrity of measures.

Question 4.15 asked respondents which UK sectors are most likely to face carbon leakage risk in export markets. There were 30 responses to this question. Many responses were of the view that where a UK firm faces risk of carbon leakage domestically they will also face that risk in export markets, with export-oriented sectors likely to be particularly exposed to this risk. As with domestic risk of carbon leakage, an accumulation of energy and climate related costs was cited as exacerbating risk. One respondent felt the UK may be particularly at risk of carbon leakage in export markets because of a tendency for UK firms to operate in highly globalised supply chains. Multiple primary sectors and products were named as being of concern, including steel, aluminium, nickel, cement, lime, electricity, refined products including hydrocarbon products, refined petroleum products, polymers, chemicals, glass, ceramics, possibly hydrogen in future and fuels. Respondents also sighted risks to exports further down the supply chain.

Question 4.16 asked what the impact of carbon leakage risk in export markets could be, if any. There were 24 responses to this question, with 18 responses saying that left unmitigated risk of carbon leakage in export markets was significant. Several responses warned that in some sectors, given global demand for a particular commodity (for example refined goods), failing to mitigate risk of carbon leakage in export markets would simply shift production to other more emissions-intensive markets for the long term. In addition to carbon leakage, potential impacts cited were UK producers becoming uncompetitive, exporting less, losing orders, investment diverting to other countries, lack of supply resilience, resource shuffling and job losses. Two responses were of the view that risk of



carbon leakage in export markets is low, with one respondent saying the government should focus on the causes of carbon leakage rather than on measures like export rebates. One respondent noted that the majority of UK exports at risk of carbon leakage would head to the EU (where carbon pricing is in place and therefore not face risk of carbon leakage in that market).

Question 4.17 asked what approaches respondents would propose for the mitigation of carbon leakage risk for UK sectors affected by carbon leakage risk in export markets. There were 40 responses to this question. Responses cited three broad options for mitigating risk of carbon leakage in export markets. Responses did not always indicate an expression of support for one option over another, but rather set out that they were the options available. Fifteen suggested that a CBAM should be a ‘two way mechanism’ rebating the carbon cost associated with products destined for export markets; 13 cited retaining free allocation of allowances for the portion of production destined for export markets (with one suggesting allocating 100% of allowances for free); two suggested amending the UK ETS so that it doesn’t apply a carbon cost for the portion of production destined for export markets. Three responses were of the view that the ideal solution was an international agreement so that all markets and producers face the same cost of carbon. Two responses argued that linking with the EU ETS would be a better overarching solution. One respondent suggested carrying out regular assessments of the impact of the CBAM on carbon leakage, including in relation to exports (as the EU are doing). One respondent suggested increasing support for R&D into low carbon technologies, making UK producers more competitive.

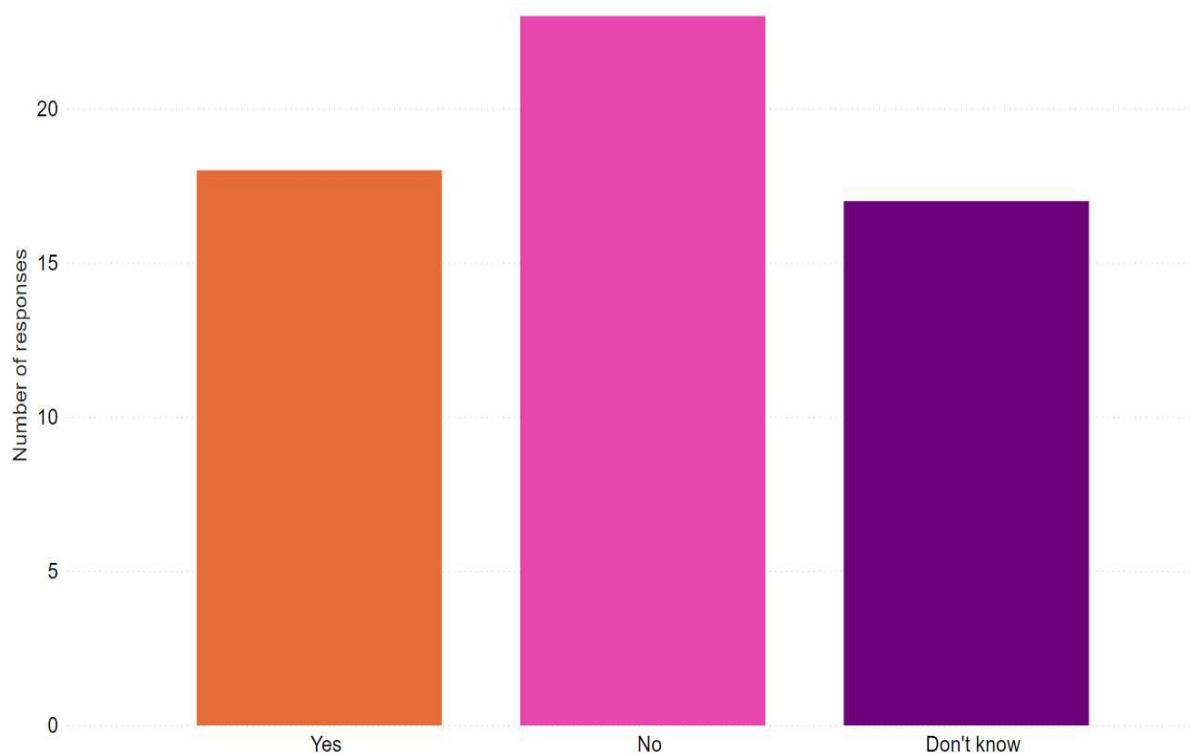
Several responses were concerned about WTO compatibility of measures and warned that they could undermine UK carbon pricing and environmental goals. Several responses recognised the challenges in designing export rebates to be compatible with WTO rules (although three responses were of the view this was/could be possible). Three responses also warned that there could be perverse environmental outcomes, incentivising production for export which would effectively be exempt from UK production standards or UK carbon pricing. This would undermine the purpose of UK carbon pricing. Retaining free allocation of allowances for the portion of production destined for export markets was cited by one respondent as a less environmentally problematic approach, with another noting they could be ‘...conditioned on specific (very low) benchmark levels of emissions, in order not to disincentivise decarbonisation.’ The three responses favouring international solutions noted that ‘due to how integrated our (UK) supply chains are, the UK has the greatest interest in developing a credible and accepted international standard for carbon accounting to support a CBAM, and should prioritise this as part of our foreign and trade policy.’ This was supported with the suggestion of periodic reviews to ensure alignment and interoperability with global initiatives.

Exports (Question 4.18)

The responses were broadly split on whether MPS should apply to UK manufactured products intended for export.

Respondents were asked whether they felt mandatory product standards should apply to all UK manufactured products intended for export.

4.18: Should mandatory product standards apply to all UK manufactured products intended for export?



There were a total of 58 responses to the multiple choice aspect of this question, and 36 responses to the open text section.

A minority (23 responses) did not want MPS to apply for UK manufactured products intended for export. 18 responses cited concerns that it could impact UK producers' competitiveness as an exporter and wanted to ensure UK producers could remain internationally competitive. Others cited the difficulty in assurance compliance for jurisdictions that do not apply stringent control and verification. Six responses cited the need for MPS policy to be the same as CBAM, or that an MPS should not apply to exports, as some exports would also face a CBAM charge at the EU border.

17 respondents answered 'don't know' to this question, some of which stated the need for an entire businesses production to be subject to any carbon leakage measure.

18 responses wanted MPS to apply to exports, with nine responses citing the importance of ensuring consistency for export policy to be in line with import policy, providing a standard approach for all to follow.

Other themes from responses included the importance of international cooperation in carbon leakage policy. When looking at exports, respondents raised concerns around the potential to end up producing different products for different markets, e.g., high emission steel for export, and low emission steel for the domestic market and the impracticality that would come with this. One respondent suggested that implementation should take a sequenced, targeted approach, perhaps targeting exports as a second step.

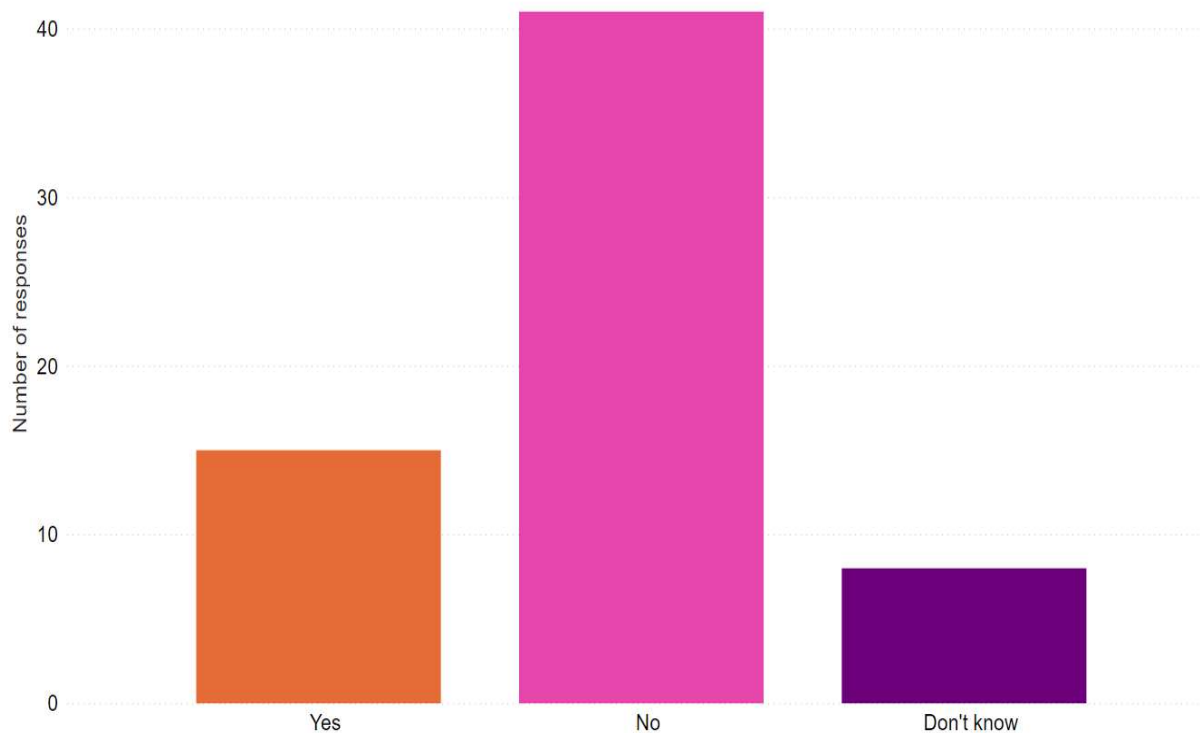


Carbon credits (Question 4.19)

The majority of respondents said that carbon credits should not be considered as contributing towards an industrial product meeting an MPS, or payment of a CBAM charge.

Respondents were asked whether they agreed that the use of carbon credits to offset emissions be considered within the assessment of a product.

4.19: Should the use of carbon credits to offset emissions be considered within the assessment of a product?



The government received 69 responses from a range of respondents including UK industry, think tanks and overseas respondents. Respondents raised specific challenges regarding use of carbon credits, such as the unintended consequence of disincentivising emission reduction.

The majority of respondents (48) thought that the use of carbon credits to offset emissions should not be considered when assessing products, with 29 respondents raising the risk that doing so could create perverse incentives such as diluting action to reduce emissions, disadvantaging developing countries, disincentivising investment in hydrogen, CCUS and grid electrification in the UK, or reducing the credibility of demand-side policies.

There was also concern around the potential risk of 'greenwashing', with 25 respondents raising the environmental integrity of carbon credits due to the current lack of maturity of a robust standard in which verified schemes use different methodologies. Several respondents suggested that carbon credits might evolve and could be an option in the future.



Of 15 respondents who stated that carbon credits should be considered to offset emissions, there was a mixed response regarding the timing of their introduction. Seven respondents thought this option should be kept under review and implemented if necessary, provided its design was carefully considered. The risk of 'greenwashing' was also recognised by several of these respondents, with suggested mitigations including removing the ambiguity between emission reductions and greenhouse gas removals. Alignment with international carbon credit standards was raised as being important.

Several alternatives to the use of carbon credits were suggested, including measurement of embodied emissions; Carbon Dioxide Removals certificates; and growing the market for low-carbon products.



Chapter 5: Growing the market for low carbon products

The government will seek to work with industry to establish a system of voluntary product standards to benchmark the carbon content of selected industrial products. The scope and operation of any voluntary product standards will be subject to further technical engagement and will initially build on existing international and sector-led initiatives in the steel, cement, and concrete sectors.

The government will continue to explore options for product labelling as a potential additional measure to support the effectiveness of voluntary product standards. The use of product labels would be voluntary for businesses.

The government announced its commitment to the IDDI Green Public Procurement Pledge at COP28 on the 5th of December 2023, confirming its intention to meet level 3 of the pledge.

Chapter overview

Chapter 5 of the consultation set out how the government could potentially support a growing market for low carbon products directly through public procurement policies, and indirectly through policies such as product labelling and voluntary product standards or benchmarks, and the government's understanding that:

- These policies could give consumers (including businesses and governments) greater transparency about the embodied emissions of products, giving them simple ways to recognise low and high carbon products, and a better understanding of how they can use their purchasing power to support the transition to net zero
- These policies could also boost the competitive position of low carbon products, helping to mitigate carbon leakage risk
- Governments and businesses are already developing international partnerships to progress the development of a global market for low carbon products, for example, the UK/India led Industrial Deep Decarbonisation Initiative (IDDI) and the US-Led First Movers Coalition (FMC)

Some of the key challenges identified in the consultation were:

- Whether labels would be an appropriate way to represent product standards' benchmarks, and if so, how to design these labels to be most effective in incentivising lower carbon consumer choices
- What level of ambition the UK should pledge to as a member of the IDDI, and what the consequences of different pledge levels might be for different sectors
- Whether the International Energy Agency's (IEA) proposal for low emissions thresholds for steel and cement should be adopted

The consultation sought views on six overall questions to inform development of government policy on growing the market for low carbon products. These were:

- What should be included in a system of labelling for embodied emissions intensity? (Question 5.1)
- Should the government adopt mandatory labelling for products that are required to have their embodied emissions reported? (Question 5.2)
- Which level of Green Procurement Pledge for the IDDI would best support the decarbonisation of UK industry? (Question 5.3)
- What would be the likely impact of implementation of each IDDI pledge level for different sectors? (Question 5.4)
- Should the government adopt the low emissions thresholds suggested by the IEA? (Question 5.5)
- What can the government do to support firms to join the First Movers Coalition? (Question 5.6)

Summary of responses to this chapter

Chapter 5 of the consultation set out how the government can help to grow the market for low carbon products. This included measures such as product labelling and voluntary product standards, as well as procurement policies. The questions on procurement policies included questions specifically on the Industrial Deep Decarbonisation Initiative (IDDI), the Green Public Procurement pledge (GPP), and the First Movers' Coalition.

Responses in this chapter came from a wide range of sectors, including industrial producers, academia, consultancy firms, the construction industry, and sellers of construction products.

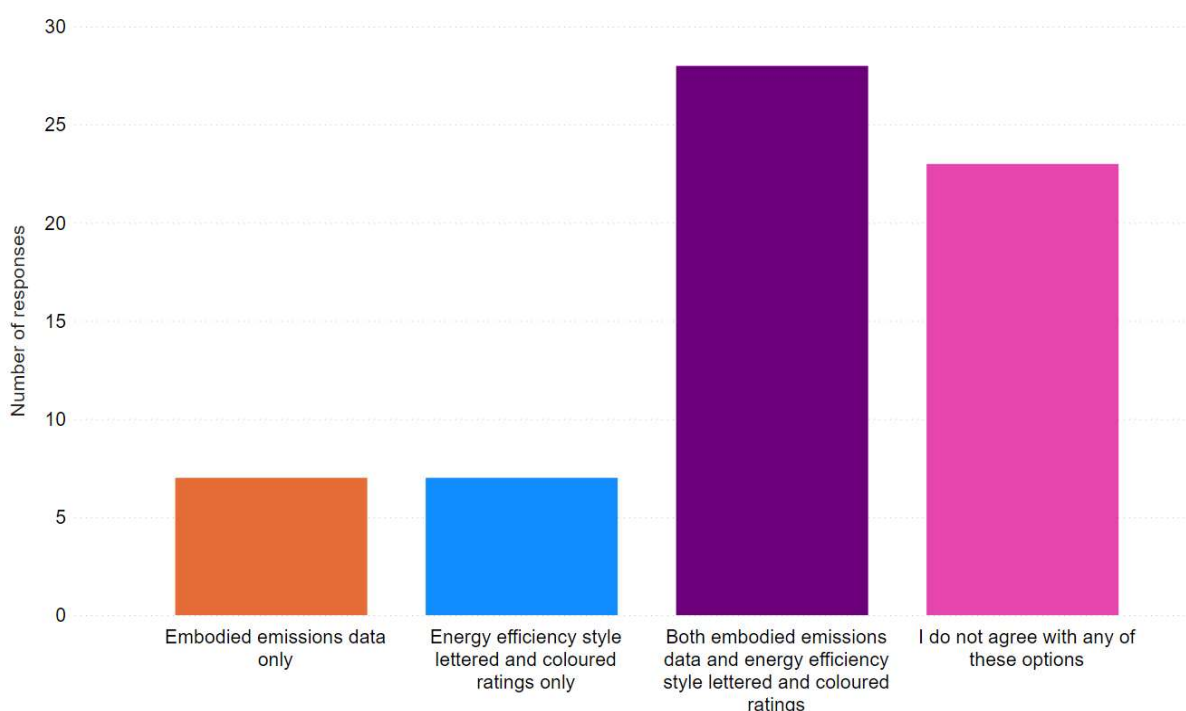
Respondents were largely supportive of proposals to implement demand side policies, but did raise some challenges and concerns, principally in response to the questions about product labelling and the IEA's proposed low emissions thresholds. For product labelling, these included concerns about the appropriateness and usefulness of labels for business-to-business purchases, difficulties associated with implementation, and the implications of a mandatory approach to labelling. Concerns around the low emissions thresholds proposed by the IEA included the risk of creating counter-productive incentives, and unfairly penalising producers without access to certain decarbonisation technologies.

Product Labelling (Questions 5.1 and 5.2)

A majority of respondents supported product labels that would include either embodied emissions data, energy efficiency style lettering, or both.

Question 5.1 asked respondents whether they agreed that any labelling scheme should include embodied emissions data, energy-efficiency style lettered and coloured ratings, both or neither of these options. This multiple choice question also gave respondents the opportunity to expand on their answer.

5.1: Which of the following statements corresponds most with your view?



There were 65 responses to the multiple choice part of this question, and 55 responses to the open text section. A majority of respondents (42) supported product labels that would include either embodied emissions data, energy efficiency style lettering, or both. Of these, 28 respondents supported the use of both, while an even number of respondents supporting either option (seven each). 23 respondents did not agree with either option.

Respondents who supported both energy efficiency style labelling and embodied emissions data, generally focused on the need to give consumers access to information that is clear, accurate, trusted, and that enables meaningful comparisons between products. Some responses noted that publishing embodied emissions data alone might not be meaningful to consumers, so supplementary information, such as the proposed lettering and colour coded system, was needed.

Respondents who opposed both embodied emissions data and energy efficiency style labelling argued that product labelling would not be appropriate for their sectors, in part

due to the prevalence of business-to-business transactions. These responses argued that products in their sector are often made to specification, and can be highly varied, which can make meaningful comparisons between products difficult. Some respondents noted that EPDs are already being used by some sectors to provide information. Other respondents who generally supported the potential role of labelling caveated that this was only in the context of sales to end-use customers.

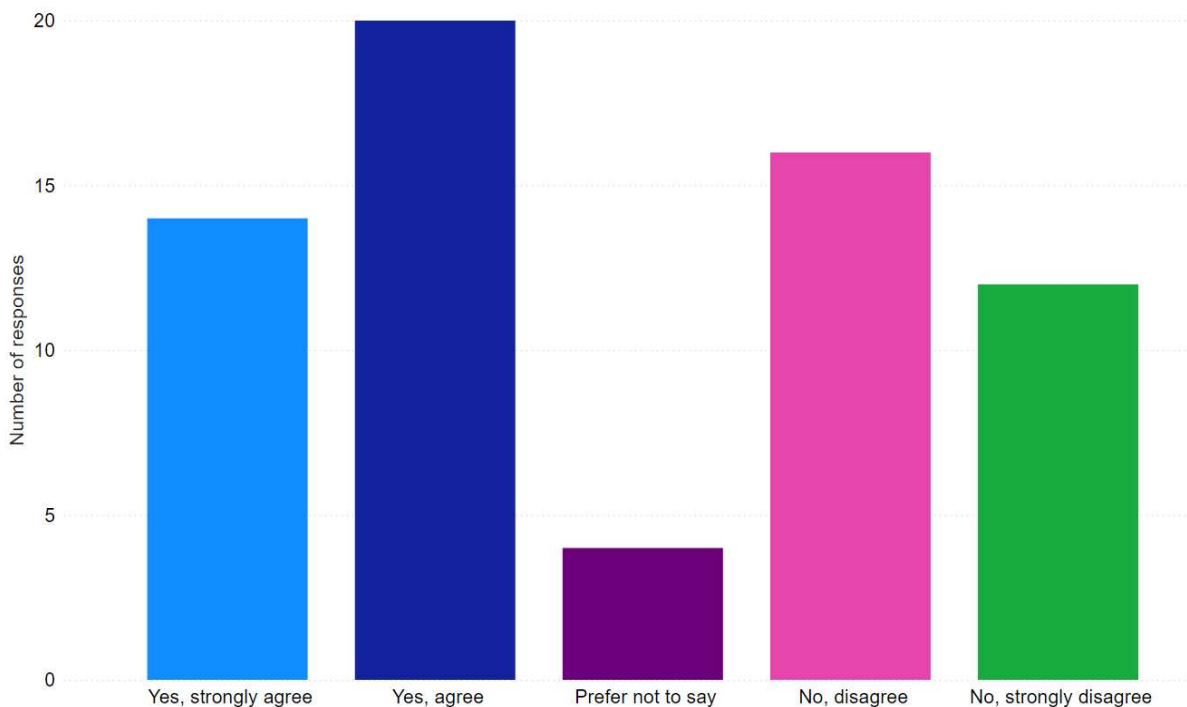
The complexity of labelling was raised as a general issue with both options by five respondents. These responses warned that such labels would not take into consideration the full range of issues, such as energy use, and result in unintended consequences. Where respondents noted unintended consequences, these included incentivising products which might be harder to recycle or have higher end-of-life emissions intensity.

Five respondents noted that Environmental Product Declarations (EPDs) have a similar function in the construction industry, with two further responses stating that electricity and fossil fuels also have systems in place to communicate emissions data to consumers.

Respondents were relatively split on whether labelling should be mandatory for products that are required to have their embodied emissions reported.

Question 5.2 asked respondents if the government should adopt mandatory labelling for products that are required to have their embodied emissions reported. This was a multiple choice question which also gave respondents the opportunity to expand upon their answer.

5.2: Should the government adopt mandatory labelling for products that are required to have their embodied emissions reported?





66 respondents answered the multiple choice aspect of this question, while 63 answered the open text section.

Respondents' views were relatively evenly split. 34 respondents either agreed or strongly agreed that the government should adopt mandatory labelling for products that are required to have their embodied emissions reported. 28 either disagreed or strongly disagreed, with the remaining four preferring not to say.

11 respondents noted that labels could allow purchasers to make more informed decisions, helping them differentiate between high and low carbon products.

As with question 5.1, five respondents noted that labelling may not be appropriate for business-to-business purchases, although one respondent noted that a certification scheme might be more appropriate in this context.

Arguments against mandatory labelling focused on the potential for unintended adverse consequences, largely for the same reasons as discussed above. Four respondents highlighted the risk of increasing administrative burdens on businesses, noting that this approach would require businesses to invest in carbon auditing, and that small changes in production could mean that new labels are needed. Three respondents suggested that integrating labelling requirement into existing standards could lessen the administrative burden, with several responses suggesting that this burden is likely to be limited where embodied emissions reporting is already mandatory.

Public procurement and the Industrial Deep Decarbonisation Initiative (IDDI) (Questions 5.3 and 5.4)

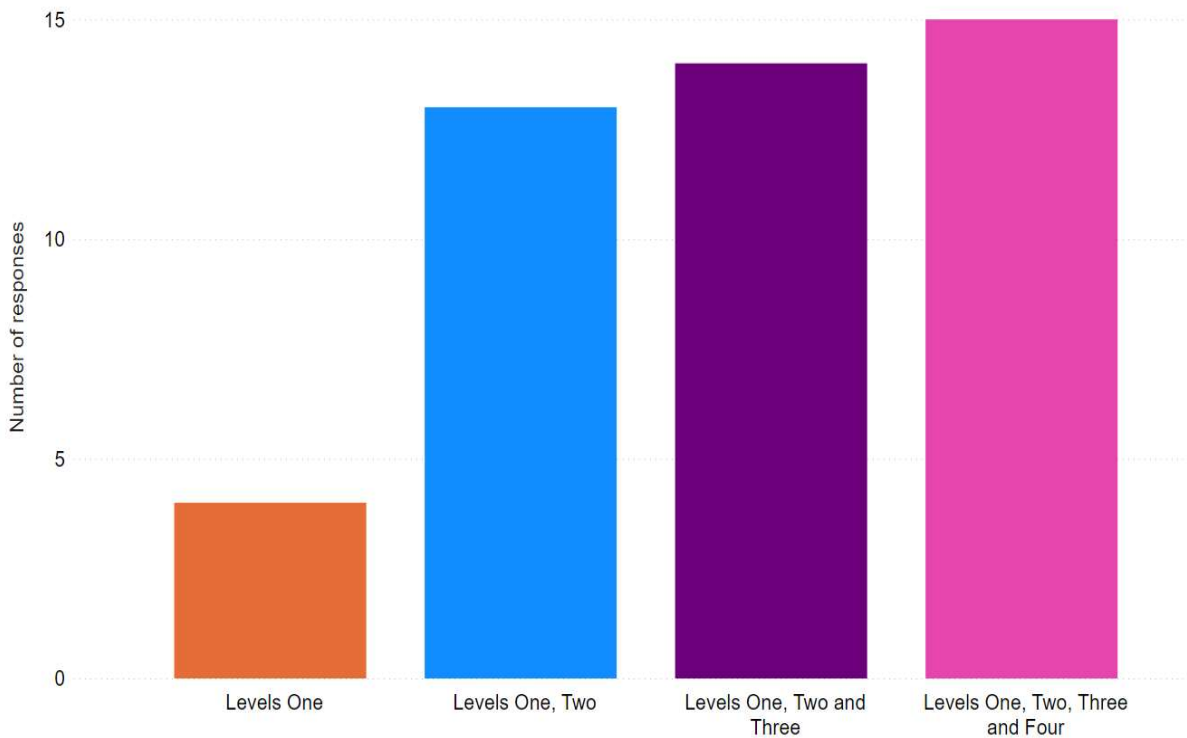
There was general support of government action on the IDDI Green Public Procurement (GPP) pledge and adopting a pledge that would set targets for industrial products used in major public procurement projects, in addition to disclosing emissions data. The majority of respondents wanted at least pledge levels one and two, with many also wanting the government to adopt levels three and four.

Question 5.3 asked which level of ambition the UK government should commit to, as a Green Public Procurement (GPP) pledge. These pledge levels are:

- Level One: Starting no later than 2025, require disclosure of the embodied carbon in cement/concrete and steel procured for public construction projects
- Level Two (in addition to level one): Starting no later than 2030, conduct whole project lifecycle assessments for all public construction projects, and, by 2050, achieve net zero emissions in all public construction projects
- Level Three (in addition to levels one and two): Starting no later than 2030, require procurement of low emission cement/concrete and steel in public construction projects, applying the highest ambition possible under national circumstances
- Level Four (in addition to levels one, two and three): Starting in 2030, require procurement of a share of cement and/or crude steel from near zero emission material production for signature projects

Question 5.4 was an open text question which asked respondents about the likely impact of each IDDI pledge level in regard to their sector.

5.3: Which level of IDDI pledge would best support the decarbonisation of UK industry?



There were 46 responses to the multiple choice part of this question, 21 responses to open text question 5.3b, and 16 to the open text question 5.4. There was significant support for the two more ambitious pledge levels (3 and 4), which would involve making some kind of procurement commitment to low emission or near zero cement/concrete and steel in public construction projects, in addition to the data collection and disclosure requirements of pledges 1 and 2. The main argument made in favour was that the government could use public procurement to send a clear demand signal to industry, both domestically and internationally, for low- and near-zero emission steel cement and concrete. However, some of these responses also stressed the need for appropriate policy support to ensure industry can meet the supply demands driven by the pledge, such as ensuring access to CCUS technology for dispersed cement plants. An alternative suggestion was that the flexibility of the pledge in terms of setting procurement shares and targets would allow the benefits to be realised without compromising domestic industry.

The main arguments for only signing up to pledge levels 1 and 2 were that these pledge levels had real potential, with concerns about implementation of the higher ambition levels. One respondent noted that disclosure of emissions associated with materials covered by the pledge would increase transparency and help prioritise decarbonisation whilst another said that this level aligns with current government procurement policy and encouraged government to bring forward timelines for level 2. There were some concerns about the proposed methodology for the implementation of, and definitions used by, the pledge, such as the use of a sliding scale for scrap content in low carbon steel. Some respondents said



that the government should only sign up to levels 1 and 2 of the pledge until the definitions of the terms 'low carbon' and 'near-zero carbon' are achievable by industry.

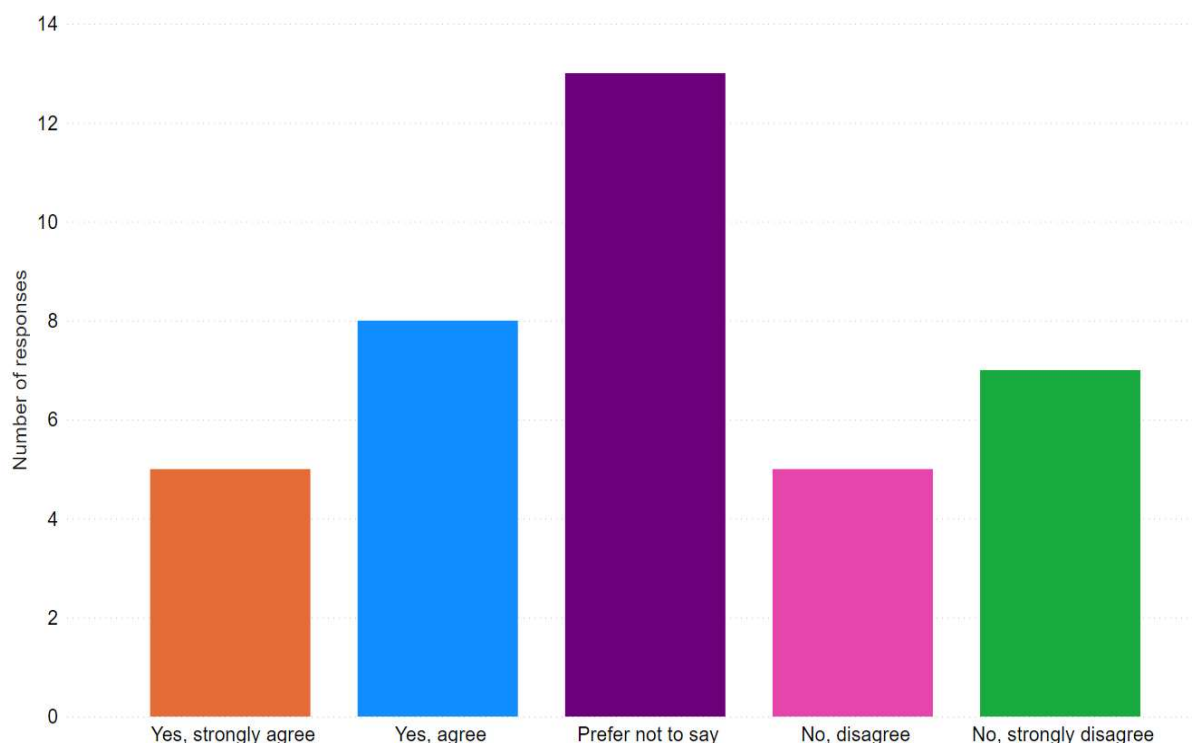
Responses to question 5.4, on the impact of the implementation of the various pledge levels, largely followed the responses to 5.3b, with support for the government using public procurement to develop a market for low carbon products but with various concerns about the detail of implementation. For example, one respondent commented that having a customer base willing to pay for low carbon products would incentivise decarbonisation but also that requirements of pledge levels 3 and 4 may not be achievable without access to transport and storage networks for captured carbon.

The IEA's Low Carbon Thresholds (Question 5.5)

There was no clear preference from respondents whether to adopt the IEA thresholds, with respondents split across the options provided.

Question 5.5 asked respondents were asked whether the government should adopt the low emissions thresholds suggested by the IEA, inviting views on whether there are any strong alternatives.

5.5: Should the government adopt the low emissions thresholds suggested by the IEA?



There were 38 responses to the multiple choice aspect of this question, and 32 responses to the open text section.

Of 38 responses to this question, the largest group of respondents were those who preferred not to give an answer (13 respondents). Respondents who did choose an option were relatively evenly split between those who agreed or disagreed with the options. 13

respondents agreed or strongly agreed that the government should adopt the IEA thresholds, while 12 respondents disagreed or strongly disagreed.

The main arguments in agreement were that the low emissions thresholds could provide an ambitious yet feasible pathway for the transition of primary production. Others stated the measures and definitions appeared appropriate, and that they are robust figures produced by reputable organisations. Another argument was that the thresholds are designed to align with international climate objectives, and by adopting these, the government would show international climate leadership and commitment.

The main justifications for disagreement were concerns around the potential for the IEA thresholds to treat scrap and blast furnace metal differently, which could disincentivise the use of the scrap metal, and encourage the continued export of UK scrap. There were also concerns about the credibility of the data used; for example, that the thresholds are not based on UK data. There were also concerns that these thresholds may exclude different production routes, and the thresholds may demand decarbonisation technologies, namely CCUS, to which there is no indication of when and if UK producers may have access.

General feedback on these thresholds included the importance of maintaining a focus on absolute emissions intensity in these thresholds, as well as not compromising overall durability, integrity, and safety standards.

Private Procurement and the First Mover's Coalition (Question 5.6)

There was broad support for UK government's involvement in the First Movers Coalition (FMC) and that it should support firms to join the FMC through various actions.

Question 5.6 asked respondents how the government could support firms to join the FMC.

There were 32 responses to this open text question. 25 respondents stated that the UK government can/should support firms to join the First Movers Coalition (FMC) and suggested various potential government actions, while five respondents opposed any involvement of the UK government, mainly arguing that the FMC is too heavily geared towards the US context.

Four respondents suggested doing more to promote and raise awareness about the FMC, such as engaging with industries to inform them about its purpose and benefits. Four respondents suggested the government should accelerate procurement from low carbon first movers. Variations of this were suggested by four respondents, who suggested a combination of the government providing clear and meaningful public procurement criteria, and putting in place initiatives such as those in other jurisdictions, such as the Buy Clean California Act.

Three respondents suggested that the government should provide policy support for FMC members. This included a suggestion to work with industry representative bodies to develop sector-specific work plans, and work across government departments to ensure a harmonised policy landscape.



Other suggestions included:

- Broadening the eligibility criteria of the FMC so that all companies, not only large ones, can join
- Engage with groups such as SteelZero and ConcreteZero to maximise reach
- Help reduce administrative costs and burden for companies joining the FMC
- Introduce financial reporting rules mandating UK companies to report Scope 3 emissions

Government considerations: Voluntary Product Standards

Voluntary Product Standards (VPS) would provide UK industry with a framework for benchmarking products based on their emissions intensity. This would help differentiate higher and lower carbon versions of products, empower actors across the supply chain to make informed lower carbon purchasing decisions, and could incentivise manufacturers to go further in implementing decarbonisation measures.

VPS would improve transparency around embedded emissions in goods, in turn increasing demand and helping create a larger market for low carbon products that would be more resilient to the risk of carbon leakage. This will not impose a regulatory burden on businesses, who can choose not to adopt them. It seeks to enable consumers of relevant products to use the improved information to inform purchase decisions.

The government would seek to work with international partners to maximise benefits and mitigate the risk of any adverse trade impacts, many of whom are already involved in relevant initiatives such as the UN's Industrial Deep Decarbonisation Initiative (IDDI).

The government will continue to explore options for product labelling as a potential additional measure to support the effectiveness of voluntary product standards by helping to communicate to consumers which voluntary standard a product meets. The use of product labels would be voluntary for businesses, who could choose to use labels to advertise the low carbon credentials of their products to consumers.

The government intends to consult on detailed proposals for VPS, including implementation timelines, as part of a wider technical consultation in 2024.

Government considerations: Green Public Procurement Commitments and First Movers Coalition (FMC)

The government recognises that internationally co-ordinated procurement commitments from governments will strengthen the global demand signal to support industrial producers in increasing production of low and near-zero emission products and their confidence in the profitability of decarbonisation.

The government announced its commitment to the IDDI Green Public Procurement (GPP) Pledge at COP28 on the 5 of December 2023, confirming its intention to meet level 3 of the pledge. It is important that government's ambition matches the technical ability of businesses to decarbonise. The government welcomes the support respondents showed

for the UK's commitment to the pledge levels which involve setting ambitions for the embodied emissions of publicly procured products. More broadly, the government recognises the potential for public procurement to drive change, both domestically and internationally, and the government's involvement in the IDDI and commitment to the Pledge represent a key part of plans to this end.

The announcement at COP28 was coordinated with the other members of the IDDI, as part of the COP27 launched Priority Actions under the Breakthrough Agenda (<https://breakthroughagenda.org/>). It further demonstrates the UK's continued leadership in this space aligning with other countries on industrial decarbonisation, and will help to boost global demand for lower carbon steel, cement and concrete as we work towards net zero. We welcome the launch at COP28 of updated Breakthrough Agenda Priority Actions, as well as new Breakthrough goals for the buildings, cement and concrete sectors, and look forward to working with partners to expand the number of countries committed to the IDDI Green Public Procurement Pledge by COP29 and beyond.

The government recognises some of the procedural concerns raised by respondents, such as proposed methodologies for defining low-carbon products in this context and the timelines laid out in the pledge language.

The government is in the process of developing plans to implement the pledge, and will work to mitigate these concerns through this process, as well as through other policy developments in this area. At COP28 the government also committed to support the development and use of harmonised emissions accounting standards and definitions for low and near zero emission construction materials, starting with steel, cement and concrete, and the concerns raised by respondents will be considered as the government works towards this goal. As recognised elsewhere in this response, international alignment on standards and definitions is a priority, and the IDDI represents a key vehicle for achieving this. Finally, the IDDI Secretariat has confirmed there is discretion in setting national ambition levels as governments commit to the Pledge, and this will be a key consideration as government develop plans for implementation.

The government also acknowledges the broad support for involvement in the First Movers' Coalition as part of delivering on the Breakthrough Agenda and recognises the benefits of supporting firms to join the coalition. The government will review the suggestions for these supportive actions in 2024 in line with other policy developments in this area.



Chapter 6: Emissions reporting framework

The government will continue to develop an emissions reporting framework to underpin new carbon leakage policies. In developing a new emissions reporting framework, the government will aim to maximise the use of existing data, achieve the necessary accuracy to underpin policy, align with the evolving international consensus, and minimise industry burden. This will be subject to further technical consultation in 2024

Chapter overview

Chapter 6 of the consultation introduced proposals for an embodied emissions reporting framework that could be necessary to underpin carbon leakage mitigation policies. It included options for the design of embodied emissions reporting and the use of default values.

The consultation set out two broad options for how the embodied emissions of products could be measured and reported. Option 1 involved developing reporting requirements using installation level data, which would likely align with reporting requirements under the UK ETS. Option 2 would use product level life cycle assessments and would align more closely with Environmental Product Declarations (EPDs) as well as other international reporting methodologies.

Chapter 6 of the consultation set out the government's understanding that:

- Information about the embodied emissions of products is necessary for carbon leakage and demand-side policy measures to operate, whether in the form of actual emissions data or estimated values. If carbon leakage policy measures are to be introduced, then the government needs to decide what methodology businesses should use to calculate these emissions for both UK and imported products
- The use of emissions factors and default values could be used to simplify any emissions reporting system. This would help ensure that even companies which are unable to collect actual emissions data are able to ascribe emissions values to their products
- A key priority for the government would be getting the necessary level of accurate data that is required to implement policy whilst also minimising the burden on industry
- A number of competing emissions measurement methodologies already exist or are in development within the private sector or through public sector organisations. There are also a number of potentially overlapping emissions and energy reporting requirements within the UK. There is a role for the government to play in simplifying this system

The consultation sought views on seven overall topics to inform development of government policy on embodied emissions reporting methodology. These were:

- Should the government introduce a framework to enable the reporting and collection of product level emissions? (Questions 6.1, 6.2, and 6.3)
- Should an emissions reporting framework use installation level data, or product life cycle assessment with default values? (Question 6.4)
- Should there be a single emissions reporting framework for all carbon leakage policy measures? (Question 6.5)
- What are respondents' views on balancing the administrative burden of product emissions reporting against the accuracy of results? (Question 6.6)
- Which emissions factors should be used for the calculation of embodied emissions of products if emissions reporting requirements were introduced? (Question 6.7)
- How should default values be calculated? (Question 6.8)
- Are there additional data sources for default values which the government should consider? (Question 6.9)

Summary of responses to this chapter

There was widespread support for the introduction of a new framework for embodied emissions reporting, but a clear split in those who supported a reporting methodology based on site level emissions data from the UK ETS and those who supported one based on life cycle assessments.

One of the key trade-offs that respondents cited when developing the most appropriate reporting system was achieving the right balance between the required accuracy of data to introduce effective policy measures and the level of administrative burden that industry should bear if a new embodied emissions reporting framework were introduced.

There was a balance of views with strong arguments being put forward in favour of both sides of the trade-off between the administrative burden against the accuracy of results, but the largest single group of respondents preferred that the government prioritise the accuracy of results.

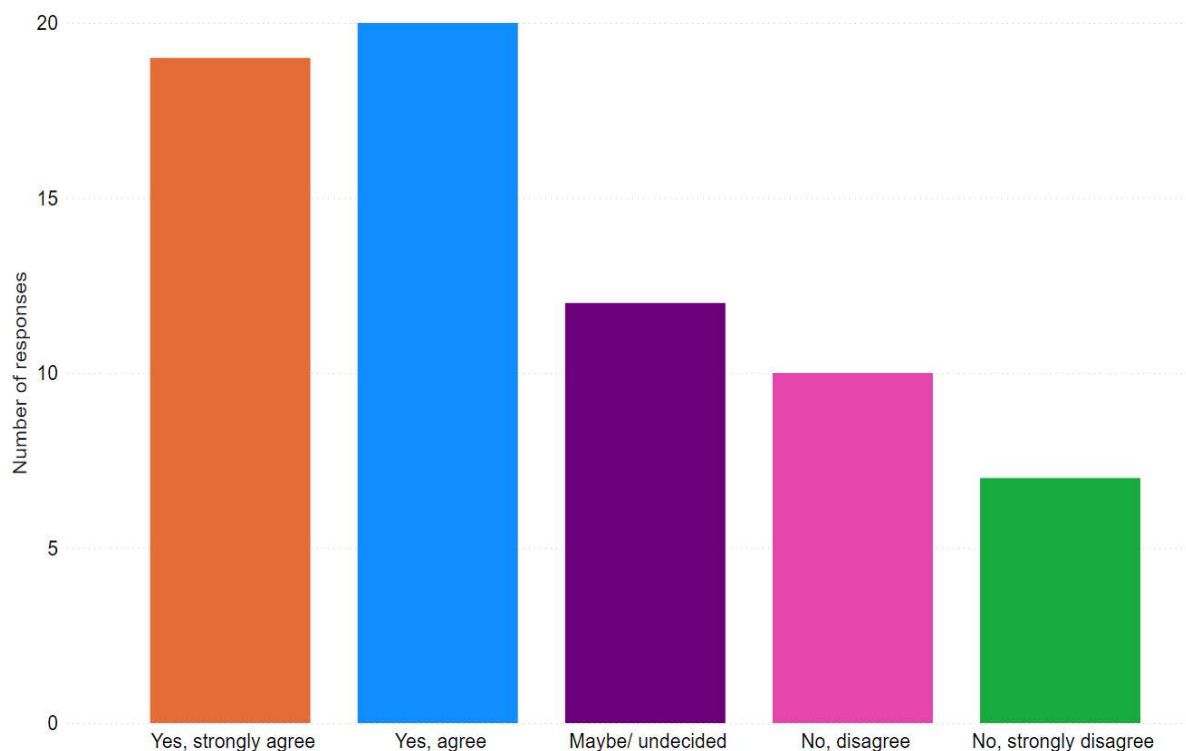
To help balance the need for accuracy with feasibility of data collection, there was widespread support for the use of default values, with the majority of respondents supporting the use of stringently set default values to incentivise highly polluting companies to report.

Embodied Emissions Methodology (Questions 6.1 - 6.3)

There was support for introducing a new framework to enable reporting and collection of product level emissions.

Question 6.1 asked respondents whether the government should introduce a new framework to enable the reporting and collection of product level emissions. Questions 6.2 and 6.3 asked what respondents saw as the associated advantages and disadvantages.

6.1: Should the government introduce a new framework to enable the reporting and collection of product level emissions?



There were 68 respondents to Question 6.1, the majority of whom (39) either agreed (20) or strongly agreed (19) that the government should introduce a new framework to enable the reporting and collection of product level emissions. 10 respondents disagreed, and seven strongly disagreed. A further 12 respondents remain undecided.

The 39 responses supporting the proposal stated a variety of reasons. Nine of the respondents pointed to a framework approach bringing improved consistency of data and therefore minimising burden for industry. A further 10 respondents argued that a framework approach to emissions reporting would be either necessary to introduce policies or would help to advance decarbonisation aims across industry. However, a significant proportion (10) of respondents wanted the government to ensure that, when following a framework approach, the government would seek alignment with existing reporting methodologies including those used internationally (3), the EU CBAM (2) and the UK ETS (4).

Of respondents who disagreed with the proposal, the main concern (12) was that the introduction of new reporting requirements would simply duplicate reporting, which is already ongoing, either through Environmental Product Declarations, the UK ETS or other schemes like the Taskforce on Climate-related Financial Disclosures. Two respondents argued that any new reporting requirements should be added onto existing schemes, such as ETS METS or Climate Change Agreements.

Another commonly mentioned concern (6) was the potential complexity of any new reporting system, which could add additional cost and administrative burden to businesses

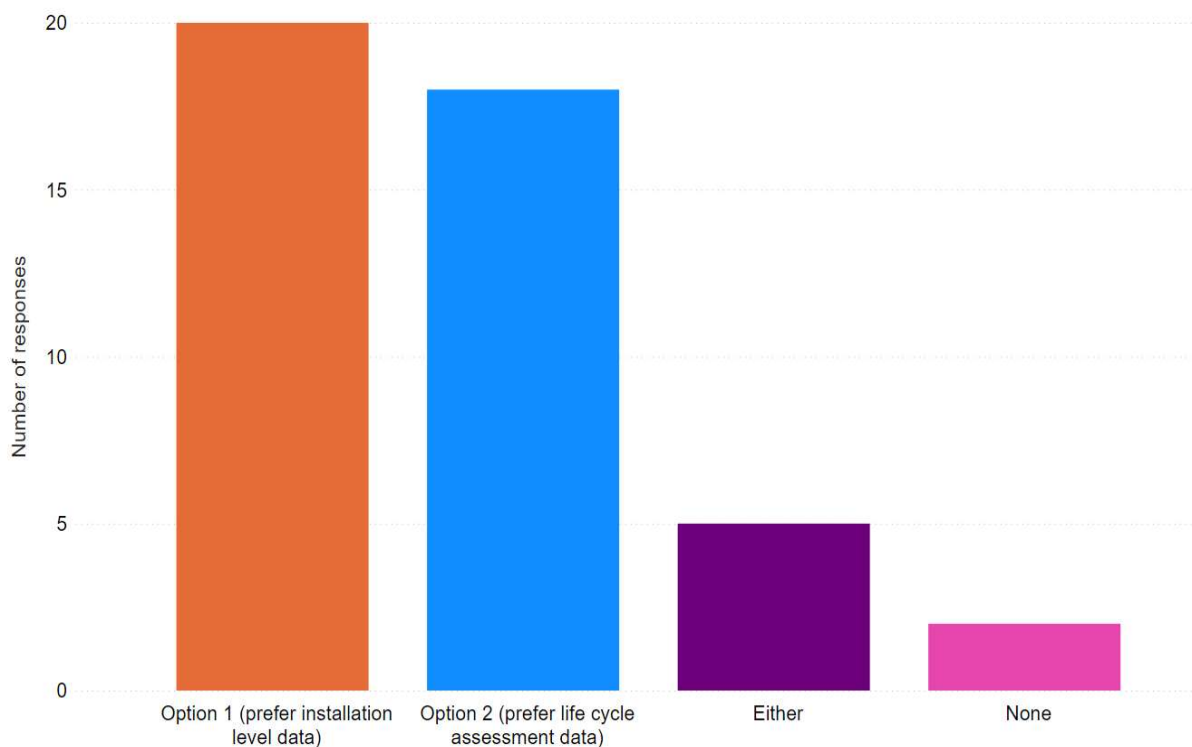
– especially SMEs. One respondent was also concerned about the potential for other companies to discover commercially sensitive information via the reported emissions data.

Use of installation-level data or life cycle assessment (Question 6.4)

Respondents were split evenly between attributing installation level data to products with default values or using product life cycle assessments with default values.

Question 6.4 asked respondents who had supported a new reporting framework if they preferred attributing installation level data to products with default values, product life cycle assessments with default values, or another option.

6.4: If you answered yes above, do you prefer (1) Attributing installation level data to products with default values or (2) Product life cycle assessments with default values, or another option?



Responses to this question were split evenly between the two options. 20 respondents felt that attributing installation level data to products would be preferable, while 18 respondents argued that product life cycle assessments would be a better route. A further five respondents felt that the government could go with either approach. Respondents on both sides of the argument said that there was no straightforward solution, and that both approaches had significant challenges.

There were an additional two respondents who felt that neither option was adequate.

Of those that supported the installation level data approach, the key advantages raised were the relative simplicity of the approach – this was especially the case for respondents



who are already within scope of the UK ETS, who would face minimal increased burden if this was the approach taken. If this approach were adopted, several respondents flagged that the mass of the product would need to be divided by volume, not by value – as dividing by value would increase the risk of circumvention.

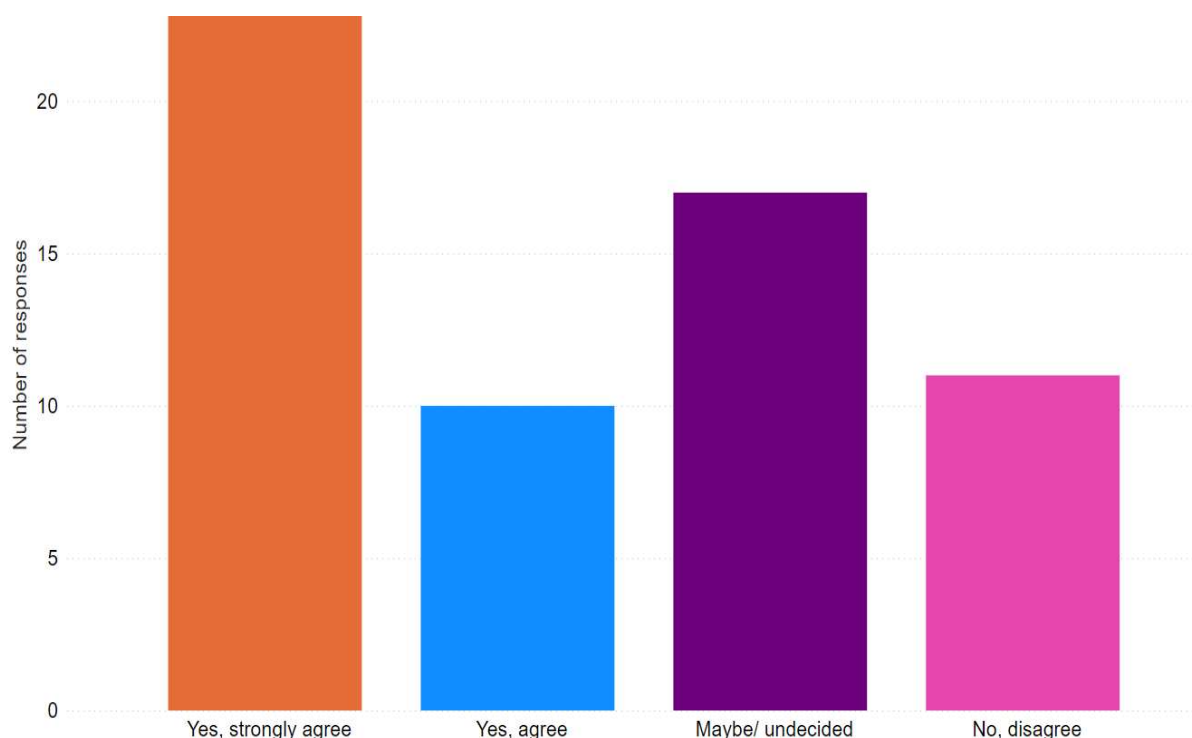
Of those that supported the life cycle assessment approach, the key arguments were that it would provide better/more trusted data and would align better with existing reporting undertaken via EPDs in some sectors. Another common theme in responses was the need for a consistent methodology for life cycle analysis style reporting – as there are currently multiple methodologies, causing confusion and increasing potential burden.

Should there be a single emissions reporting framework for all carbon leakage policies? (Question 6.5)

A majority of respondents agreed that a single reporting framework for all carbon leakage policy measures would be preferable.

Question 6.5 asked respondents whether they preferred a single emissions reporting framework for all carbon leakage policy measures.

6.5: Would you prefer a single emissions reporting framework for all carbon leakage policy measures?



There were 61 responses to this question, of which 39 offered additional qualitative evidence. The largest group of respondents (33) preferred a single emissions reporting framework, with 11 disagreeing and a significant proportion (17) undecided. Of those who agreed with the statement, a significant proportion (19) suggested that a single reporting system would be beneficial as it would increase simplicity, with many of them also arguing

that this simplicity would lead to reduced business burden and cost. An additional five respondents said that a single system would support government objectives to increase transparency and enable better comparison of data.

Four respondents stated that while a single framework would be preferable, it would likely be complicated to deliver, especially given the requirement for that single framework to be adaptable to the requirements of different sectors.

Of those respondents who disagreed with the proposal, the vast majority suggested that a CBAM and MPS/demand-side policies had different data requirements. A CBAM, some respondents argued, would be able to rely on ETS data whereas demand-side policies would also require scope 2/3 emissions data – such as that collected through life cycle analyses. There was also a strong minority view that demand-side policies would be ineffective if only reliant on ETS-style data.

One respondent agreed with the assessment that a CBAM and MPS/demand-side policies would have different data requirements, but felt the preferred option would be to find a flexible system that would enable alignment both with the ETS and with LCAs.

Balancing administrative burden with accuracy of reporting (Question 6.6)

Question 6.6. asked respondents for their views on balancing the administrative burden of product emissions reporting against the accuracy of results.

57 respondents answered this question, with most directly answering the question but also providing wider views on a range of topics. Overall, the largest proportion of respondents (24) preferred a system where accuracy is prioritised. This was for various reasons, including that only accurate data could a) support the development of effective carbon leakage mitigation policies, b) support more effective decision making or c) be effective in preventing greenwashing.

However, a significant minority (10 responses) also felt that a compromise needed to be found between the potential administrative burden and the necessary accuracy of data, and 13 respondents stated that burden needed to be minimised wherever possible to avoid negative impacts on competitiveness– with some respondents making both points.

Many of these respondents argued that the government should utilise already existing data sources, such as ETS, TCFDs or CCAs. Six respondents said the government should prioritise simplicity at first, but progressively move towards a more accurate/high burden system over time as the ability to collect, store and analyse data increases.

Eight respondents gave views on how to minimise burden, such as flexible tools that would enable simplified reporting but also accurate data and use of aggregated data/averages. Default values were often mentioned to minimise administrative burden for those who were unable to collect data, though some respondents mentioned that these would have to be applied stringently to effectively incentivise companies to report where possible.



Use of emissions factors in reporting (Question 6.7)

Question 6.7 asked respondents which emissions factors should be used for the calculation of embodied emissions, if emission reporting requirements were introduced, and what the advantages and disadvantages would be.

42 respondents answered this question, offering a wide variety of suggestions for the emissions factors that could be used for the calculation of the embodied emissions of products. 19 suggested that alternative emissions factors not mentioned in the consultation be used. Seven suggested using UK Government Conversion Factors. Six suggested permitting use of any emissions factors, whilst three proposed that none should be permitted. Two respondents suggested using trade body datasets and two suggested using the UK Greenhouse Gas Inventory. One suggested using the National Atmospheric Emissions Inventory.

Several respondents (18) recommended use of specific datasets, some of which were not mentioned in the consultation. These included datasets from High Value Manufacturing Catapult, Sphera's Life Cycle Assessment Database (through GaBi Software), and data from the Intergovernmental Panel on Climate Change. Some respondents (seven) noted the importance of being aligned and coordinated on data internationally, in some instances suggesting that UK-specific data would not be good enough or that alignment with the EU is a priority. Seven respondents also noted the importance of dataset comparability and the importance of a standardised approach to reporting.

Calculating default values (Question 6.8)

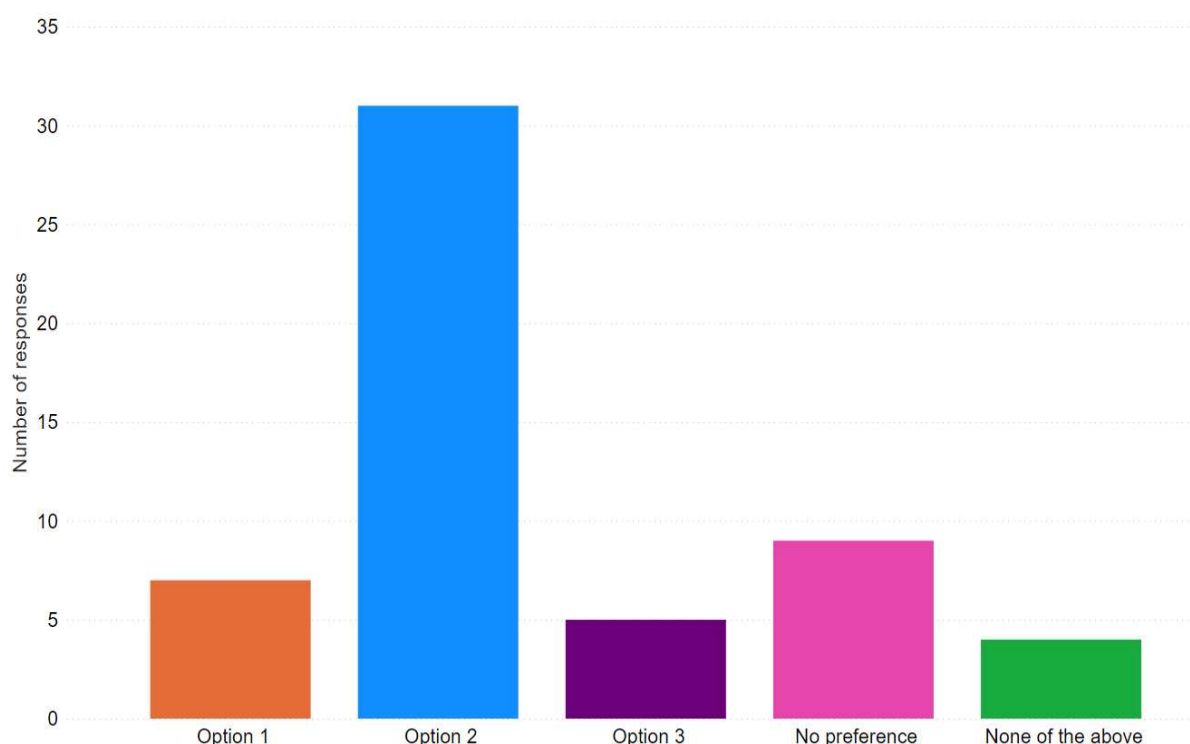
A majority of respondents preferred stringent calculation of default values.

Question 6.8 asked respondents if they had a preference between three options for how to calculate default values:

- Option 1: Default values are calculated to represent the average embodied emissions of a product, considering production method and the region of origin
- Option 2: Default values are calculated to be stringent, for example representing the 'worst available technology' for the manufacture of a given product, or a penalty (for example, 20%) is added to the industry average
- Option 3: Default values are calculated using UK industry data, initially using sources such as the UK ETS and other compliance schemes

Of the 56 respondents to this question, a majority (31) preferred Option 2, the calculation of stringent default values, with much smaller numbers preferring Option 1, calculating default values based on the average of a product (nine) or Option 3, calculating default values using UK industry data (six).

6.8: Do you have a preference for how default values could be calculated?



Most of those who preferred Option 2 cited the need to penalise the worst producers and/or provide an incentive for reporting accurate data. Respondents said that allowing higher carbon producers to rely on default values calculated in any other way would simply reduce the incentive to report – and therefore the effectiveness of the overall policy package. Some respondents also stated that the other options risked driving further carbon leakage. There were some suggestions of combining Option 2 with regional or country-level default values, rather than a global one – with the reason that global averages fail to take account of local circumstances. This option had particular support from the construction sector.

Respondents who preferred Option 1 often cited the risk of unfair outcomes for producers due to a lack of available data. This group also made suggestions that regional or national data could be used where producer-level data is not available, as well as to phase in more stringent default values over time.

Option 3 was the least supported option but did have some support from companies in the petroleum industry. Of those that did support this option, the most stated reason was that it would reduce overall burden as it would utilise data that is already verified and submitted.

Additional data sources for default values (Question 6.9)

Question 6.9 asked respondents if there were additional data sources that could be used for the calculation of default values, which had not been mentioned in the consultation.

Of 41 responses to this question, 23 were ‘don’t know’. 14 agreed that additional data sources were available, four disagreed. Respondents suggested a range of both public



and private data sources, including Carbon Mark, Carbon Minds, Ecoinvent, Gabi, IEA Emission Database, EU PEF, and WorldSteel.

Respondents also suggested that a number of private companies already delivered default values to private sector clients, and could do the same for the government, including: Ecovadis, Quantis, Resilience, Cervest, Normative, Anthesis, Carbon Trust, Cloverly, CarbonChain, SINAI, Aether, WSP, Sweep, CO2A, Plan A, Watershed, Sustainalytics and SparkChange.

Government considerations

The government will progress with development of an embodied emissions reporting framework to support effective product differentiation, minimise burden on industry and inform consumer choice. Government could use data to support the introduction of future decarbonisation policies, carbon leakage mitigation and demand-side policies.

Further policy development and collaboration with industry is needed before making a final decision on the reporting methodology to use and whether reporting would be voluntary or mandatory. Refined proposals will be tested in a technical consultation anticipated in 2024. Other considerations to explore will include international alignment, avoiding barriers to trade, and ensuring that reporting is streamlined and minimises any burden on industry. Any new measure or measures explored in these technical consultations will have to work cohesively with our existing carbon leakage policy measures, especially the allocation of UK ETS free allowances. The UK Government will also engage extensively with the devolved administrations to ensure the coherence of the wider policy framework.

Further next steps for policy development ahead of technical consultation include exploring options for use of emissions factors, default values, and data sources that could inform policy implementation.

Chapter 7: Designing the Mechanism for Embodied Emissions Reporting

Chapter overview

Chapter 7 of the consultation explored issues relating to the design of a system for embodied emissions reporting. It set out some of the challenges of determining a standardised life cycle assessment methodology for calculating the embodied emissions of products.

- Much of chapter 7 of the consultation covered further specifics relating to the first reporting options set out in chapter 6 of the consultation; developing reporting requirements which draw on or align with the UK ETS. It discussed how settling on a standardised life cycle assessment methodology for reporting could support businesses to differentiate low carbon products and decarbonise supply chains. It likewise covered issues such as:
 - Which metrics or units of measurement would be most appropriate for reporting
 - Whether a data collection period would be beneficial
 - What products or sectors should be included in reporting requirements
- The consultation explored how the government could identify a life cycle assessment methodology, or set of methodologies, and require reporting of embodied emissions accordingly. This could help to ensure that data collected is consistent, comparable, and aligned with existing industry reporting both domestically and internationally
- A data collection period could also be used to allow time for the government to refine policies and for businesses to adjust. However, the consultation noted this would place a burden on businesses without the benefits of policies
- The consultation also noted that the burden resulting from reporting should be considered when determining which sectors to apply policies to. At the same time, which substitutable products to include within reporting requirements needs considering

Chapter 7 of the consultation sought views on nine questions to inform government policy on embodied emissions reporting. These were:

- Whether the government should pursue a life cycle assessment-based approach to reporting (Question 7.1)
- What respondents' preferences were on the type of life cycle assessment methodology framework to adopt (Question 7.2)



- Whether CO₂e/mass should be used as the metric for embodied emissions reporting and whether mass is the appropriate unit of measurement for respondents' sectors (Questions 7.3 and 7.4)
- Whether the government should introduce a data collection period before the full implementation of carbon leakage policy measures and how long this period should be (Questions 7.5 and 7.6)
- Whether reporting of embodied emissions should only be required from those businesses in scope of current or upcoming policies (Question 7.7)
- Whether there are other sectors that should also have to report embodied emissions if respondents' sectors are required to do so (Question 7.8)
- Whether the scope of any new embodied emissions reporting should be limited to that which is required by carbon leakage policy measures (Question 7.9)

Summary of responses

Respondents to Chapter 7 were from a wide range of sectors, including several responses from iron and steel, from the cement sector, from oil and gas, and from consultancies, accountants, or legal services.

Responses brought out a variety of challenges concerning the design of embodied emissions reporting, with justifications for both pursuing a life cycle assessment-based approach, and for alignment with UK ETS reporting. Many respondents also emphasised the need to minimise reporting burden for businesses.

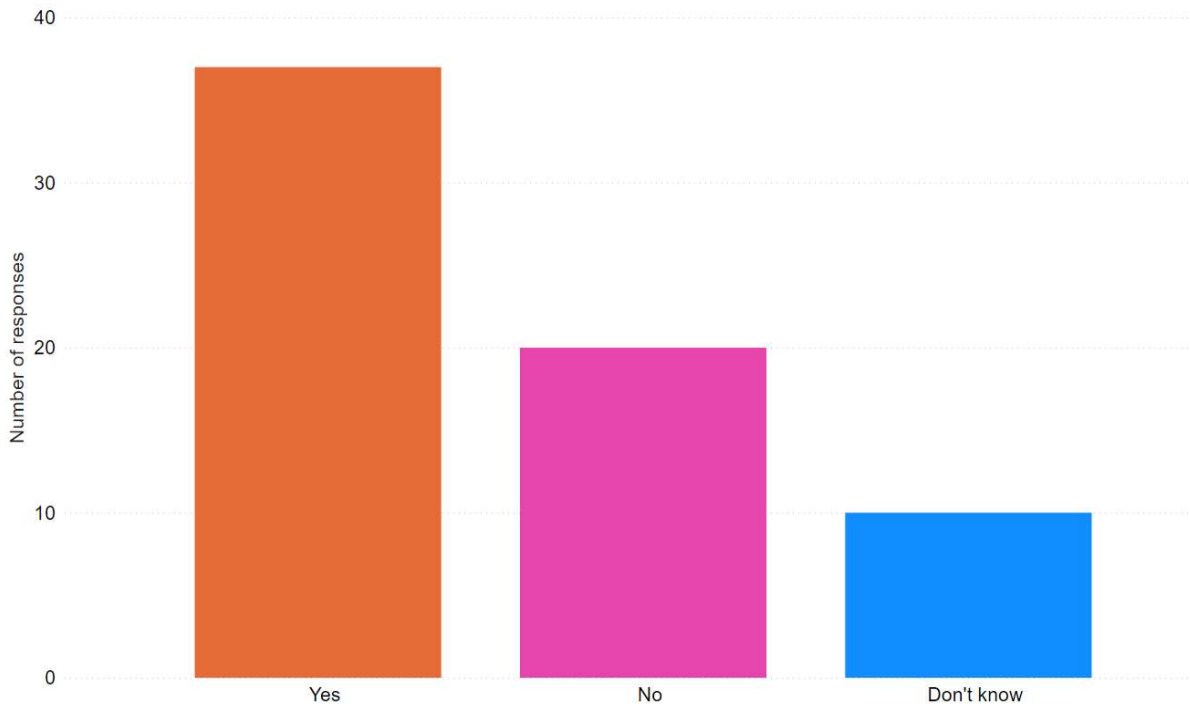
Responses highlighted the complexities of determining which metrics or units should be used for reporting. For some products performance may need to be considered, and in some cases functional units could be appropriate rather than mass. Respondents also highlighted challenges in determining the sectoral scope of policies, arguing that this should not be wider than needed, to avoid unnecessary burden for businesses, but should also account for the importance of equitable treatment of equivalent or substitutable products.

Pursuing a life cycle assessment-based approach to reporting (Question 7.1)

Most respondents were supportive of a life cycle assessment-based approach to reporting.

Question 7.1 asked respondents whether the government should pursue a life cycle assessment-based approach to emissions reporting. This was a multiple choice question with no free-text option available.

7.1 Should government pursue a Life Cycle Assessment-based approach?



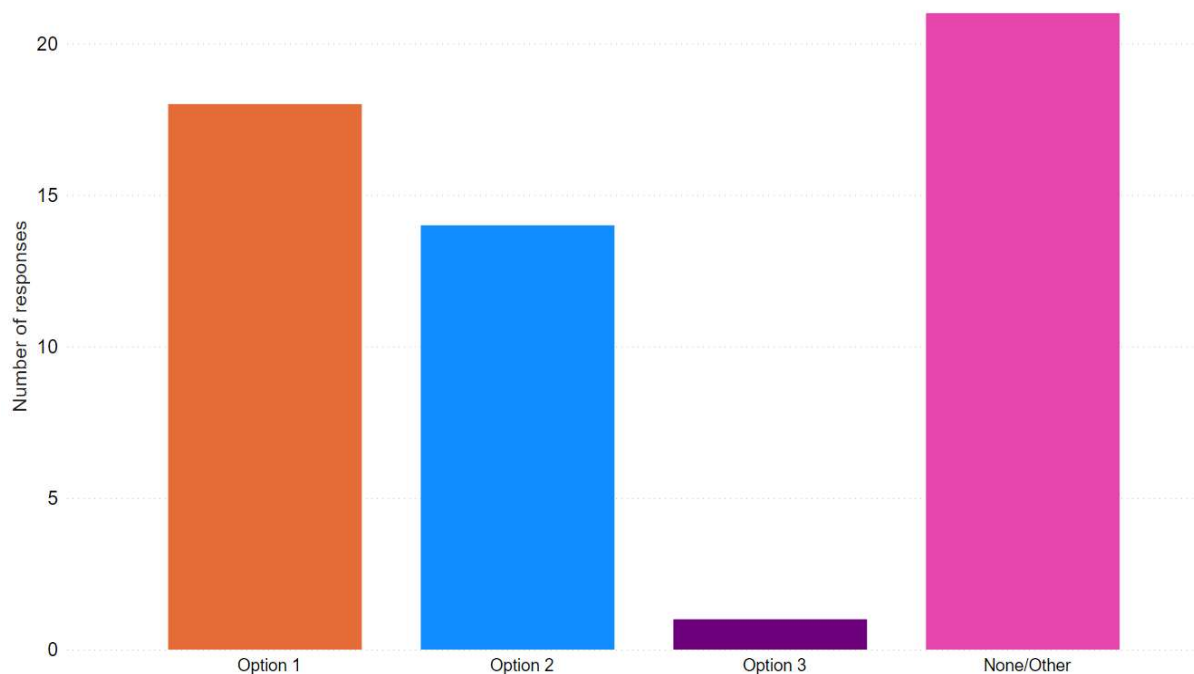
Of 68 respondents, 37 agreed, whilst 20 disagreed and 10 were unsure. A life cycle assessment based approach was favoured by respondents from sectors including iron and steel (seven of eight respondents in this sector) as well as wood and timber (three of five respondents from this sector), whilst those from cement and plaster (all three respondents from this sector) and construction (two of three) tended to disagree. Respondents from sectors including agriculture and food (two) and aluminium (four) were divided.

Preferences on life cycle assessment methodology (Question 7.2)

Respondents were divided between option 1 and option 2 on the type of life cycle assessment methodology that should be adopted, with a significant proportion rejecting the proposed options.

Question 7.2 asked respondents their preference for the type of life cycle assessment methodology framework that should be adopted. Option 1 was to use a life cycle assessment methodology that is aligned with internationally recognised standards and is ideally in use by some of industry in the UK and other jurisdictions. Option 2 was to use sector-specific international standards where they exist, and for the government and industry to develop such standards collaboratively where they do not. Option 3 was to use UK-developed standards where they exist, and if these do not yet exist, for the government and industry to develop them collaboratively.

7.2: What is your preference for the type of Life Cycle Assessment methodology framework that should be adopted?



There were 54 responses to the multiple choice part of this question and 46 responses to the open text section.

18 respondents preferred Option 1, with a range of justifications. Three respondents favoured it on the grounds that it would be lower burden for some, such as industries like construction already using life cycle analyses, or countries at differing stages of development. Two favoured Option 1 because it could serve international alignment on standards use. Four of seven iron and steel sector respondents preferred Option 1, while other sectors similarly did not display a clear preference.

14 respondents preferred Option 2. Of these, five saw it as the way to align with existing industry reporting or with the reporting of trading partners. Others (three) noted the need for alignment with UK ETS reporting.

Only one respondent chose Option 3. No arguments in favour of Option 3 were offered, whilst one respondent expressed concern that Option 3 would lead to trade barriers or unnecessary burden.

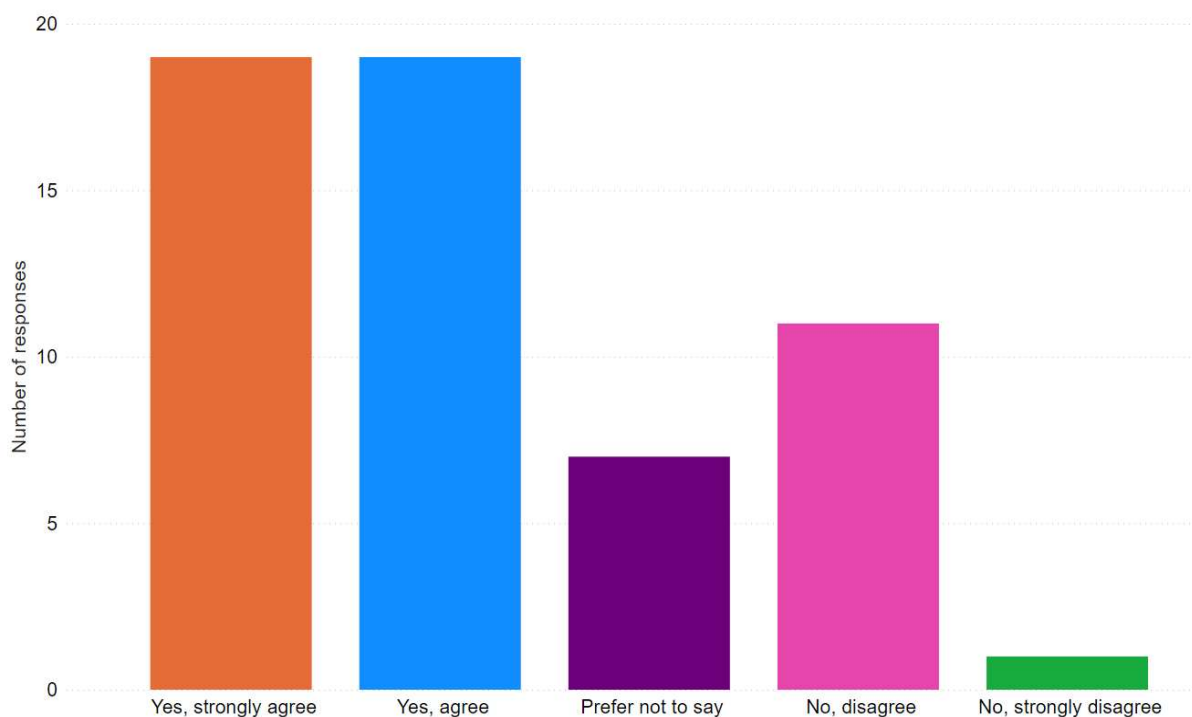
21 respondents selected 'None/Other'. Of these, two suggested that an approach which is aligned with the UK ETS is needed. Others (three) noted additional standards which are relevant to determining embodied emissions or to product labelling. There were some challenges to the government's understanding of the options. For example, it was suggested that Options 1 and 2 are not necessarily mutually exclusive, as life cycle assessment use and labelling could involve multiple standards which play distinct roles. It was likewise noted that Option 1 could be construction specific.

Metrics and units of measurement (Question 7.3 and 7.4)

Most respondents agreed with the proposed metric and unit of measurement for reporting.

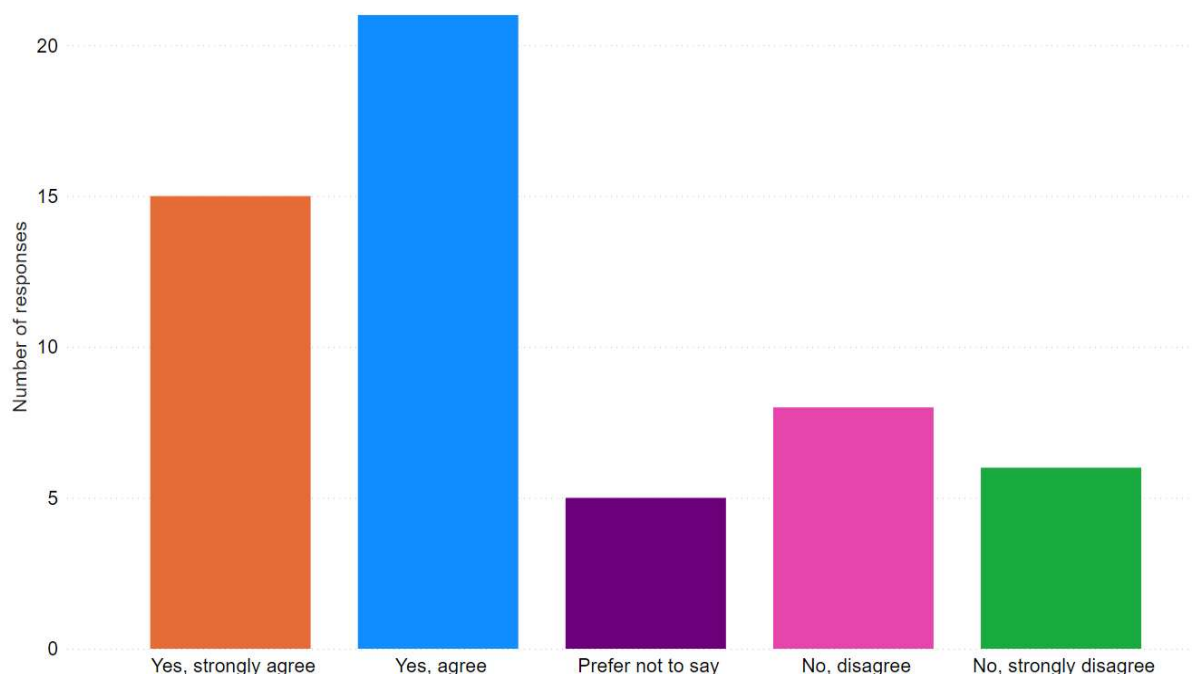
Question 7.3 asked respondents whether CO₂e/mass (including performance where relevant) should be used as the metric for embodied emissions reporting and form the basis of any subsequent policy. Question 7.4 asked whether mass of product is the appropriate unit of measurement for respondents' sectors.

7.3 Should CO₂e/mass (including performance metric where relevant) be used as the metric for embodied emissions reporting and form the basis of any subsequent policy?



There were 57 responses to the multiple choice part of question 7.3 and 41 open text responses. Most respondents supported the proposal, with 19 strongly agreeing and 19 agreeing. 11 disagreed, one strongly disagreed, and seven preferred not to say.

7.4 Should mass (of product) be the appropriate unit of measurement for your sector?



There were 55 multiple choice responses to question 7.4 and 34 open text responses. Most respondents were in favour of the proposal with 21 agreeing and 15 strongly agreeing, whilst eight disagreed and six strongly disagreed. Five preferred not to say.

Of those who responded positively to the proposals, several argued that CO₂e/mass is the appropriate metric for assessing embodied emissions (10) and that mass is the appropriate unit (five), with products such as cement and lime being given as examples. Reasons in favour of the proposed approach included simplicity (six) and alignment with existing disclosures (three). A variety of benefits were raised, such as one respondent's suggestion that a uniform approach is beneficial where product substitution is relevant.

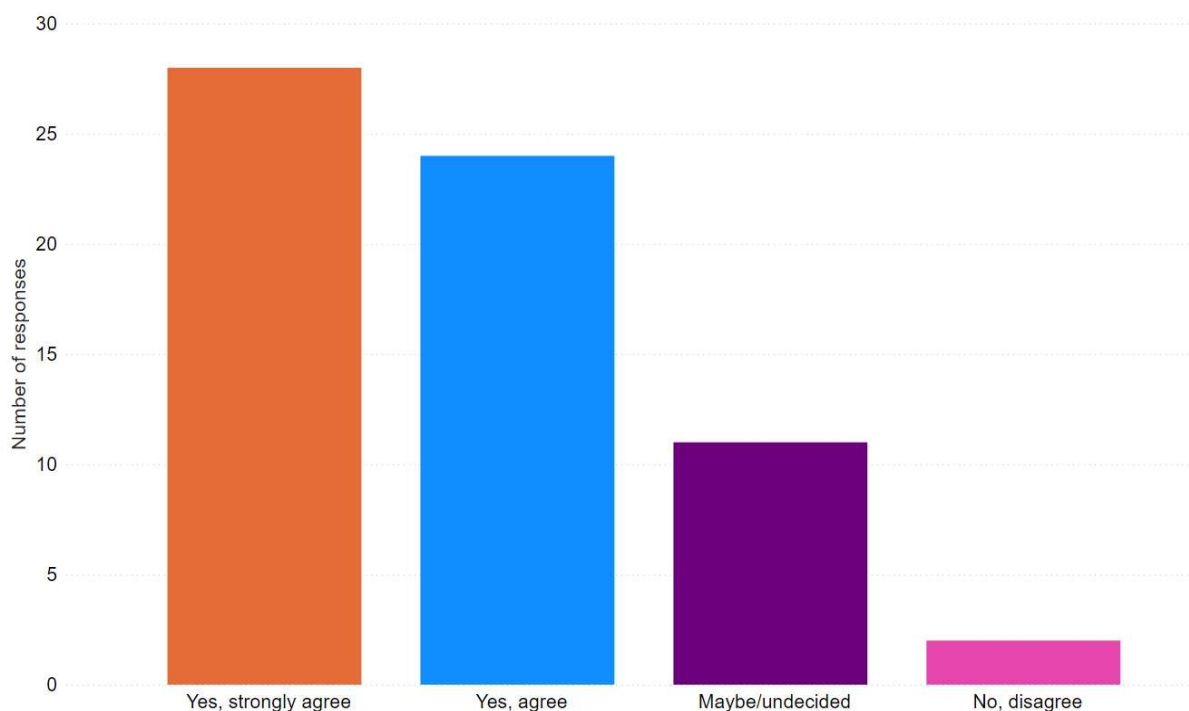
Of those who did not agree with the proposals, some (five) suggested there is a need for a product or sector specific approach, whilst others (three) suggested that factors beyond greenhouse gas emissions should be included, such as additional environmental impacts. Others who disagreed suggested that mass is only an appropriate unit for some products (three), advised alternative units (three), or suggested that performance or purpose is also relevant (three). Some respondents flagged the use of functional units in Environmental Product Declarations whilst two respondents noted that mass is not an appropriate unit for services. Others supported using CO₂e/mass only based on its simplicity or potential to minimise burden for businesses (five).

Data collection period (Question 7.5 and 7.6)

Most respondents were in favour of a data collection period.

Question 7.5 asked respondents whether the government should introduce a data collection period before the full implementation of carbon leakage policy measures. Questions 7.6 asked those who agreed how long the period should be.

7.5 Should the government introduce a data collection period before the full implementation of carbon leakage policy measures?



There were 65 responses to question 7.5. Most (52) either agreed or strongly agreed that there should be a data collection period. Only two disagreed, whilst 11 were undecided. Those who agreed with the proposal stated that a data collection period would allow time for manufacturers to adjust their processes and gather data before any policies were implemented (17). Several others who agreed (12) suggested that a data collection period would help avoid errors with the finalised reporting system. Some respondents (eight) argued that the period should align with that set for the EU CBAM, whereas others (three) argued that a data collection period could risk delaying the implementation of policies and increase the risk of carbon leakage.

Of the 53 responses which suggested possible lengths of this data collection period, a large minority (25) suggested that this should be one to three years in length. 14 respondents argued that to align with the EU CBAM a reporting period should begin in 2024. A couple of respondents argued that at the end of any data collection period there should be a review of whether to introduce carbon leakage measures and whether the data collection period should be extended.

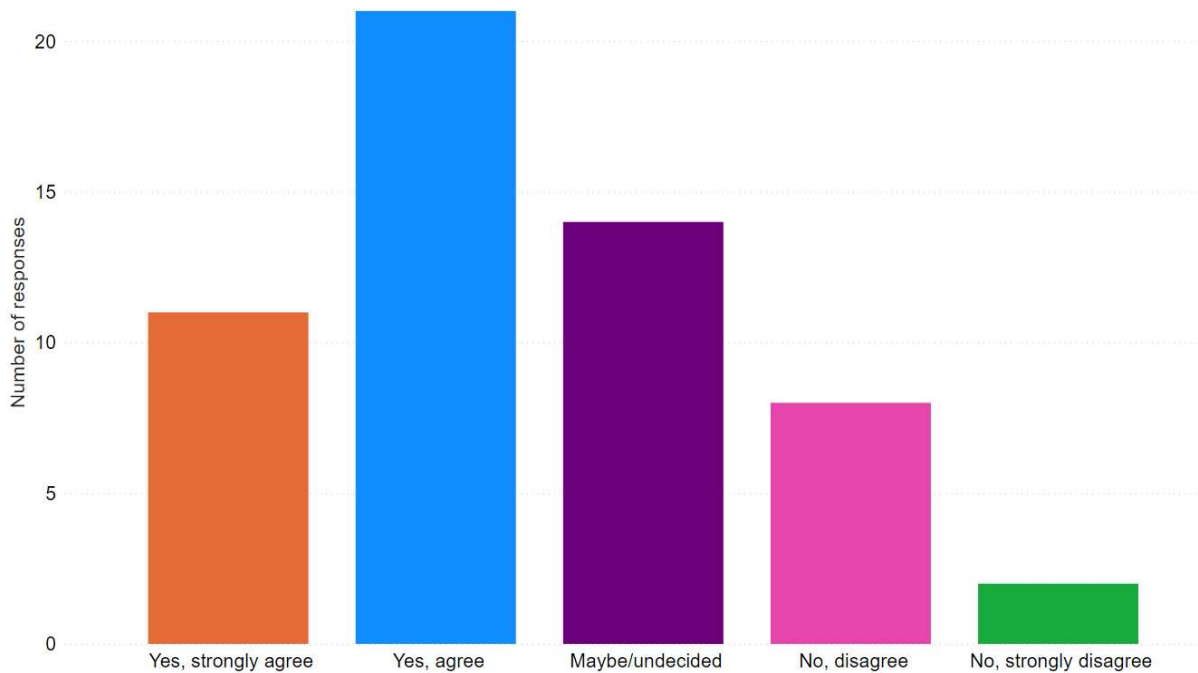


Scope of reporting requirements (Question 7.7 and 7.8)

Most respondents were in favour of only requiring reporting of businesses within scope of upcoming policies. However, a small majority also suggested that there are other sectors that should be required to report if their sectors were required to do so.

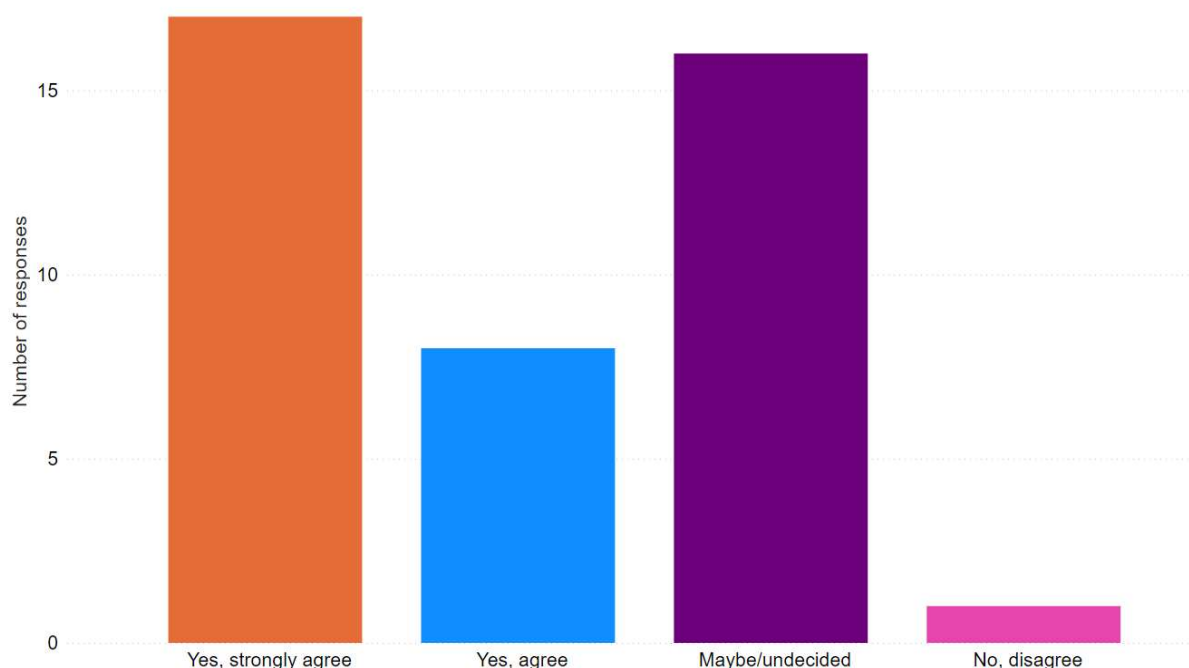
Question 7.7 asked respondents whether reporting information on embodied emissions of products should only be required of businesses within scope of current or upcoming policies. Question 7.8 asked whether there are other sectors that should be required to report product emissions if respondents' own sectors were required to do so, in order to reduce information asymmetry between substitutable products on the market.

7.7 Should only those businesses in scope of current or upcoming policies be required report information about the emissions of products?



There were 56 responses to the multiple choice aspect of question 7.7 and 68 responses to the open text section. 32 respondents agreed or strongly agreed, whilst 14 were undecided and 10 disagreed or strongly disagreed.

7.8 If your sector were required to report product emissions, are there other sectors that would also have to report this information to help minimise information asymmetry between substitutable products in the market?



For question 7.8 there were 42 responses to the multiple choice part and 33 to the open text section. 25 agreed or strongly agreed, whilst 16 were undecided. Only one respondent disagreed. Most respondents therefore agreed that reporting should only be required of businesses within scope of policies, but most also saw a need for a broad range of sectors to be within the scope of policies, supposing they were applied to respondents' sectors.

Of those who agreed that reporting should only be required of businesses within scope of current or upcoming policies, many (18) did so on the grounds that this would minimise burden for businesses. Several (16) also recommended a phased approach to the introduction of reporting, to allow industry and the government to prepare. Of those who disagreed several proposed that all or most businesses should be within scope of reporting requirements (eight) or suggested that greater transparency may be needed for competing products (five).

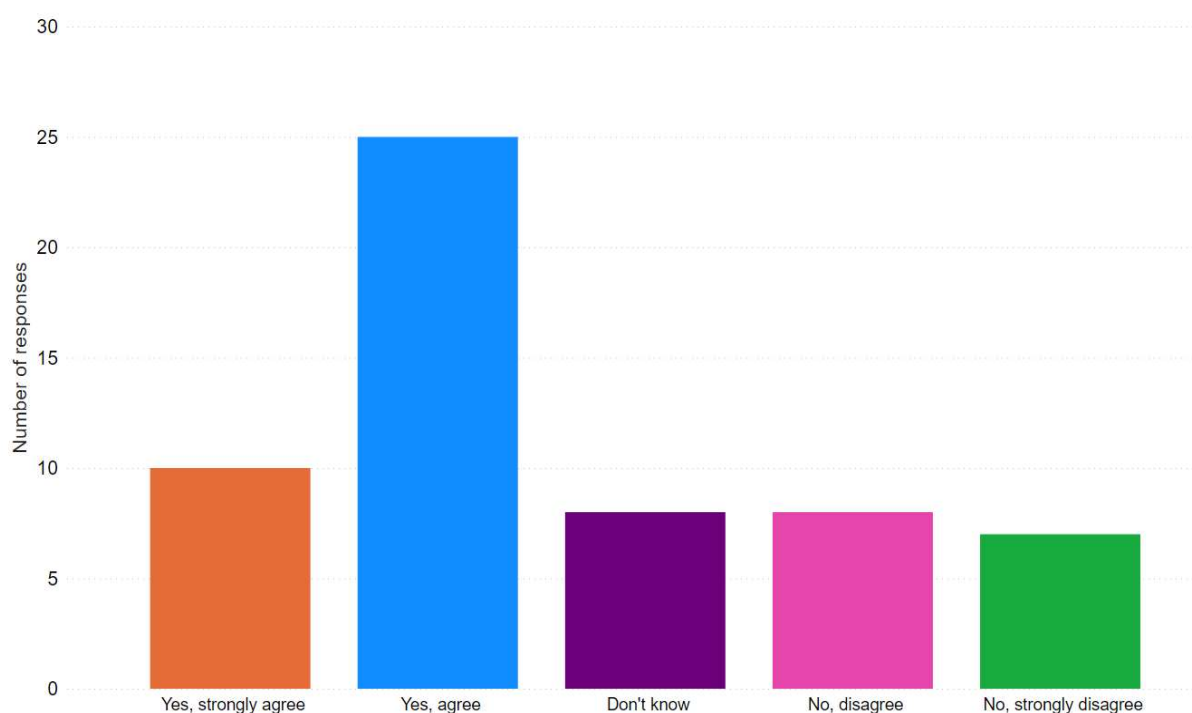
Of respondents who suggested that a wider range of businesses should be included in reporting requirements, arguments were made principally on the basis of managing the risk of substitution between different products (nine mentions). Others (19) suggested products for inclusion such as timber, aluminium, plastics, glass, and ceramics, or flagged the risk of substitution from particular products, such as aluminium and timber. It was also suggested that greater transparency may be needed for competing products (four respondents).

Limiting reporting to that which is required by carbon leakage policies (Question 7.9)

A small majority of respondents agreed that reporting should be limited to what is required for carbon leakage policy measures.

Question 7.9 asked respondents whether the scope of any new embodied emissions reporting should be limited to that which is required by carbon leakage policy measures, if introduced.

7.9 Should the scope of any new embodied emissions reporting be limited to that which is required by carbon leakage policy measures, if introduced?



There were 58 responses to the multiple choice aspect of this question and 42 to the open text section. Most agreed or strongly agreed (35), whilst 15 disagreed or strongly disagreed. 8 were unsure.

Among those who raised concerns about imposing reporting requirements beyond the scope of carbon leakage policy measures several (18) suggested considering the administrative burden on businesses, with a couple mentioning countries at differing stages of development. On the other hand, several respondents (12) proposed that reporting requirements should be broad in scope, including Scope 3 or all relevant emissions.

Government considerations

As noted in the response to Chapter 6 of the consultation, the government will progress with the development of a framework to enable consistent reporting of embodied

emissions. Given the complexities and need for further collaboration with industry, the government will continue to explore a range of options to ensure that it is effective, fair, minimises burden for businesses and ensures that the UK remains in line with its international obligations. These considerations, including decisions about whether reporting will be voluntary or mandatory, will be consulted on as part of the announced 2024 technical consultation.

The government has heard the concern from consultation respondents that, if a life cycle assessment-based approach to reporting is pursued, it will be critical to maximise alignment with existing life cycle assessment standards. Accordingly, life cycle assessment reporting and standards will be explored further, alongside a site level approach to reporting – such as that used in the UK ETS. When it comes to the metrics or units of measurement which would be most appropriate for reporting, feedback suggests that tailoring the approach to targeted sectors whilst ensuring comparability of relevant products is crucial.

The value of a data collection period was also made clear in consultation responses. Respondents felt that having a data collection period prior to the introduction of policies would allow businesses to adjust their processes and gather data, whilst informing refinement of policies. Considering this, the government will continue to explore what length of data collection period, if any, should precede the introduction of a system to allow a period of adjustment. When determining the length of any data collection period, a balance will be struck between allowing time for businesses to adjust, the need to minimise burden for businesses, and enabling timely policy implementation.

The government has understood the concerns from some consultation respondents around the burden which would result if businesses not in scope of carbon leakage or demand-side policies were required to report embodied emissions data. The calls for reporting requirements to apply to a broad range of sectors, so that policies can tackle the risk of substitution between different products, have also been understood. The government will continue to explore which additional sectors policies should be applied to whilst ensuring any additional reporting burden is minimised.



Chapter 8: Reporting to government and delivery of the IT system

The government will keep options open on the delivery of digital tools that could allow for the collection of embodied emissions data, whilst further exploration of the systems requirements take place. This will be subject to further technical consultation in 2024.

Chapter overview

Chapter 8 of the consultation sets out the design and delivery of the reporting system explored in Chapters 6 and 7. This includes proposals on the IT product, frequency of reporting, verification of data, and how the information would be disclosed to the public.

- An emissions reporting system would require an IT solution to handle the information. Where IT solutions exist for other policies, they would require modification to meet policy needs for this purpose and no 'off the shelf' solution is available
- Options consulted on included Option 1, expanding existing IT services, such as those used in the UK ETS; Option 2, developing existing databases operated in the private sector for Environmental Product Declarations (EPDs); Option 3, developing a bespoke IT system
- Themes explored in this chapter included reporting duplication, administrative cost, deliverability of options, and how each option aligns with other domestic and international reporting obligations faced by industry

Some of the key challenges identified in the consultation were:

- Alignment with other domestic and international reporting
- Appropriateness of each system to a sector
- Ensuring a system is robust and appropriate for the policy intent
- Having a system that is deliverable

The consultation sought views on four overall questions to inform development of government policy on emissions reporting delivery. These were:

- Which option for a reporting IT system would be most appropriate from the perspective of domestic manufacturers, and from the perspective of importers or manufacturers outside of the UK (Questions 8.1 and 8.2)
- How frequently emissions data should be reported? (Question 8.3 and 8.4)

- How should product embodied emissions data be verified? (Question 8.5)
- Should embodied emissions data for products be made publicly available through either labelling, a publicly accessible database, both, or neither? (Question 8.6)

Summary of responses to this chapter

Chapter 8 of the consultation set out the potential design and delivery of the reporting system explored in Chapters 6 and 7. This includes proposals on the IT product, frequency of reporting, verification of data, and how the information would be disclosed to the public.

Many respondents favoured reporting through existing government systems, or existing private sector systems, with several respondents noting that they wanted to use systems that they already report through. There was repeated interest in aligning systems and timings for reporting where appropriate. Many respondents stated a preference for making embodied emissions data publicly accessible, though there were also significant concerns around the sharing of potentially commercially sensitive information. The importance of verification through an independent body (or bodies) was also noted, with significant criticism for any approach which relied solely on self-verification.

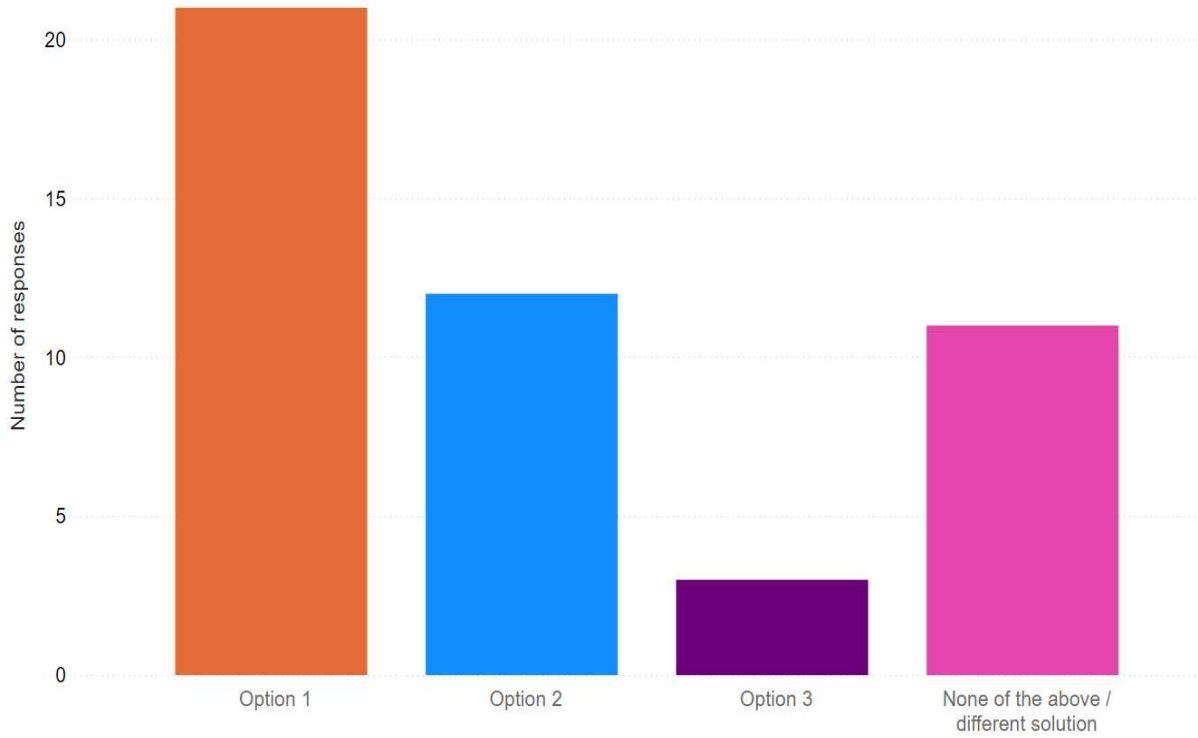
Options for a reporting IT system (Questions 8.1 and 8.2)

Respondents showed a strong preference for using existing IT options, with a preference for using government over private sector databases.

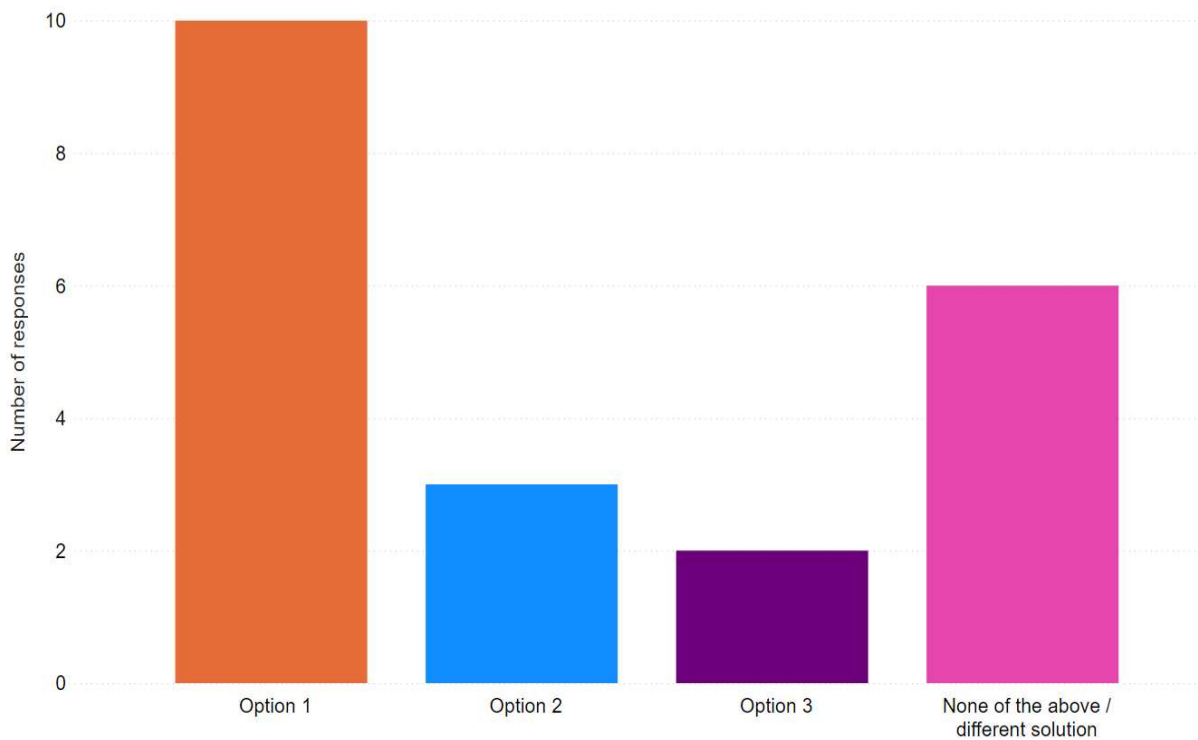
Questions 8.1 and 8.2 asked respondents which of several options for reporting IT systems would be most appropriate. This question was asked separately to domestic manufacturers in question 8.1, and international importers/ producers in question 8.2. Option 1 was to use an existing government IT service, such as adding new functionality to the UK ETS. Option 2 was to develop existing databases operated in the private sector for Environmental Product Declarations (EPDs). Option 3 was to develop a bespoke IT system whose functionality could be similar to either of the two options outlined but would be built from the ground up to meet policy needs. Option 4 was for none of the listed solutions.

This was a multiple choice question which also gave respondents the opportunity to expand upon their answer.

8.1 If you are, or represent, a domestic manufacturer, which option for a reporting IT system would be most appropriate?



8.2 If you are, or represent, an importer or manufacturer outside the UK, which option for a reporting IT system would be most appropriate?



There were 47 responses to question 8.1, and 22 responses for 8.2. The majority of responses were in favour of using existing systems, with a large minority (21 respondents) supporting Option 1, the use of an existing government system. However, a significant number (12 responses) also supported Option 2, the use of existing industry databases. Only three responses favoured developing a bespoke IT system. 11 respondents did not agree with any of these options.

Arguments in favour of Options 1 and 2 were very similar, with respondents noting that their option would align with existing systems and reporting requirements, reduce duplication, and build on industry's existing experience. Preferences typically aligned with whichever reporting system respondents already used and had experience of. Where respondents favoured Option 3, reasons included the potential for the system to meet multiple reporting requirements and being bespoke to policy needs.

There were 22 responses to question 8.2. 10 respondents preferred Option 1, three preferred Option 2, two preferred Option 3, and six did not endorse any option. There were very few qualitative responses to this question. These broadly mirrored the qualitative responses to question 8.1. Respondents wanted alignment with existing reporting. However, some respondents reported through a domestic ETS, and others through EPDs.

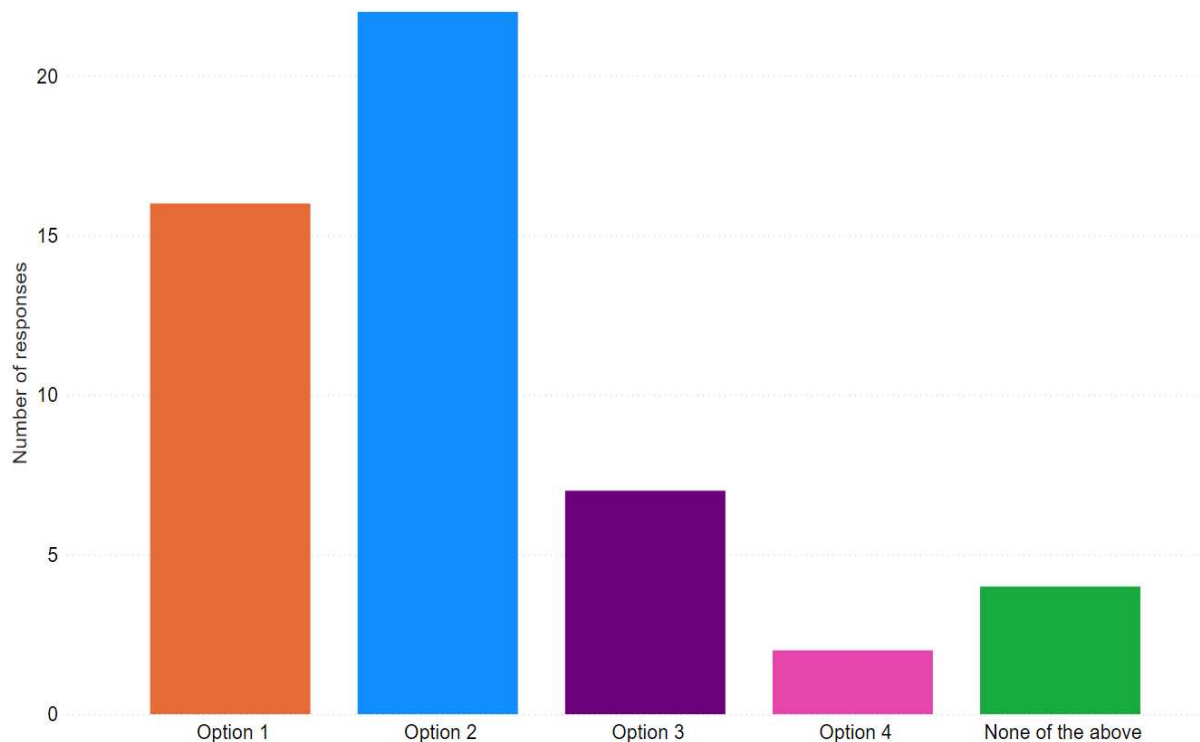
Frequency of emissions data reporting (Questions 8.3 and 8.4)

Most respondents expressed a preference for the frequency of reporting that aligned with their reporting preferences stated in questions 8.1 and 8.2. Where respondents preferred aligning with existing government IT systems, this typically meant a preference for annual reporting. Where existing private sector databases were preferred, respondents typically preferred 5 year reporting cycles currently used in EPDs. A significant number of respondents thought that different policies require different reporting cycles.

Question 8.3 asked respondents for their preference of several options for how frequently emissions data should be reported, with Question 8.4 asking for the advantages and disadvantages of options. Option 1 asked whether emissions data relevant to each carbon leakage policy measure should be reported at different frequencies, as required. Option 2 was for all relevant emissions data to be reported annually. Option 3 was for all relevant emissions data to be reported every five years. Option 4 was for all relevant emissions data to be reported every two years. This was a multiple choice question.



8.3 Do you have a preference for how frequently emissions data should be reported?



22 respondents preferred Option 2, 16 preferred Option 1, seven preferred Option 3, and two preferred Option 4. Four respondents did not endorse any option.

Question 8.4 was an open text question expanding on the answers to 8.3 to explore the advantages of the options. Five responses noted that different policies would require different reporting periods. Most responses were not explicit on which policy should have which reporting period. However, where responses were explicit, they suggested that a CBAM would require annual periods, and demand side policies such as MPS five year periods.

Three respondents noted that a CBAM must be accurate for each tonne imported, and that alignment with the reporting for ETS would ensure carbon costs are equalised. One respondent noted that reporting for an MPS could be less frequent due to increased costs associated with the more in-depth nature of the reporting.

Verifying product embodied emissions (Question 8.5)

Respondents expressed strong support for independent regulator and/ or third-party verification. Concerns were raised about how robust and credible self-verification would be.

Question 8.5 asked respondents for views on how product embodied emissions data should be verified, and the advantages and disadvantages of different options. Examples of options include:

- The government could appoint an independent regulator or accreditation body which would have the power to certify third-party organisations to verify emissions data, as under the UK ETS
- Manufacturers self-verify emissions data or peer review reports from other firms

There was strong overall support for an independent regulator and/ or third-party verification, with 32 respondents mentioning it in their response. Reasons for this included; a need for data to be robust and credible, especially when used for the purposes of carbon taxes, and greater accountability for manufacturers. One respondent, whilst supportive of an independent regulator, stated concern about their capacity if this was the sole option.

Seven respondents noted that they were used to using EPDs and noted that verification is already established for them.

Three respondents were critical of self-assessment, with the main stated concern being that such a policy would increase the possibility of mistakes and/ or misrepresentation, and that importers would need confidence in the data provided overseas. One respondent noted that self-verification would reduce burdens for domestic producers.

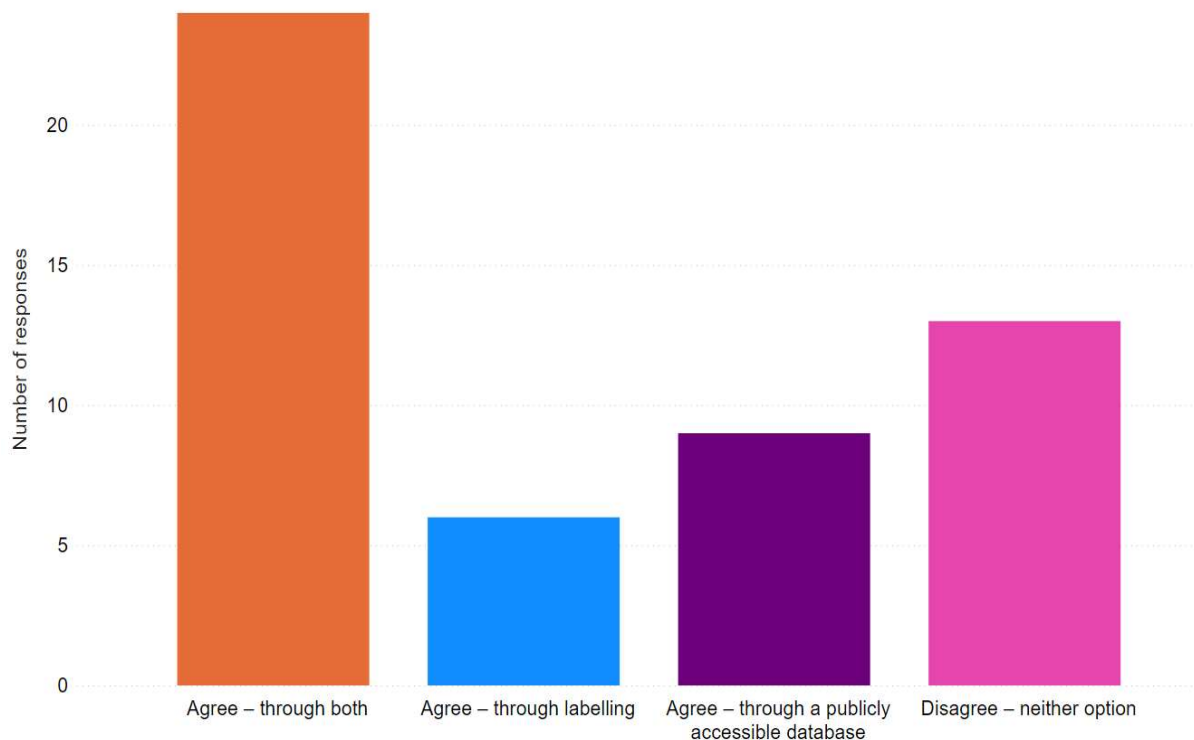
Three responses also cited the importance of international equivalence, both to ensure a level playing field between importers and exporters, but also to allow more coordination through supply chains. Concerns were, however, raised about the capability of developing countries to follow verification procedures that meet UK requirements.

Should embodied emissions data be publicly available? (Question 8.6)

Respondents were broadly supportive of making embodied emissions data publicly available. Of respondents supporting publicly available data, most preferred both publicly available databases, and product labelling.

Question 8.6 asked if embodied emissions data for products should be made publicly available through either labelling, a publicly accessible database, both (option 3), or neither. This was a multiple choice question with the option for respondents to expand on their answers.

8.6 Should embodied emissions data for products be made publicly available through either labelling, a publicly accessible database, both, or neither?



There were 52 responses to this question. Responses were broadly supportive of making embodied emissions data publicly available. 24 responses favoured both labelling and database, 13 preferred neither option, nine preferred database only, and six preferred labelling only.

As with answers to 5.1 and 5.2, some respondents were concerned about the suitability of labelling and emissions databases in their sector, with five responses suggesting it could create perverse outcomes with product level data being prioritised over whole lifecycle carbon. A respondent from the ceramics sector, and another from the aluminium sector, also suggested that their products are either too heterogenous, or made to order, for labelling to be usefully applied to their sector.

Where respondents supported making emissions data publicly available, reasons included enabling consumers to make informed decisions and incentivising businesses to take responsibility for their supply chains.

To achieve these, five respondents commented on the potential design of any system, with three responses suggesting any labelling system or emissions database should be clear and easy to understand, and several responses suggesting that the data should be provided/ visible at the point of sale.



Government considerations

A final decision on the design of an embodied emissions reporting framework (explored in chapters 6 and 7) will have a significant impact on which IT solutions and reporting frequency options are most appropriate. It could also impact which option is best for verification of emissions data. Given these interdependencies, government is looking to progress the delivery of an embodied emissions reporting system in a way that keeps options open while further exploring the system's requirements.

The government intends to consult on more details about the potential delivery of a digital solution which could enable the delivery of an embodied emissions reporting framework , as part the previously mentioned 2024 technical consultation.



Public Sector Equality Duty (Question 9.1)

The consultation set out that when exercising functions, public authorities must comply with the public sector equality duty in section 149 of the Equality Act 2010¹¹.

Question 9.1 sought views on any potential impacts of the policies explored in the consultation on people with protected characteristics, and how any potential negative impacts could be mitigated.

There were six responses to this question. No negative impacts on people with protected characteristics were identified, and no mitigations were suggested. In addition to considering these responses, the government has assessed potential equality impacts and will continue to regularly review this, ensuring compliance with the public sector equality duty.

¹¹ <https://www.legislation.gov.uk/ukpga/2010/15/section/149>

Annex A – Glossary

Abbreviation	Description
BEIS	Department for Business, Energy, and Industrial Strategy (until February 2023)
BRE	Building Research Establishment
CBAM	Carbon Border Adjustment Mechanism
CCC	Committee for Climate Change
CCS	Carbon Capture and Storage
CEM	Clean Energy Ministerial
COP	Conference of the Parties
CPS	Carbon Price Support
DAERA	Department of Agriculture, Environment and Rural Affairs (Northern Ireland)
DESNZ	Department for Energy Security and Net Zero. DESNZ is focused on the energy and net zero portfolio from the former BEIS Department.
EAC	Environmental Audit Committee
EII	Energy Intensive Industries
EPD	Environmental Product Declaration
FA	Free Allowance
GGR	Greenhouse Gas Removal
GHG	Green House Gasses
GWP	Global Warming Potential
HMG	His Majesty's Government
HMT	His Majesty's Treasury
IBU	Institut Bauen und Umwelt
IDDI	Industrial Deep Decarbonisation Initiative
IDS	Industrial Decarbonisation Strategy
IEA	International Energy Agency
IMF	International Monetary Fund



LCA	Life Cycle Assessment
MPS	Mandatory Product Standards
NAEI	National Atmospheric Emissions Inventory
NZR	Net Zero Review
NZS	Net Zero Strategy
OECD	Organisation for Economic Co-operation and Development
PACT	Partnering for Accelerated Climate Transitions
PCR	Product Category Rules
PMI	Partnership for Market Implementation
PMR	Partnership for Market Readiness
PMRV	Permitting, Monitoring, Reporting and Verification
UK ETS	UK Emissions Trading Scheme
WTO	World Trade Organisation



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