

# Summary of Responses to the Call for Evidence

UK's Seventh Carbon Budget (2038-2042)  
Wales' Fourth Carbon Budget (2031-2035)  
Northern Ireland's Fourth Carbon Budget (2038-2042)

Prepared for the  
Climate Change  
Committee

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# 1 Introduction

## Background to the UK's Seventh Carbon Budget

The UK Government and Parliament have adopted the Climate Change Committee's (CCC) recommendation to target Net Zero emissions of greenhouse gases (GHGs) in the UK by 2050 (i.e., at least a 100% reduction in net emissions from 1990).

The Climate Change Act (2008, 'the Act') requires the CCC to provide advice to the Government about the appropriate level for each carbon budget period. The carbon budgets typically span a five-year period, with each placing a limit on GHG emissions for that period. With input and advice from the CCC, the government has already enacted legislation for six carbon budgets, which span the timeframe up to 2037.

Before the end of 2025, the CCC will advise on the Seventh Carbon Budget (CB7) which will cover the period 2038-2042. The CCC's updated emission reduction pathways for CB7 will also form the basis for their advice on the level of Wales' Fourth Carbon Budget (2031-2035) and Northern Ireland's Fourth Carbon Budget (2038-2042).

The CCC launched a Call for Evidence to solicit input from stakeholders to build a robust evidence base and inform its advice on the UK's Seventh Carbon Budget, Wales' Fourth Carbon Budget, and Northern Ireland's Fourth Carbon Budget, which ran between November 2023 and January 2024. The Call for Evidence included the following 13 questions:

- 1. Pathway considerations:** Have we captured the main technological, social, economic and commercial factors we should be considering in our pathways? Do you have any evidence for barriers in specific sectors and technologies?
- 2. Additional Action Pathway and contingency plans:** What types of government measures do you think should be included in the Additional Action Pathway and/or as contingency options rather than in the Balanced Pathway? Please explain why.
- 3. Uncertainty:** Are there any major sources of uncertainty that should be considered in our uncertainty analysis? For example, for which technologies are costs or performance likely to be particularly uncertain?
- 4. Speculative technologies:** In our carbon budget advice, we take a low-risk approach by avoiding reliance on speculative technologies, to ensure that our pathways are deliverable<sup>1</sup>. Is there any new evidence on the feasibility of technologies that support decarbonisation since our 2020 advice on the Sixth Carbon Budget that we should consider?
- 5. Reduction in high-carbon activities and choice:** What are the main factors we should consider when assessing a potential shift in patterns of travel and diet in our Balanced Pathway and our Additional Action Pathway?
- 6. Considerations for Scotland:** What are the distinctive characteristics that should be considered when developing pathways and costs for Scotland?
- 7. Considerations for Wales:** What are the distinctive characteristics that should be considered when developing pathways and costs for Wales?
- 8. Considerations for Northern Ireland:** What are the distinctive characteristics that should be considered when developing pathways and costs for Northern Ireland?
- 9. Whole-economy costs and benefits:** What are the most important elements on impacts on the economy and competitiveness that should be considered in our assessment?

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<sup>1</sup> Please note that the CCC includes technologies that have significant cost and performance uncertainties, for example Carbon Capture and Storage (CCS), Direct Air Carbon Capture and Storage (DACCS) and hydrogen.

- 10. Social impacts and distributional analysis:** What are the most important elements of social impacts and the distribution of costs and benefits that should be considered in our analysis?
- 11. Methodology:** Are there any key methodological issues we have missed or, in your view, are mistaken for our Seventh Carbon Budget advice?
- 12. Engagement:** How best can we engage with experts and stakeholders to build our evidence base and test our emerging thinking?
- 13. Sharing our advice:** What would help make our advice accessible to wider stakeholders, such as citizens, financial institutions, businesses and local government? For example, video explainers, stakeholder specific briefings or social media threads.

## PwC's role

The CCC provided PwC with access to the responses received to the Call for Evidence. PwC's role was to compile, summarise and categorise these responses according to industry, respondent type, and thematic relevance to the carbon budget. This was to aid the CCC's understanding and consideration of a wide evidence base before finalising the methodology underpinning its carbon budget analysis and advice.

The summary presented in this document is factual in nature and does not represent PwC's view on any particular sector or topic. PwC has not tested or audited any of the information or data contained within the responses and provides no assurance over this information or any outputs based on this information.

## Approach to summarising the responses

There were 88 respondents to this Call for Evidence. We classified the respondents according to their organisation type by considering their registration status on the UK Government's Companies House, whether they hold a charity number, are aligned to a government body or university or self-identify as representing a sector (trade association).

The 13 questions were sector-agnostic; however, each respondent had the option to indicate the relevant sectors considered in their response. For example, when responding to a question about technology pathways, a respondent might indicate that their response related to 'Electricity supply' specifically, or they could choose 'General' if their response was not sector specific. This allowed us to sort the responses into appropriate categories based on the options selected by the respondents themselves.

Not all respondents responded to each question, and some submitted responses stating they do not wish to respond to a given question. These responses were filtered out from the analysis.

All responses were read in full by PwC analysts, who noted the range of issues and key evidence provided in the responses. The spread of evidence provided across the responses included opinions, examples, mentions of research and hyperlinks to qualitative and quantitative studies.

This analysis was qualitative. However, we use specific language to provide an indication of the scale of responses received pertaining to a particular issue. Where a point was made by only one respondent, this was noted. We generally refer to groups of 1-2 respondents as 'a small number', groups of 3-4 respondents as 'some' or 'several', and groups of 5 or more respondents as 'many'.

Where a specific opinion has been identified in relation to a particular organisation type (e.g., business and industry), this does not indicate that other organisation types did not share this opinion, but rather they did not comment on that particular point.

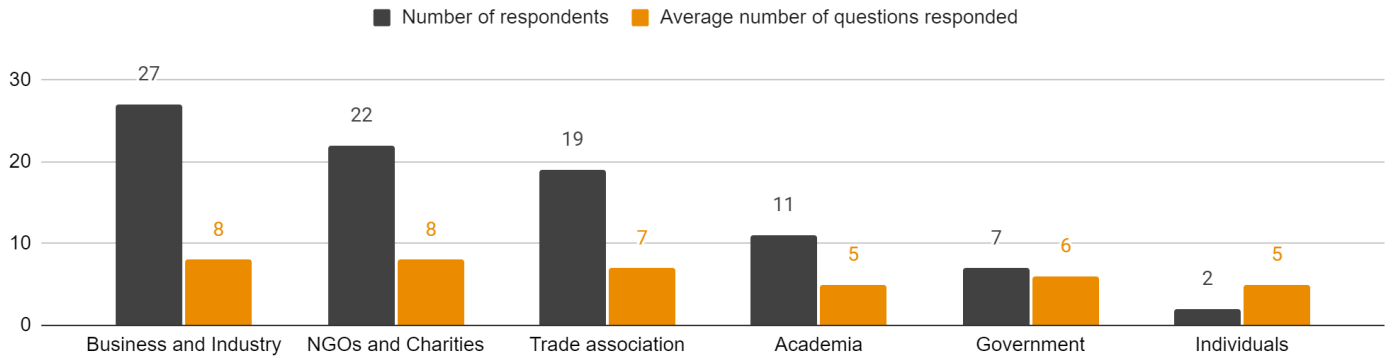
While the CCC's Call for Evidence invited responses from any individual or organisation who wished to respond, the exercise is self-selecting in nature. Therefore, the views summarised in this paper cannot be taken as representative of the UK and any figures quoted here may not be extrapolated to a wider population beyond the respondent sample.

## 2 Descriptive statistics and key themes

### DESCRIPTIVE STATISTICS

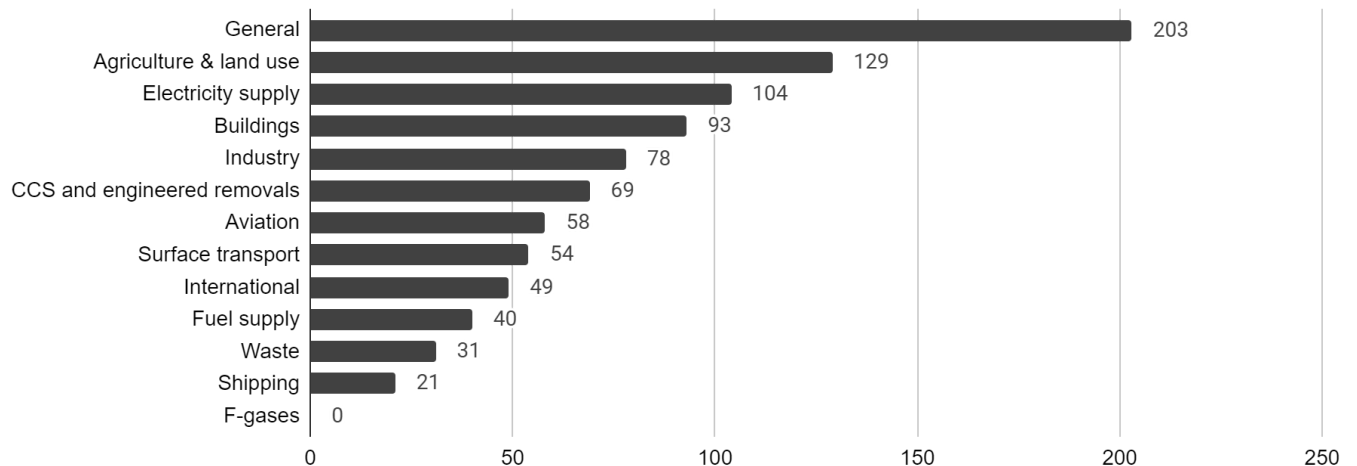
The following descriptive statistics summarise the respondents and responses received overall. We provide further descriptive statistics in each question-specific summary.

**FIGURE 1. NUMBER OF RESPONDENTS AND AVERAGE NUMBER OF QUESTIONS ANSWERED BY ORGANISATION TYPE**



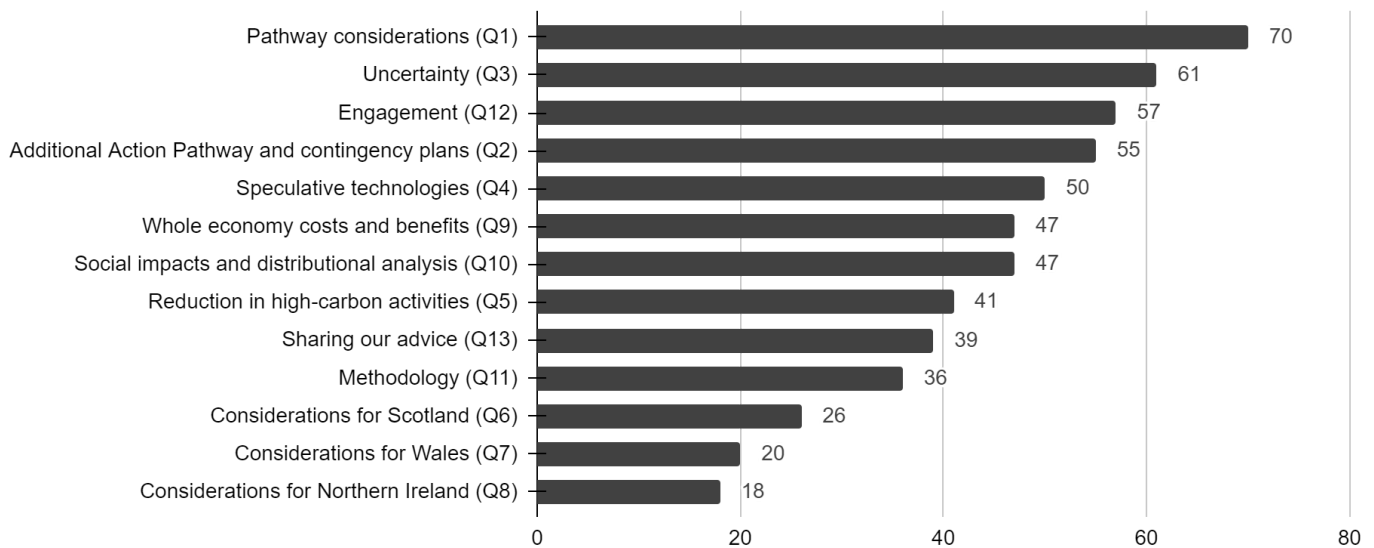
- The Call for Evidence received responses from 88 respondents from across business and industry, NGOs and charities, trade associations, academia, government departments and private citizens, as shown in **Figure 1**.
- Business and industry representatives submitted the most responses (27 responses), followed by NGOs and charities (22 responses) and trade associations (19 responses).
- Across the respondent pool, each respondent answered 7 questions on average, with trade associations and academia answering the most, at 8 questions, on average.
- Two respondents answered every question.

**FIGURE 2. NUMBER OF RESPONSES BY SECTOR**



- For each question (except Q9, 10 and 13), respondents were asked to choose which sector their response related to, or to choose 'General'.
- Respondents placed the greatest focus on pathway considerations applicable across sectors (203 'General' responses), as well as pathway considerations specific to the agriculture & land use sector (129 responses) and electricity supply sector (104 responses), as shown in **Figure 2**.

**FIGURE 3. NUMBER OF RESPONSES BY QUESTION**



- Each question received 44 responses, on average.
- The questions receiving the highest number of responses were Q1 (70 responses) and Q3 (61 responses), covering pathway considerations and uncertainty, respectively, as shown in **Figure 3**.

A full list of respondents and a mapping of the questions to which they responded is available in the Annex at the end of this report.

### **SUMMARY OF KEY THEMES**

The responses received to the Call for Evidence can be broadly classified into the following key areas:

- **Assumptions** taken by the CCC in the methodological approach, including around technology, policy, uptake and supply chain constraints.
- **Modelling considerations**, including distinct regional characteristics, such as renewable energy potential and the composition of different industries, as well as GHG accounting boundaries.
- **Stakeholder engagement** to build a comprehensive evidence base and ensure the CCC's recommendations are communicated in an impactful manner.

We take each of these areas in turn below to set out the key themes from responses across all questions. Note that it can be useful to understand which type of organisation(s) has provided feedback on a particular topic. We do not provide this analysis in the summary below, but it can be found in the detailed questions.

### **ASSUMPTIONS**

#### **1. Assumptions on what technologies will prevail within and across sectors**

- The responses highlight the importance of whole system modelling when developing the CB7 pathways, i.e., considering technologies within a broader energy system framework which includes considerations of scalability, cost-effectiveness, socio-economic impacts and public acceptance.
- The responses recognise the importance of greenhouse gas removal technologies in achieving Net Zero targets and there is general consensus on the need for policy to scale up both nature-based and engineered solutions to meet the UK's carbon budget commitments.



- Advocates of nature-based solutions emphasise their dual advantages of carbon sequestration and biodiversity enhancement, such as reforestation and soil management, and call for policy support to validate and expand these low-barrier, ecosystem-benefiting approaches.
- Several respondents emphasise that engineered removal solutions, such as Direct Air Carbon Capture and Storage (DACCS) and Bioenergy with Carbon Capture and Storage (BECCS), are essential to address emissions from hard-to-abate sectors. There is recognition that while these technologies are relatively more capital intensive and technologically complex, they are tested options for removing significant volumes of carbon dioxide from the atmosphere.
- Hydrogen is also frequently mentioned by respondents as a key solution in the transition to a low-carbon economy. The responses reflect a strong support for the potential of hydrogen to facilitate significant emissions reductions across multiple sectors, with particular emphasis on its role in industrial decarbonisation and as an energy carrier for storing and distributing renewable energy.

## **2. Assumptions on how policy will support or detract from the uptake of different measures<sup>2</sup>**

- There is broad support across the responses for a whole-system approach that integrates energy, transport, and land use. Respondents suggest the need for policies that transcend sectoral boundaries and encourage cross-sectoral synergies to support the Net Zero transition.
- The responses highlight the essential role of government in facilitating the transition through clear, stable and ambitious policy frameworks that support both technological innovations and nature-based solutions. Specifically, respondents highlight the need for policies to enable significant infrastructure investment, particularly in carbon capture and storage, hydrogen development and renewable energy systems.
- Respondents also call for the inclusion of social dimensions in policy formulations, such as addressing inequalities and ensuring just transitions for affected communities and industries.
- Additionally, the responses stress the importance of adaptability in policies to accommodate future technological advancements and unforeseen challenges in the transition to Net Zero.

## **3. Assumptions on the extent to which uptake will be enabled by individuals and businesses**

- Behavioural change is recognised as a necessary element of the CCC's Net Zero pathways, and many respondents suggest the need for stronger assumptions around demand reduction across energy, private transport and meat consumption.
- Respondents suggest the need for tailored messaging and interventions that consider demographic and regional differences to encourage the adoption of new technologies and practices.
- Some respondents also suggest that stronger policy and more concrete initiatives are required to deliver higher levels of behaviour change. These include strategic communications, the use of choice architecture, government engagement with the public, tax incentives, and education at all levels.

## **4. Assumptions on the extent to which progress will be constrained by a lack of necessary resources (supply chain including labour constraints)**

- Respondents highlight a current shortage in skills required to deliver initiatives in both pathways and emphasise the need for national planning to prevent this shortage from affecting delivery.
- This point was particularly prominent in responses to the questions around unique characteristics to be considered in devolved administrations (see summaries for **Questions 6, 7 and 8**): respondents

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<sup>2</sup> In expressing their views about policy, it was not clear whether respondents thought that CCC pathways should take into account the respondent's assumptions about future policy or that they should be used to directly influence policy, so we do not distinguish these motives.

called for greater policy support, a clear UK-wide strategy and region-specific investments to ensure the right skills are available for the Net Zero transition across places

- A small number of respondents caution the potential for supply chain shortages for key materials underpinning the Net Zero transition due to geopolitical factors, such as trade barriers and tariffs, disruptions to key transportation and infrastructure, as well as reduced availability of resources. Geopolitical considerations were particularly prominent in responses to **Question 3**, regarding uncertainty.

## **MODELLING**

### **5. Suggestions for alternative technical approaches to pathway development and carbon budget modelling**

- While some respondents welcomed the simplified approach of two pathways for the proposed CB7, some other respondents expressed concern about the reduction in the number of pathways in CB7 compared to the Sixth Carbon Budget (CB6), highlighting the limitations of this approach for contingency planning and building resilience against uncertainties.
- Some respondents further noted that the socio-economic impacts of the pathways are not clearly tested, suggesting a gap in how different socio-economic groups and regions may be impacted as a result of implementing the pathways.
- Linked to the advocacy of cross-sectoral policies (see 2 above), respondents also cautioned against the CCC taking a siloed approach to modelling, which could mean opportunities to identify cross-sector synergies are missed, citing an example of how DACCS and BECCS could be used to alleviate grid curtailment costs.

### **6. Calls for greater clarity around GHG accounting boundaries for BECCS**

- Respondents stress the importance of clear and comprehensive greenhouse gas (GHG) accounting, especially distinguishing between emissions from land use change and energy. This was cited as particularly relevant when considering how removals from initiatives such as BECCS are accounted for in the CB7 sectors of agriculture and land use and electricity supply.
- Some respondents further called for a detailed land use framework, which aligns with GHG accounting standards, to accurately track and manage land-related emissions and removals.

### **7. The importance of incorporating regional nuances in carbon budget modelling**

- Respondents highlight the importance of incorporating regional nuances when developing the carbon budgets for devolved administrations such as Scotland, Wales and Northern Ireland.
- There is a strong call amongst respondents for more detailed regional analysis to better understand specific social, economic and environmental challenges and opportunities in these countries. For example, respondents advocate for pathways that align with Scotland's renewable energy initiatives and land use changes, while addressing Wales' industrial transition challenges, particularly in heavy industries like steel production.
- Recognising the range of distinctive characteristics among the devolved administrations, respondents urge that pathways should prioritise a just transition and align with the devolved administrations' national priorities beyond decarbonisation.



## **STAKEHOLDER ENGAGEMENT**

### **8. The need for stakeholder engagement that is tailored and accessible to different audiences**

- Respondents emphasised the need for enhanced stakeholder engagement to ensure the advice provided by the CCC is both accessible and actionable.
- Sector-specific summary documents that distil complex information on decarbonisation requirements and pathways into concise and actionable insights were highlighted as a key mechanism for engaging with industry.
- There was general support for the CCC's use of video explainers, infographics and social media to make complex concepts more accessible and engaging for a broader audience.
- The importance of regional and industry-specific engagement was highlighted, with suggestions for regional stakeholder briefings and forums that tailor advice to local needs and contexts.
- Collaboration within and among industries through events such as roundtable sessions is deemed essential by some respondents for sharing perspectives, building the CCC's evidence base, and ensuring that the materials and advice produced by the CCC resonate well and lead to actionable outcomes.

### 3 Summary of responses by question

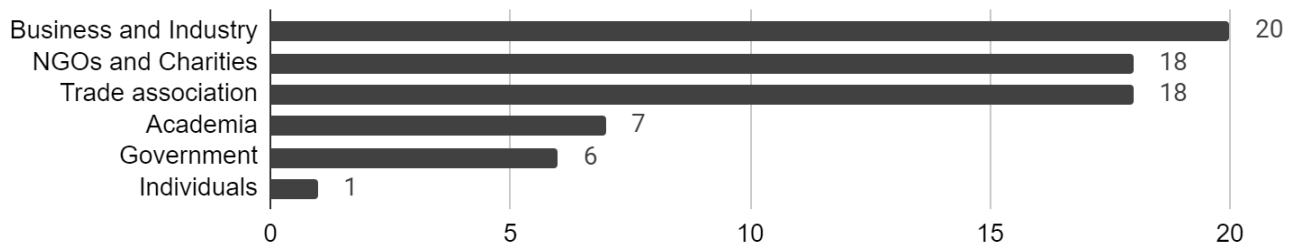
#### Question 1: Pathway considerations

Have we captured the main technological, social, economic and commercial factors we should be considering in our pathways? Do you have any evidence for barriers in specific sectors and technologies?

#### DESCRIPTIVE STATISTICS

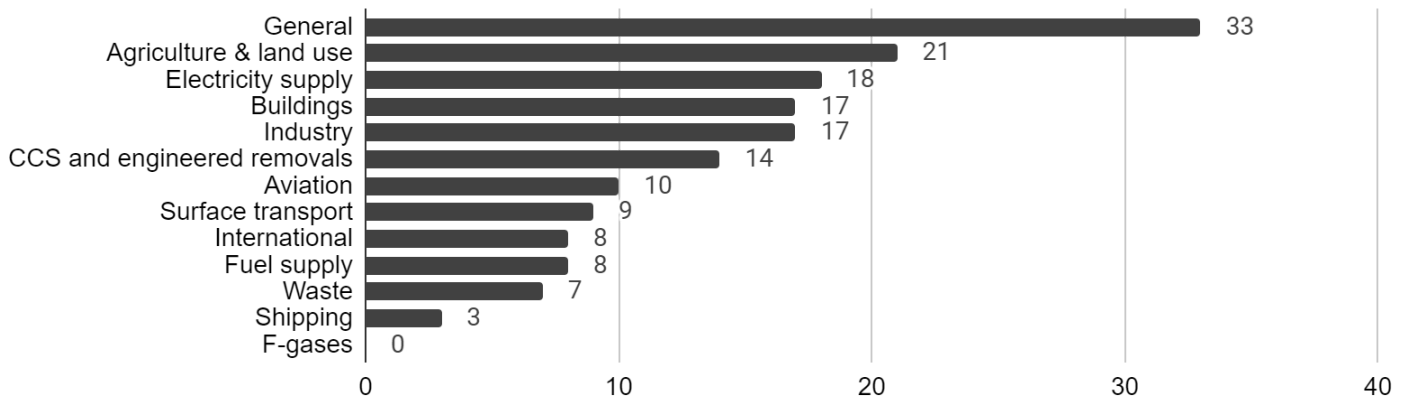
70 responses were submitted to **Question 1**, with a relatively even distribution across business and industry (20 respondents), non-governmental organisations (NGOs) and charities (18 respondents) and trade associations (18 respondents), as shown in **Figure 4**.

**FIGURE 4. NUMBER OF Q1 RESPONDENTS BY ORGANISATION TYPE**



Respondents placed the greatest focus on pathway considerations applicable across sectors (33 responses), as well as pathway considerations specific to the agriculture & land use sector (21 responses) and electricity supply sector (18 responses), as shown in **Figure 5**.

**FIGURE 5. NUMBER OF Q1 RESPONSES BY SECTOR**



#### SUMMARY OF RESPONSES

##### 1. Striking a balance between engineered vs nature-based removals

- Many responses captured the role of carbon removals and importance of either engineered removals or nature-based solutions, or a balance between the two.
- Those in favour of engineered removals have called for the CCC to conduct further analysis on the costs of engineered removals, such as Direct Air Carbon Capture and Storage (DACCS) and Bioenergy with Carbon Capture and Storage (BECCS), to build investor confidence and stimulate growth in these technologies.
- Those in favour of nature-based solutions recommended consideration of the wider co-benefits of nature-based solutions (e.g., air quality, water quality, recreation effect on human health, food security,

economic benefits), citing peatland restoration and carbon sequestration through soil as nature-based solutions of particular interest:

- Some respondents suggested that greater consideration should be placed on rewetting lowland peat, which can provide an income stream for farmers in addition to wider food security co-benefits. One NGO noted that “the proposed Seventh Carbon Budget (2038-2042) aligns with the end of the current UK Peatland Strategy<sup>3</sup> (2018-2040) which sets out a target for the UK achieving 2 million hectares of peatland in good condition, under restoration or being sustainably managed by 2040” indicating an opportunity for alignment on ambition.
- A small number of respondents urged the CCC to focus not just on above ground carbon storage but also carbon storage through soil (e.g., alternative crops, multi-species swards, fast-growing agroforestry, perennial biomass crops).

## **2. Calls for greater clarity on protection of land for nature in the CB7 pathways**

- Nine respondents raise concern about how the UK’s target of protecting 30% of land and sea for nature by 2030 will be delivered in the Balanced and Additional Action Pathways.
- For instance, a charity group stressed that the UK needs “a strategic approach to UK land use decision making including comprehensive land use frameworks across all four countries, focusing on sustainable production on the most productive land and on nature-based solutions where trade-offs are small and co-benefits high.”

## **3. Calls for alignment on assumptions around the impact of new and old technologies on the UK’s electricity grid**

- A small number of respondents from the power sector note that while the grid is a key constraint to making new technologies viable, the integration period for new and old technologies has not yet been quantified and this will become increasingly important.
- One respondent suggested that CCC undertake a review of the ESO and DNOs to ensure they are aligned with CB7 pathways.

## **4. Some debate around sustainable aviation fuel (SAF) contribution to global warming**

- One respondent provided evidence to suggest that electrolysed hydrogen may be a better alternative to SAF, noting that SAF could increase warming more than hydrogen due to higher contrail production and potential competition with direct air capture solutions.

### **FURTHER EVIDENCE CITED**

- IPBES (2021). [‘Biodiversity and Climate Change Workshop’](#).
- British Ecological Society (2022). [‘Nature-based solutions for climate change in the UK’](#).
- Smith et al. 2023. [‘Sustainable pathways towards climate and biodiversity goals in the UK: the importance of managing land-use synergies and trade-offs’](#).

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<sup>3</sup> IUCN (2022), [‘UK Peatland Strategy \(2018-2040\)’](#).

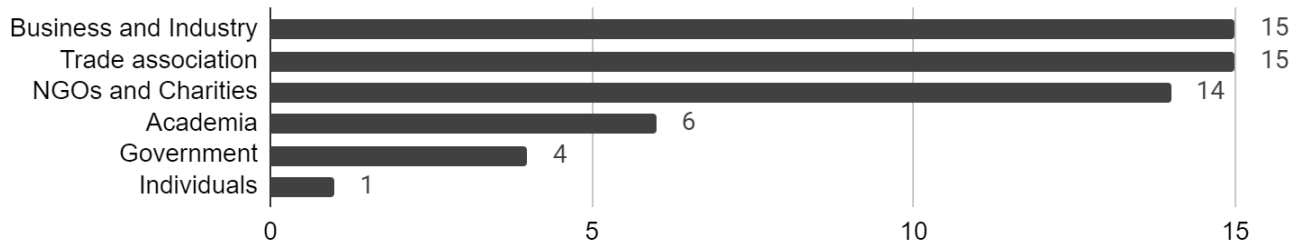
## Question 2: Additional Action Pathway and contingency plans

What types of government measures do you think should be included in the Additional Action Pathway and/or as contingency options rather than in the Balanced Pathway?

### DESCRIPTIVE STATISTICS

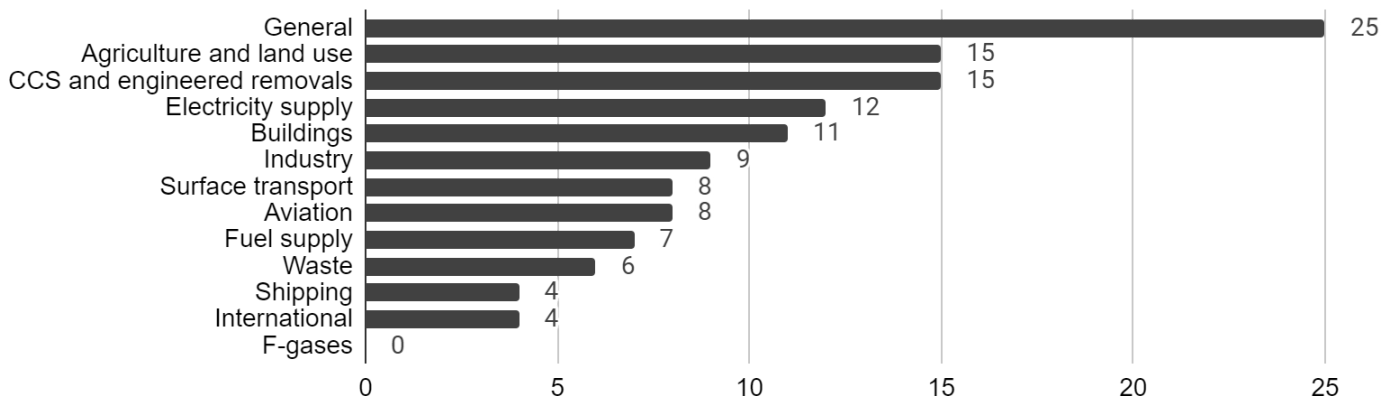
55 responses were submitted to **Question 2**, with a relatively even distribution across business and industry (15 respondents), trade associations (15 respondents) and NGOs and charity organisations (14 respondents), as shown in **Figure 6**.

**FIGURE 6. NUMBER OF Q2 RESPONDENTS BY ORGANISATION TYPE**



Respondents placed the greatest focus on pathway considerations applicable across sectors (25 responses), as shown in **Figure 7**. At least 20% of responses to this question also captured pathway considerations for agriculture & land use, CCS and engineered removals, electricity supply and buildings.

**FIGURE 7. NUMBER OF Q2 RESPONSES BY SECTOR**



### SUMMARY OF RESPONSES

#### 1. Emphasis on policy, regulation and funding support for additional actions

- A recurrent theme is the need for greater funding for research and development into low carbon technologies - particularly in emerging technologies like hydrogen, direct air capture, and aviation innovations - along with clear, robust policy and regulatory frameworks to accelerate the adoption of low-carbon technologies and practices. For example, one respondent from business and industry called for government action to reduce market barriers and the 'green premium' for adopting low carbon aviation and heavy transport solutions.
- Respondents recommend greater government support schemes to support technology progression from R&D to commercialisation. In the aviation sector, three business and industry organisations recommended government policy to support hydrogen and electric planes and improve the commercial viability of fleet renewal, retrofits and replacement of high-carbon assets.

## 2. Use of financial incentives and market mechanisms to encourage low carbon action

- Several respondents make calls for the use of tax incentives, financial mechanisms, and integration into the UK's Emissions Trading Scheme to encourage the adoption of low-carbon technologies and practices.
- Respondents also highlighted the role of private finance and the need for investment in sustainable infrastructure.

## 3. Considerations around demand reduction through government policy

- Respondents argue for greater focus on government policies to incentivise demand reduction as part of the CB7 Balanced Pathway.
- Respondents highlight the importance of this in contingency planning citing uncertainty around the commercialisation, environmental benefits and supply chain consideration on the extent to which supply side initiatives are rolled out.
- Some respondents advocate against government policy which influences diet, such as taxes on red meat, stating the need for such products for nutrients and benefits of ruminant livestock to ecosystems. However, some respondents to **Question 5** held the opposite view, and there is a general consensus from respondents in **Question 5** that reduced meat consumption is necessary.

## 4. National planning required to mitigate against skills and labour shortages

- Respondents highlight a current shortage in skill required to deliver initiatives in both pathways and emphasise the need for national planning to prevent this shortage from affecting delivery.

## 5. Sector-specific decarbonisation pathways

- Respondents highlighted the need for tailored decarbonisation strategies across different sectors, including agriculture, manufacturing, and energy, to address unique challenges and leverage specific opportunities for emissions reductions.
- Respondents made suggestions for sector-specific policy frameworks and incentives to drive adoption of low-carbon practices and technologies - particularly for land use, industry and transport - recognising the varied pace and potential for decarbonisation across sectors.

## 6. Integration of nature-based solutions and reservations around BECCS / DACCS

- As per the responses to **Question 1**, many respondents advocate for integrating nature-based solutions into climate action pathways, emphasising the dual benefits of carbon sequestration and biodiversity enhancement. Respondents made calls for policies that support carbon storage in natural habitats, such as peatlands, grasslands, and forests, while ensuring their restoration and conservation align with broader environmental and biodiversity goals.
- Some environmental organisations and think tanks proposed a scenario with no BECCS/DACCS due to the uncertainty around BECCS delivering genuine negative emissions and the requirement for significant upscaling of CCS for both BECCS and DACCS to be feasible.

### FURTHER EVIDENCE CITED

- IPSOS (2022). [‘Net Zero Living’](#).
- CAST (2022). [‘The road to net zero: UK public preferences for low-carbon lifestyles’](#).
- UKERC (2020). [‘Review of Energy Policy 2020’](#).

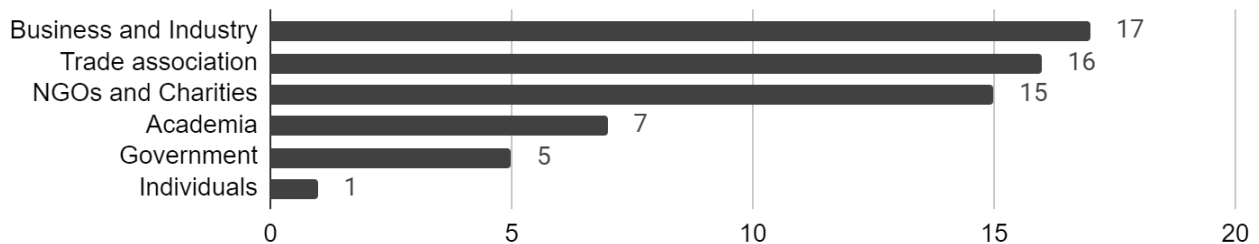
### Question 3: Uncertainty

Are there any major sources of uncertainty that should be considered in our uncertainty analysis? For example, for which technologies are costs or performance likely to be particularly uncertain?

#### DESCRIPTIVE STATISTICS

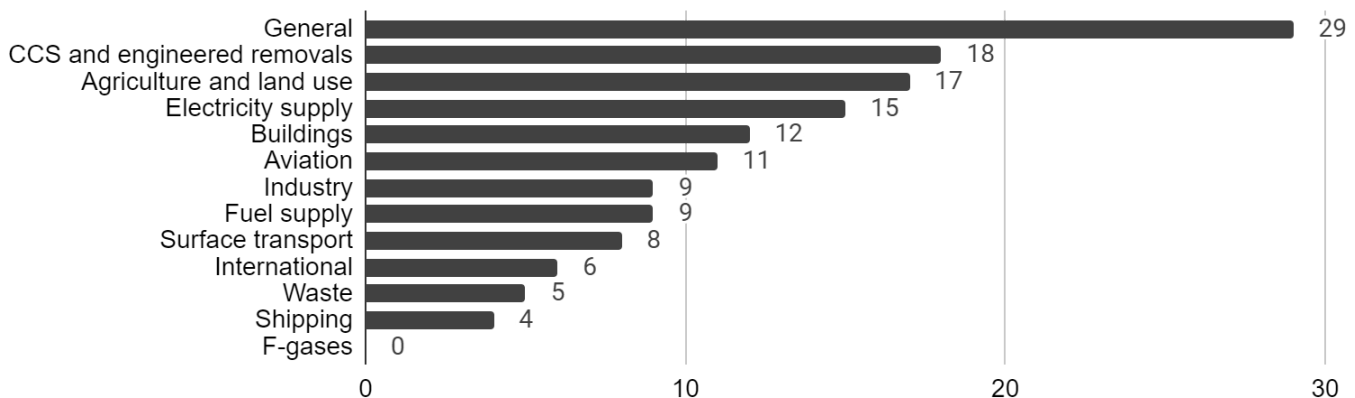
61 responses were submitted to **Question 3**, with the majority (17 respondents) coming from business and industry, followed by 16 respondents from trade associations and 15 respondents from NGOs and charity organisations, as shown in **Figure 8**.

**FIGURE 8. NUMBER OF Q3 RESPONDENTS BY ORGANISATION TYPE**



Respondents placed the greatest focus on uncertainties applicable across sectors (29 responses), as shown in **Figure 9**. At least 20% of responses to this question also captured uncertainty considerations for the following sectors: CCS and engineered removals, agriculture and land use, electricity supply, and buildings.

**FIGURE 9. NUMBER OF Q3 RESPONSES BY SECTOR**



#### SUMMARY OF RESPONSES

##### 1. Hydrogen as an energy source

- Some respondents noted that it is still unclear how affordable and efficient hydrogen technologies will be in the long run.
- Hydrogen was mostly discussed for use in industry and in the aviation sector. An area of concern was the role of hydrogen in domestic heating, as some respondents questioned its feasibility, safety, and infrastructure requirements.

##### 2. Feasibility of agriculture & land use sector ambition

- Several respondents noted various sources of uncertainty related to agriculture and land use. The degree to which changes in agricultural practices and land use will be possible, or desirable, was highlighted as a source of uncertainty. Changes in levels of productivity and profitability of farming were noted as another possible source of uncertainty. For example, one respondent noted that climate



change could be a factor impacting agricultural productivity levels, by affecting the ability to produce certain foods and raw materials.

- Respondents further noted that there are uncertainties related to agricultural land use and land use change in the UK's Greenhouse Gas Inventory, which are in need of further refinement may affect CB7.
- A respondent questioned the methodological assumptions included in the carbon budget which assumes and requires farmers to invest in new technologies and infrastructure to reduce climate impacts, rather than changing agricultural practices to lower impact practices, such as low-input or circular production systems.
- Additionally, a small number of respondents mentioned that there are uncertainties related to the performance of nature-based solutions, as their carbon sequestration potential is yet to be validated at scale and over long time periods.

### **3. Technological uncertainties**

- Several responses noted that there is uncertainty associated with the cost and availability of technologies such as solar panels, energy storage, transport and wind turbine generators due to rapid developments in these technology fields. Uncertainties about the pace of technology development were also mentioned in relation to the delivery of low and zero-emission technologies to support large aircrafts, in particular the development of SAF.
- One respondent identified the delivery and operation of a Net Zero power system as a source of uncertainty due to there being a critical dependency on its successful operation for the implementation and use of other technologies. Furthermore, another respondent noted that one factor which might influence the uptake of heat pumps is misinformation about their efficacy, leading to negative public opinion and a lack of confidence in this technology.
- Some respondents identified the use of CCS as a potential source of uncertainty. A respondent mentioned that there is uncertainty associated with the ability to supply feedstocks to meet the demand for BECCS in the balanced pathway scenario. Some responses noted that there is a lack of clarity regarding the GHG accounting methodologies for BECCS. Additionally, a small number of responses mentioned that the relatively high costs for the production of CCS could also be a source of uncertainty.

### **4. Physical effects of climate change**

- Some respondents call for the CCC to consider uncertainties relating to the effects of climate change on other parameters. Physical effects of climate change, such as sea-level rise, extreme weather events, and availability of water may have an impact on agricultural productivity and the availability of agricultural land. Rising temperatures may lead to the release of carbon and other GHGs into the atmosphere from soil and permafrost. Furthermore, climatic changes may also trigger other tipping points in the Earth's systems, impacting other baseline environmental conditions such as habitat stability, soil health, or water cycles.

### **5. Liquidity and rigour of the voluntary carbon market**

- The voluntary carbon market was mentioned in several responses. Sources of uncertainties related to developments in the voluntary carbon markets relate to the availability of voluntary carbon credits, and to updates in the Measurement, Monitoring and Verification protocols of the market. Public trust in carbon markets will also impact the use of carbon credits, and therefore there is a degree of uncertainty related to the level of use of carbon credits.

## 6. Political, geopolitical and policy uncertainties

- Uncertainties related to political and geopolitical issues were mentioned by a small number of respondents. There are high uncertainties regarding the levels of GHG emissions of military-related activities, both direct and indirect. There are also calls for the CCC to consider geopolitical risks related to electricity and fuel supplies, critical minerals and supply chains.
- A respondent mentioned Northern Ireland's reliance on gas imports from Great Britain for security of energy supply - they called for energy policy developments to continue to be coordinated with interconnected jurisdictions.
- Additionally, several responses mentioned that various future policy decisions will have implications on emissions, and therefore these uncertainties should be considered, for example policies related to biomass.

## 7. Extent of likely consumer behaviour change

- Overarchingly, many responses discussed uncertainty related to the degree to which consumer behaviour will change, in several sectors including buildings, transport and agriculture & land use.
- For instance, one industry respondent notes that “consumer behaviour remains perhaps the greatest of all uncertainties” and that “a pathway which requires least change for consumers will be considerably more deliverable than one which requires fundamental behaviour change.”

### FURTHER EVIDENCE CITED

- Finch et al. (2023). [‘Spatially targeted nature-based solutions can mitigate climate change and nature loss but require a systems approach’](#).
- Citizens Advice (2023). [‘Demand: Net Zero May 2023 Tackling the barriers to increased homeowner demand for retrofit measures’](#).
- Cut Carbon Not Forests (2023). [‘Bioenergy is Putting Britain’s Energy Security At Risk’](#).
- Element Energy (2023). [‘Low Carbon Heat Study An assessment of the impact of ground and air source heat pump deployment and heating demand flexibility on the GB electricity system and households’](#).
- Element Energy (2023). [‘Low Carbon Heat Study – Phase 2’](#).
- Climate Action (2022). [‘Fairness’ in UK climate advocacy’](#).
- Hou et al. (2021). [‘Climate change impacts on solar power generation and its spatial variability in Europe based on CMIP6’](#).
- Environment and Society Programme (2021). [‘BECCS deployment The risks of policies forging ahead of the evidence’](#).

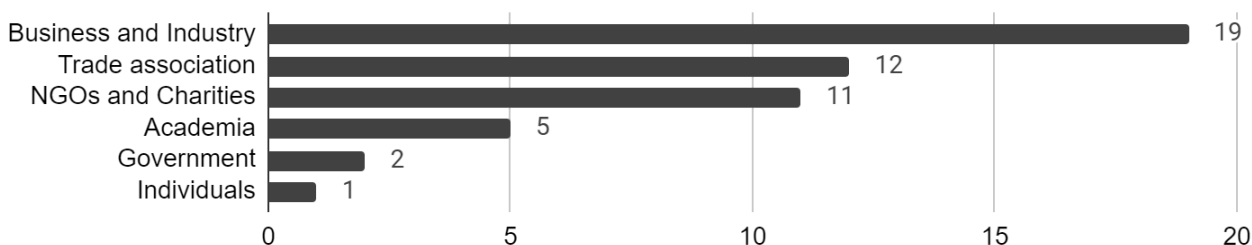
## Question 4: Speculative technologies<sup>4</sup>

In our carbon budget advice, we take a low-risk approach by avoiding reliance on speculative technologies to ensure that our pathways are deliverable. Is there any new evidence on the feasibility of technologies that support decarbonisation since our 2020 advice on the Sixth Carbon Budget that we should consider?

### DESCRIPTIVE STATISTICS

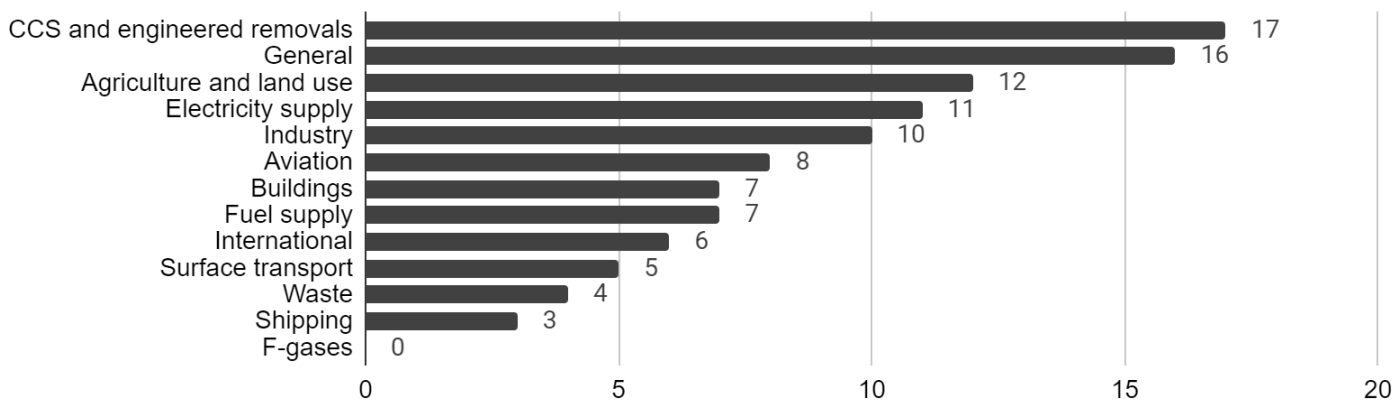
50 responses were submitted to **Question 4**, with the majority coming from business and industry (19 respondents), followed by trade associations (12 respondents) and NGOs and charity organisations (11 respondents), as shown in **Figure 10**.

**FIGURE 10. NUMBER OF Q4 RESPONDENTS BY ORGANISATION TYPE**



Respondents placed the greatest focus on Carbon Capture & Storage (CCS) and engineered removal technologies, as shown in **Figure 11**. Note that these technologies have applications across industries leading many respondents to also file their evidence under the “General” sector category.

**FIGURE 11. NUMBER OF Q4 RESPONSES BY SECTOR**



### SUMMARY OF RESPONSES

#### 1. Need for better labelling and clear policy direction for speculative technologies

- Several respondents noted that certain technologies, such as advanced nuclear applications, hydrogen and CCS, which are termed speculative should not be labelled as such given these technologies will ultimately comprise the main solution for decarbonising hard to abate industries during the period of CB7 and therefore should be supported by policy.

<sup>4</sup> In the Call for Evidence, the CCC states that in its carbon budget analysis, “[it does] include technologies that have significant cost and performance uncertainties, for example Carbon Capture and Storage (CCS), Direct Air Carbon Capture and Storage (DACCS) and hydrogen”. This question sought to understand respondents’ views about other technologies, but several respondents also provided responses on these technologies, too.

## 2. Engineered removals vs nature-based solutions

- At a high level, respondents differ on the extent of the role of engineered based carbon removal versus nature-based solutions. Note that this debate is also reflected in the responses to **Question 1**.
- Proponents of negative emissions technologies cite DACCS, BECCS and industrial CCS as the most prominent examples of speculative technologies becoming increasingly mainstream.
- For nature-based solutions, respondents cite enhanced rock weathering and biochar salt marshes and meadows as the main speculative technologies gaining traction, with wide adoption across the UK. Respondents state that a key benefit of nature-based solutions is the relatively lower barriers to deployment and uptake, compared to engineered removals which are often concentrated in a smaller group of companies. Respondents also cite wider co-benefits to nature, with several respondents providing evidence on biochar, enhanced rock weathering and perennial biomass crops demonstrators. There was agreement amongst respondents that further research into these solutions is necessary to improve the accuracy and verifiability of their carbon capture potential.

## 3. Hydrogen

- Several respondents highlighted a greater range of potential applications of hydrogen that should be considered in the CB7 and highlighted the need for policy to support the hydrogen value chain from production, storage, transportation and utilisation. In this context, one respondent recommended a “move away from using terms such as ‘green’ and ‘blue’ hydrogen, and instead focus solely on what hydrogen production has the lowest cost, the lowest carbon intensity and can be scaled the quickest”.
- The most prominent fields for hydrogen application from the responses were decarbonisation of carbon intensive industries such as steel and cement, and hard to abate sectors such as aviation and shipping.
- In the aviation sector, the general consensus among respondents is that progress on aviation mitigation solutions such as sustainable aviation fuels (SAF), improved efficiency, hydrogen and electric jet propulsion are developing ahead of schedule, although to varying degrees.

## 4. Livestock feed additives

- Most respondents from the agriculture sector highlighted additives to livestock feed which inhibit the emission of methane as a key mechanism for mitigating emissions associated with livestock farming.

## 5. Optimising waste management over new solutions

- Respondents recommended leveraging existing waste management technologies, over exploring new solutions. Respondents suggested that technologies such as membrane aerated biofilm reactors, nitrification anammox technologies and advanced anaerobic digestion have comparable mitigation potential to conventional waste treatment. Advanced anaerobic digestion was criticised due to its fossil fuel intensive nature, when carried out through thermal hydrolysis. Simple and more advanced process optimisation was highlighted as a preferable approach to reducing N<sub>2</sub>O.

### FURTHER EVIDENCE CITED

- WWT (2022). [‘Wetlands for Carbon Storage Creating and managing saltmarshes to store blue carbon in the UK’](#).
- Baringa (2024). [‘The value of BECCS at Drax Power Station’](#).
- Becken et al. (2023). [‘Implications of preferential access to land and clean energy for Sustainable Aviation Fuels’](#).

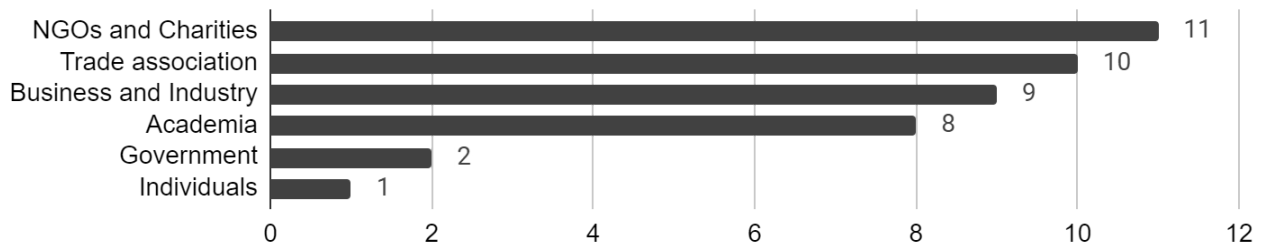
## Question 5: Reduction in high-carbon activities

What are the main factors we should consider when assessing a potential shift in patterns of travel and diet in our Balanced Pathway and Additional Action Pathway?

### DESCRIPTIVE STATISTICS

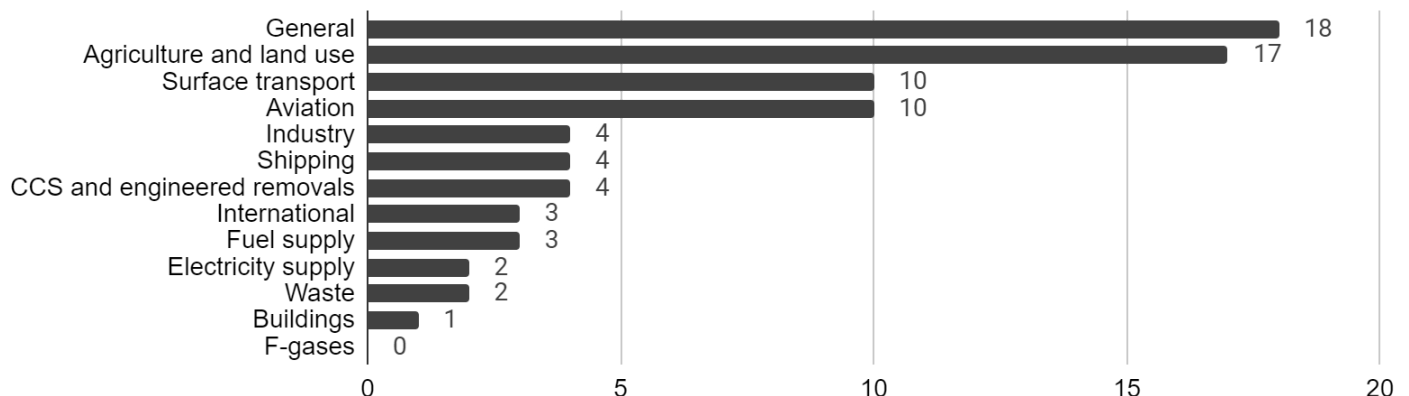
41 responses were submitted to **Question 5**, with 11 responses coming from NGOs and charity organisations, followed by 10 respondents from trade associations, 9 respondents from business and industry and 8 respondents from academia, as shown in **Figure 12**.

**FIGURE 12. NUMBER OF Q5 RESPONDENTS BY ORGANISATION TYPE**



As this question was specific to high carbon activities related to travel and diet, respondents placed the greatest focus on the agriculture & land use and surface transport sectors, as shown in **Figure 13**. Many respondents also filed their evidence under the “General” sector category.

**FIGURE 13. NUMBER OF Q5 RESPONSES BY SECTOR**



### SUMMARY OF RESPONSES

#### 1. Overarching issue is one of cost

- The overarching issue that respondents touched on is one of cost. Respondents believe that in order to facilitate green choices, the low-carbon option needs to be the cheapest.
- Some individuals have criticised the CCC for being too conservative in their assumptions about feasible shifts away from high carbon goods and services and have called for the CCC to advocate for more ambitious policies, particularly in areas such as aviation and agricultural / land management.
- To address these concerns, several behaviour change policy measures have been suggested. These include strategic communications, the use of choice architecture, government engagement with the public, tax incentives, and education at all levels.

## 2. Technology vs behavioural change

- There was a divide between respondents encouraging the CCC to consider technological shifts as more consequential than a shift towards green choices, and responses calling for behavioural change to be measured on equal par to technology.

## 3. Broad consensus that a reduction in meat consumption is necessary

- There is a broad consensus among respondents that a reduction in meat consumption is necessary and should be encouraged. However, responses warn that reducing beef consumption could lead to increased poultry and pork consumption, which also contributes to environmental pollution.
- Respondents recommended that the CCC ensures that a shift in UK food production does not increase emissions abroad and that food security and wider geopolitical considerations (such as food sovereignty, effect of potential conflict on food prices / availability of imported crops) are considered in the budget.

## 4. Proposal for food system analysis and land management framework

- There are several proposals for food system analysis and land management framework. One respondent suggested a move towards a nutritional life cycle or a food system analysis as opposed to using CO<sub>2</sub>/kg, in order to capture the co-benefits associated with dietary change. For example, the following co-benefits could be captured: the implementation of nature-based solutions, the use of land for DACCS or BECCS. There are also several calls for a UK land-use framework.

## 5. Equity is the primary concern for surface transport and aviation

- Many respondents highlighted the need to consider rural-urban discrepancies in surface transport, for example the availability of public transport or the availability of electric vehicle charging points in remote, rural areas.
- There was limited debate around aviation demand management however it was raised that demand for domestic aviation is larger in rural areas due to the lack of direct rail routes. As a result, regulating short-haul aviation would impact rural inhabitants more than their urban counterparts, as they would either have to pay more or spend more time driving.
- There were also a proposal to align aviation emissions more precisely between UK domestic and UK international categories, with one industry respondent stating that “because only one direction of travel falls under the scope ETS or the UK SAF mandate for international flights outside of the EU yet both directions of travel are in scope of these policy measures for domestic fliers,” the costs of recent policy changes have fallen twice as hard on domestic air travellers relative to international fliers.

## FURTHER EVIDENCE CITED

- Logan et al. (2023). [‘Decarbonising UK transport: Implications for electricity generation, land use and policy’](#).
- CAST (2023). [‘How public engagement can support reducing car use: A briefing for policy makers and communicators’](#).
- Buchs and Mattioli (2022). [‘How socially just are taxes on air travel and ‘frequent flyer levies’?’](#).
- Barrett et al. (2022). [‘Energy demand reduction options for meeting national zero-emission targets in the United Kingdom’](#).
- Kuss and Nicholas (2022). [‘A dozen effective interventions to reduce car use in European cities: Lessons learned from a meta-analysis and transition management’](#).



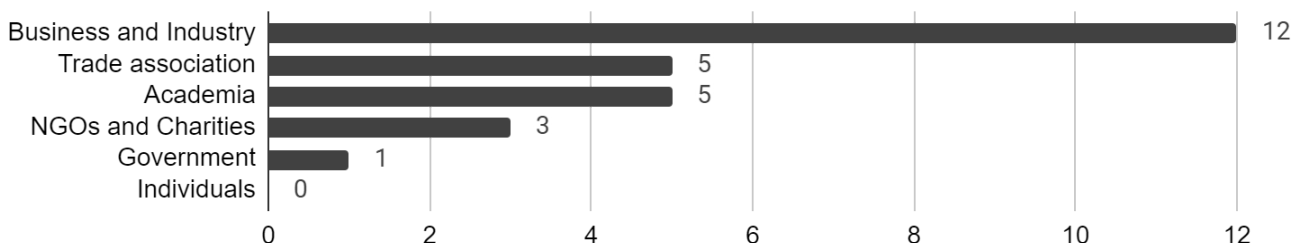
## Question 6: Considerations for Scotland

What are the distinctive characteristics that should be considered when developing pathways and costs for Scotland?

### DESCRIPTIVE STATISTICS

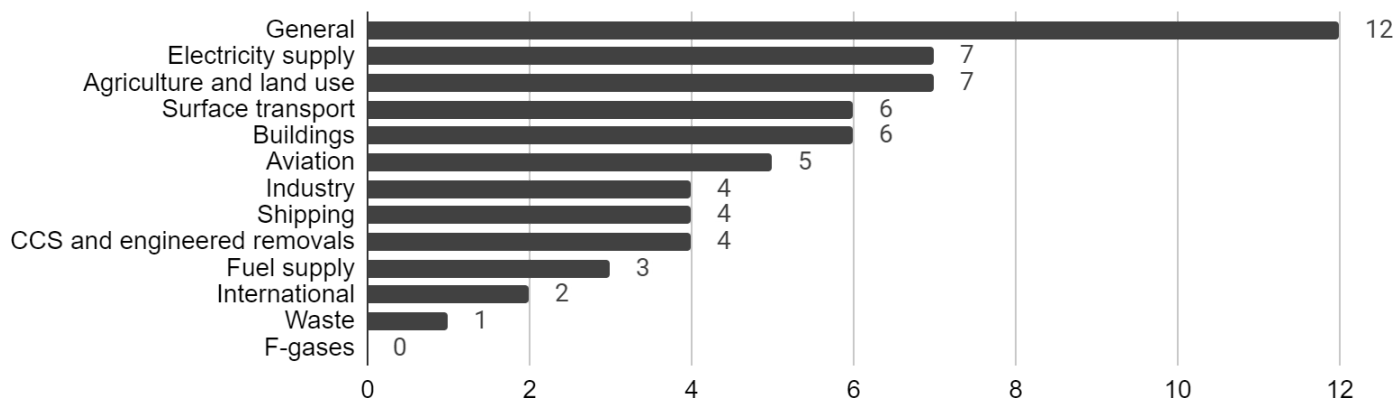
26 responses were submitted to **Question 6**, with the majority (12 respondents) coming from business and industry, followed by 5 respondents from trade associations and 5 respondents from NGOs and charity organisations, as shown in **Figure 14**.

**FIGURE 14. NUMBER OF Q6 RESPONDENTS BY ORGANISATION TYPE**



Respondents placed the greatest focus on cross-sector considerations for Scotland filed under 'General' (12 responses), as shown in **Figure 15**. However, over 20% of responses to this question also captured considerations for the following sectors: electricity supply, agriculture & land use, surface transport, buildings.

**FIGURE 15. NUMBER OF Q6 RESPONSES BY SECTOR**



### SUMMARY OF RESPONSES

#### 1. Opportunities to alleviate grid curtailment costs by using surplus renewable energy

- Several respondents identify opportunities to alleviate grid curtailment costs, which are likely to increase without major electricity infrastructure development at the B6 boundary with England. These include:
  - Leveraging Scotland's abundant CO<sub>2</sub> storage and removal resources domestically and internationally, potentially creating revenue opportunities through the sales/trade of high-quality carbon removal credits, through BECCS (using sustainable biomass) or DACCS (utilising surplus renewable electricity)
  - Building on recent developments in the government's decision to permit blending of hydrogen into the existing gas distribution network by incentivising wind generators and electrolyser operators to use grid-constrained excess energy from Scotland to reduce curtailment payments, and capture

and repurpose renewable energy as long duration energy storage in hydrogen or for use in industrial applications.

## **2. Just transition in Scotland**

- Respondents also state that distributional analysis is required to capture the nuances of Scotland's energy transition (e.g., disproportionately large O&G industry, large and rapidly expanding wind sector, potentially very large CCS and Hydrogen sector).

## **3. Potential for nature-based solutions**

- Several respondents note Scotland's "outsized potential" for delivery of nature-based and engineered removals relative to UK as a whole and recommend that the CCC's pathways reflect the accelerated speed of change required to maximise the mitigation benefits in Scotland's land use sector, both in terms of technical deployment and workforce and skills.
- Respondents also recommend consideration of the range of social benefits of land and sea use in the CB7 pathways (e.g., those identified in Scotland's Land Use Strategy), given some coastal habitats are included in the UK Nationally Determined Contributions (and in Scotland's indicative NDC).

## **4. Domestic aviation demand**

- Many respondents flag the importance of considering the domestic demand for aviation and social costs of reduction in aviation demand in Scotland's CB7 pathways, given Scotland's high dependency on aviation for connectivity in rural places. For instance, one respondent highlights an opportunity to support the adoption and commercialization of zero-emission technologies (such as green hydrogen through Scotland's significant access to onshore and offshore wind power) on regional and sub-regional PSO routes to mitigate these domestic trade-offs in Scotland and growing these routes further ahead of 2038.

## **5. EPC alignment and rural skill shortages in domestic buildings sector**

- In the domestic buildings sector, respondents recommend policy to set a UK-wide approach to EPCs and greater investment to address regional-specific skill shortages, particularly through construction sector Modern Apprenticeships, new pathways for entrants into industry and upskilling for the existing workforce.
- A respondent from business and industry also recommends that the CCC incorporate the use of centralised heat networks and networked heat pumps in its pathways for Scotland's hard-to-decarbonise homes due to its higher prevalence of tenements/flats compared to the rest of the UK.

## **6. Tailoring surface transport assumptions to demographics**

- In the surface transport sector, respondents urge that assumptions around future travel demand should be tailored to Scotland's demographic profile and incorporate socio-economic modelling to enhance the relevance and efficacy of the transport pathway. One respondent set out a detailed list of tailored messaging for specific demographic groups based on age, area of residence, income potential and people living with disabilities.

## **7. Consensus about importance of a regional distributional lens in the carbon budget**

- Respondents welcome the CCC's incorporation of a regional distribution lens into the carbon budget, particularly through the use of archetypes. They emphasise that this is particularly important for identifying the workforce and skills barriers in the buildings and land use sectors and addressing these through delivery at local authority level.

## FURTHER EVIDENCE CITED

- Csernik-Tihn et al. (2023). '[Hydrogen as a Storage Medium in Scotland](#)'.
- Policy Exchange (2024). '[Turning Wasted Wind into Clean Hydrogen](#)'.
- Built Environment Forum Scotland (2023). '[Scottish Parliamentary Working Group on Tenement Maintenance](#)'.
- Climate x Change (2022). '[Zero emissions heating in new buildings across Scottish Islands](#)'.
- Scottish Government (2022). '[Heat in buildings - Scotland's National Public Energy Agency call for evidence: analysis of responses](#)'.
- CAST (2022). '[Developing an evidence-based toolkit for car reduction](#)'.
- Brand *et al.* (2019). '[Lifestyle, efficiency and limits: modelling transport energy and emissions using a socio-technical approach](#)'.

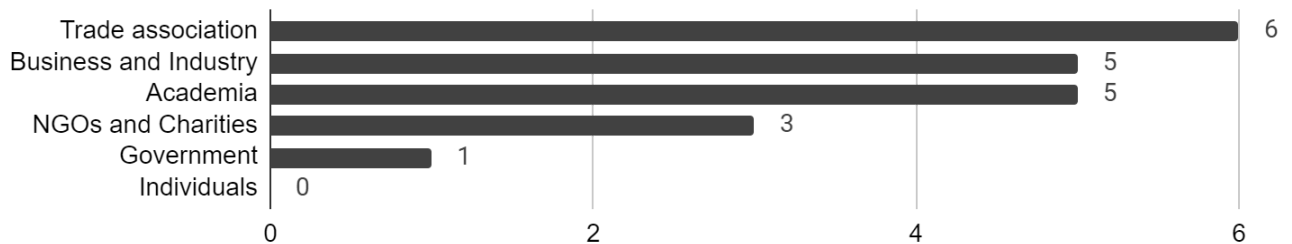
## Question 7: Considerations for Wales

What are the distinctive characteristics that should be considered when developing pathways and costs for Wales?

### DESCRIPTIVE STATISTICS

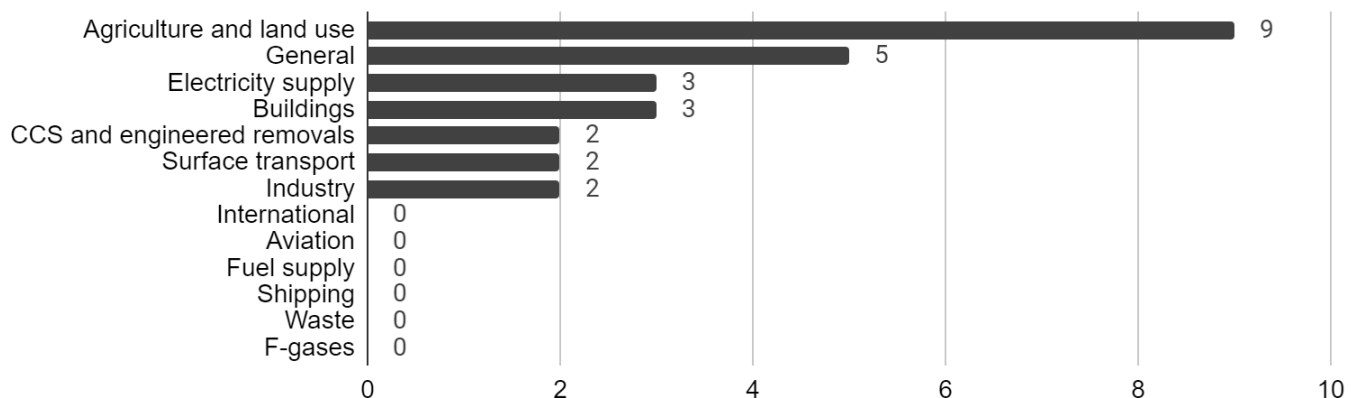
20 responses were submitted to **Question 7**, with a fairly even distribution across trade associations (6 respondents), business and industry (5 respondents) and academia (5 respondents), as shown in **Figure 16**.

**FIGURE 16. NUMBER OF Q7 RESPONDENTS BY ORGANISATION TYPE**



Respondents placed the greatest focus on agriculture and land use (8 responses), as shown in **Figure 17**. However, 25% of respondents to this question also raised cross-sectoral considerations ('General').

**FIGURE 17. NUMBER OF Q7 RESPONSES BY SECTOR**



### SUMMARY OF RESPONSES

#### 1. Renewable energy and nuclear potential in Wales

- There was an emphasis throughout the responses on Wales's significant renewable resources.
- The potential for Wales to contribute to the UK's broader decarbonisation efforts through excess renewable energy generation was highlighted several times.
- Additionally, there was discussion on the need for supportive policies and infrastructure for renewable energy and nuclear power development.
- The responses also discussed the role of Wales in the nuclear energy sector, including future development sites and economic contributions.
- Respondents also note the potential for geothermal energy to support home heating decarbonisation - citing that a significant proportion of fuel poor homes are within close proximity to geothermal sites.

## 2. Agricultural practices and land use

- Several responses noted the importance of sustainable and agroecological farming practices.
- Some responses highlighted the need for policies that support carbon storage in agricultural lands.
- The responses discussed the complexities surrounding land use decisions. In particular, several respondents commented on the considerations around land use decisions, including afforestation and biomass crops, in relation to agricultural productivity and carbon sequestration.
- It was highlighted that agricultural policies have wide-ranging impacts on the rural economy and Welsh culture, including the Welsh language.

## 3. Industrial decarbonisation and carbon capture

- Responses mentioned the potential for industrial decarbonisation in Wales, especially through Carbon Capture and Storage (CCS) technologies. Discussion on this topic included the challenges and opportunities for CCS deployment in Wales' industrial sectors.
- A technical aspect of CCS deployment highlighted in the responses was the importance of developing non-pipeline transport (NPT) for carbon dioxide to support CCS in Wales.
- Additionally, respondents noted that there is a need for clear governmental policy and support for CCS to realise Wales's industrial decarbonisation potential.

## 4. Socio-cultural considerations in decarbonisation efforts

- Responses discussed the socio-cultural impacts of decarbonisation policies on the Welsh population, especially in rural areas. It was noted that policies should reflect the needs and values of Welsh society, and therefore considerations for engaging communities in decarbonisation efforts should be a priority.
- Some responses highlighted the central role of ruminant agriculture in the Welsh rural economy and its significance for the Welsh language and culture and stress the importance of preserving the Welsh heritage in the transition to a Net Zero economy.
- Additionally, respondents highlighted the role of education and skill development in supporting Wales's transition to Net Zero, addressing skill shortages, and ensuring equitable opportunities.

## 5. Policy coherence and integrated planning

- Consistency was a central point discussed in relation to policies. Respondents called for alignment between policies and Wales's legislative framework, including the Well-being of Future Generations (Wales) Act. Additionally, several responses highlighted the challenges in ensuring policy consistency across devolved administrations, particularly in sectors such as agriculture, buildings, and transport.
- Several responses stressed the importance of integrated planning that considers both the climate and nature emergencies.
- Responses also discussed the role of innovative and flexible policy mechanisms in facilitating Wales's path to decarbonisation, including the consideration of alternative energy sources like geothermal heating from mine water.

### FURTHER EVIDENCE CITED

- Verfuert et al. (2023). ['Building relationships back into the food system'](#).
- All-Party Parliamentary Group (2023). ['Next Steps in Levelling Up the Former Coalfields'](#).
- Welsh Government – Soil Policy & Agricultural Land Use planning unit (2020). ['2018-19 Soil Policy Evidence Programme'](#).

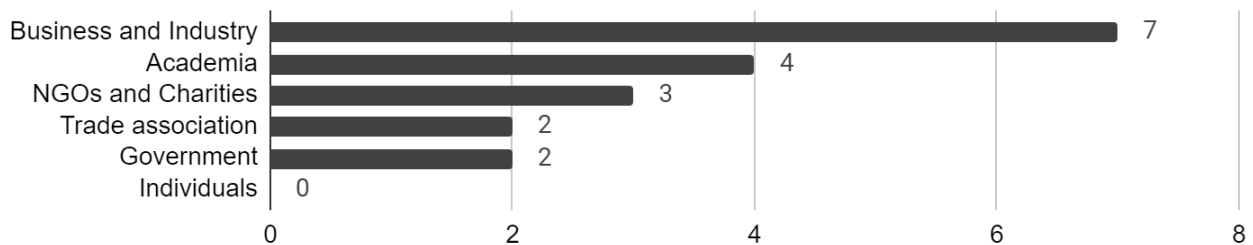
## Question 8: Considerations for Northern Ireland

What are the distinctive characteristics that should be considered when developing pathways and costs for Northern Ireland?

### DESCRIPTIVE STATISTICS

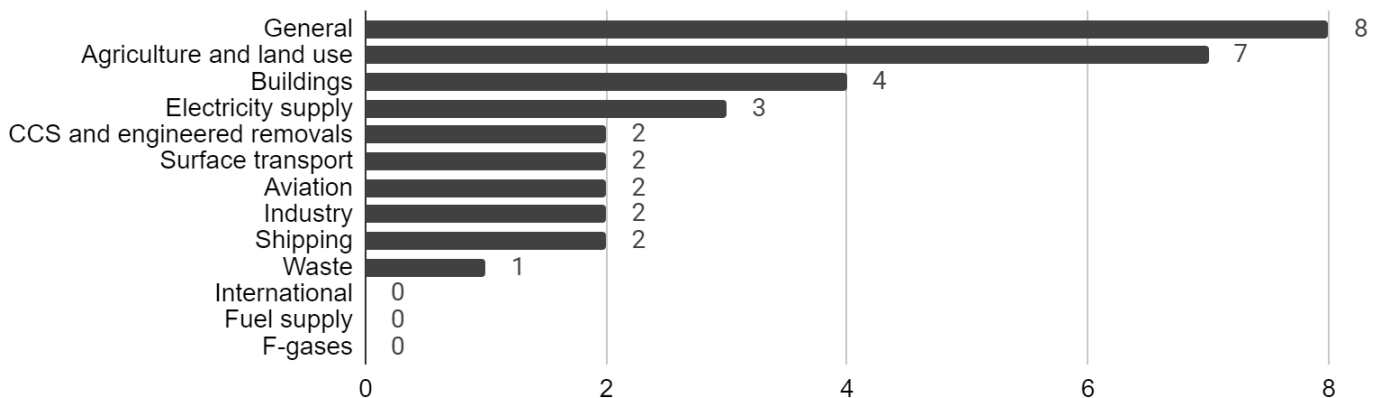
18 responses were submitted to **Question 8**, with the majority coming from business and industry (7 respondents) and 4 responses coming from academia, as shown in **Figure 18**.

**FIGURE 18. NUMBER OF Q8 RESPONDENTS BY ORGANISATION TYPE**



Respondents placed the greatest focus on cross-sectoral considerations ('General') for Northern Ireland (8 responses) and considerations for Northern Ireland's agriculture and land use sector (7 responses), as shown in **Figure 19**. Additionally, over 20% of responses to this question captured considerations for Northern Ireland's buildings sector.

**FIGURE 19. NUMBER OF Q8 RESPONSES BY SECTOR**



### SUMMARY OF RESPONSES

#### 1. Challenges and opportunities in the agriculture and land use sectors

- Respondents generally note the extensive reliance of the Northern Ireland economy on the agriculture and land use sectors and call for pathways to consider the full range of opportunities for low carbon farming practices and nature-based solutions for mitigation and adaptation. One respondent highlighted that NI's land use sector is a net carbon emitter and urges the CCC to prioritise nature-based projects and farmer engagement for a cost-effective approach to climate mitigation and adaptation.
- Some respondents highlight the abatement potential of nature-based solutions such as peatlands in NI and recommend that the CCC perform sensitivity analysis on the contribution of peatland restoration to NI's overall pathway.
- Respondents also emphasise how the reliance on livestock farming in NI could result in resistance to policies promoting agriculture shifts to low-carbon practices. Such responses advocate for a just



transition supported by public engagement strategies, referencing several academic publications and suggest that integrating public engagement in decarbonisation efforts is crucial for success.

## 2. CCUS and hydrogen infrastructure

- One respondent noted that NI has a limited industrial base to anchor CCUS and hydrogen infrastructure, highlighting the need to consider spatial energy planning. Respondents called for the UK's National Infrastructure Strategy to consider hydrogen pipelines and non-pipeline transport solutions for CCUS such as shipping.
- Similarly, respondents highlight that hydrogen infrastructure development plans in NI are less advanced than those in Great Britain.
- The absence of a detailed assessment of the impact and benefits of electrolyser location and clear market signals for NI hydrogen projects are cited as key factors for the disparity.

## 3. BECCS

- One respondent noted that NI is uniquely positioned to develop a robust BECCS sector due to its well-established biomass industry.
- Respondents also discuss the potential role of biogas/biomethane from livestock manure and grass silage in significantly reducing Northern Ireland's carbon footprint and meeting energy demands.
- References a 2022 study by Queen's University Belfast which finds that 80% of NI's gas distribution network demand could be met by biomethane.

## 4. Limited consistency across devolved administrations

- Some respondents point out inconsistencies in regulation and incentives across the devolved administrations, specifically in agriculture and buildings strategies.
- They also note the lack of a UK-wide approach to the EPC online register, regional specific skill shortages, and varying public sector subsidies.
- Emphasise the need for a consistent and coordinated approach to address these disparities.

## 5. Transport and heating infrastructure

- One respondent highlighted infrastructural issues, particularly the high reliance on oil heating by over half of households in NI. They note that this presents an opportunity to transition to heat pumps more quickly with lower negative economic costs.
- There was also recognition of the limited transport network - electrified train networks and infrequent buses and unique characteristics of NI.
- They further stress the importance of decarbonising heating to address emissions and fuel poverty and highlight the need for decarbonising transport in the context of limited public transport options.

## FURTHER EVIDENCE CITED

- Rooney et al. (2023). ['Opportunities for atmospheric CO2 removal in Northern Ireland using biochar'](#).
- Hoy et al. (2022). ['NI Gas Network Pathway to Net Zero'](#).
- Martiskainen et al. (2023). ['Eating, heating or taking the bus? Lived experiences at the intersection of energy and transport poverty'](#).
- Verfuerth et al. (2023). ['A people-centred approach is needed to meet net zero goals'](#).
- Cherry et al. (2021). ['Citizens' climate assemblies: Understanding public deliberation for climate policy.'](#)

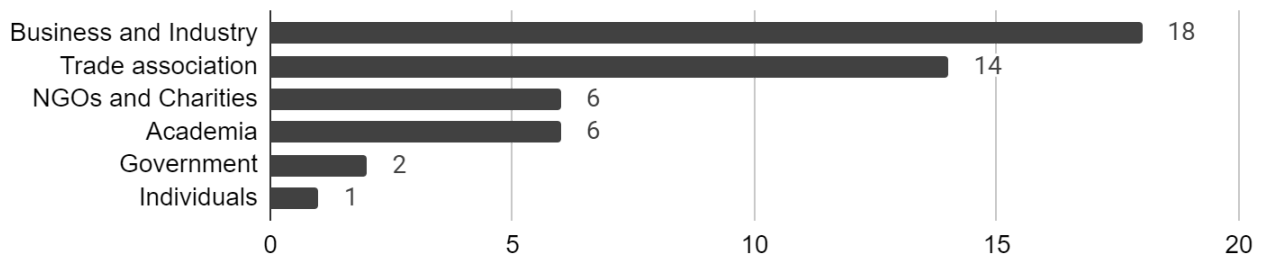
## Question 9: Whole-economy costs and benefits

What are the most important elements of impacts on the economy and competitiveness that should be considered in our assessment?

### DESCRIPTIVE STATISTICS

47 responses were submitted to **Question 9**, with the majority (18 respondents) coming from business and industry and nearly a third (14 responses) coming from trade associations, as shown in **Figure 20**.

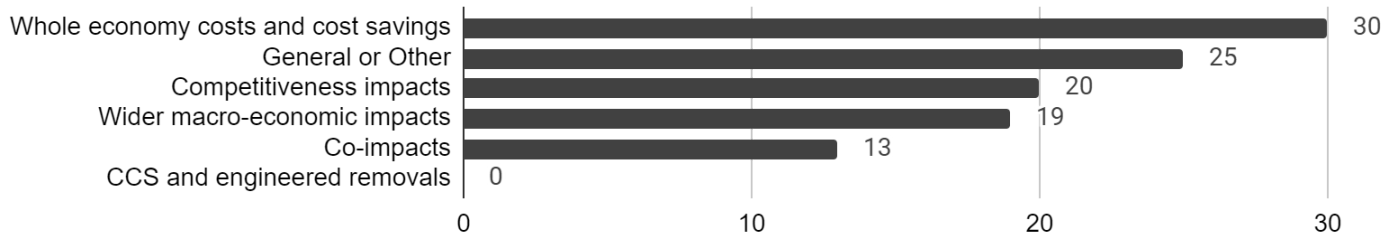
**FIGURE 20. NUMBER OF Q9 RESPONDENTS BY ORGANISATION TYPE**



For **Question 9**, respondents were asked to select from a list of potential areas of analysis, rather than to select sectoral alignment as per previous questions. The majority of responses to this question captured considerations around whole economy costs and cost savings (30 responses), as shown in **Figure 21**.

There were 25 responses that captured other impacts categorised as 'General', 20 responses discussing considerations around competitiveness, and 19 responses discussing wider macroeconomic impacts.

**FIGURE 21. NUMBER OF Q9 RESPONSES BY POTENTIAL AREA OF ANALYSIS**



### SUMMARY OF RESPONSES

#### 1. Evaluation of whole economic impacts

- The majority of respondents indicated that the CCC should ensure that whole economic impacts are considered and analysed as part of the CB7 pathways.
- Respondents highlight the importance of considering the impacts of the Net Zero transition across the whole supply chain, including key international dependencies,
- They also suggest further analysis on how these supply chain impacts, particularly the shifting need for skills and capabilities in different areas of the supply chain, have implications on the UK's ability to remain or begin to be competitive in current and emerging markets.
- Also, considering the need to take a long-term strategic approach to UK government policy will be important, particularly for ensuring that the UK has the skills and capacity in the supply chains for key emerging low-carbon technologies will be important for defining the pathways for CB7.

## 2. Presenting wider socio-economic impacts

- Respondents highlighted the importance of comprehensively presenting the wider socio-economic impacts of the Net Zero transition. They suggested that these include GVA, jobs and skills, productivity, public health (including the avoided costs of healthcare), air quality, water quality, soil quality and ecological damages/protection. One respondent emphasised that while these are often difficult to monetise, where possible they should be monetised with careful consideration taken when selecting methodologies for doing so.
- Some respondents also indicated that the analysis for the wider socio-economic impacts (both costs and benefits) should, where possible, be presented as a distribution across UK society both spatially and demographically. They suggested that this is an important part of the narrative to drive UK policy to ensure an equitable transition.

## 3. Cost of not reaching Net Zero

- Respondents also indicated that CB7 analysis should cover the cost of not reaching Net Zero. This would include the monetisation, where possible, of the whole economic and wider socio-economic impacts throughout the supply chain for not reaching Net Zero by 2050. They suggested that detailed analysis on this would not be required and there is already research in this space the CB7 could signpost.

## 4. Co-benefits of nature-based solutions

- Some respondents suggested including nature-based solutions as a central part of the low-carbon actions in the CB7 pathways.
- Many respondents highlighted the importance of including the socio-economic benefits of protecting and restoring nature, such as in the agricultural sector, and the impacts this would have on climate risk, adaptation and resilience.
- Others suggested that placing an economic value on nature and biodiversity would add weight to the analysis.

## 5. Other economic impacts

- Some of the responses highlighted economic opportunities through technology development in the UK such as in nuclear fusion, SAFs, methane inhibiting additives, various hydrogen applications, regenerative farming, and alternative proteins, in particular precision fermentation. Overarchingly, the responses also suggested a distinction between ‘technological level readiness’ and technologies which are commercially scalable and viable.
- Certain sectors, including aviation and agriculture, highlighted that they contributed to economic growth in the UK and that reducing demand in these sectors in order to reduce emissions may have a detrimental economic impact.
- In particular, the respondents highlighted the following economic impacts:
  - Respondents presented the potential impact of UK climate policy and regulation on the UK agriculture sector, particularly food production, and its ability to be competitive in the global market. It was also suggested to include the potential for carbon sequestration in the CB7 pathways.
  - Respondents suggested a supportive enabling environment for low-carbon innovation in the aviation sector to minimise the need for demand reduction that could have large economic impacts across the whole UK economy.

## FURTHER EVIDENCE CITED

- RSPB & Cambridge Econometrics (2021). ['Economic costs and benefits of nature-based solutions to mitigate climate change'](#).
- The University of Cambridge Institute for Sustainability Leadership (2022). ['The Best of Both Worlds: How tackling cost-of-living and decarbonisation creates win-wins for the UK economy'](#).
- We Mean Business Coalition & Cambridge Econometrics (2022). ['Cutting Bills and Creating Jobs: the Economic Opportunities of the Clean Energy Transition'](#).
- Finn & Brockway (2023). ['Much broader than health: Surveying the diverse co-benefits of energy demand reduction in Europe'](#).
- Smith et al. (2023). ['Embedding nature recovery in the Levelling-up and Regeneration Bill'](#).
- Element Energy (2023). ['Low Carbon Heat Study'](#).
- Rennert et al. (2022). ['Comprehensive evidence implies a higher social cost of CO2'](#).

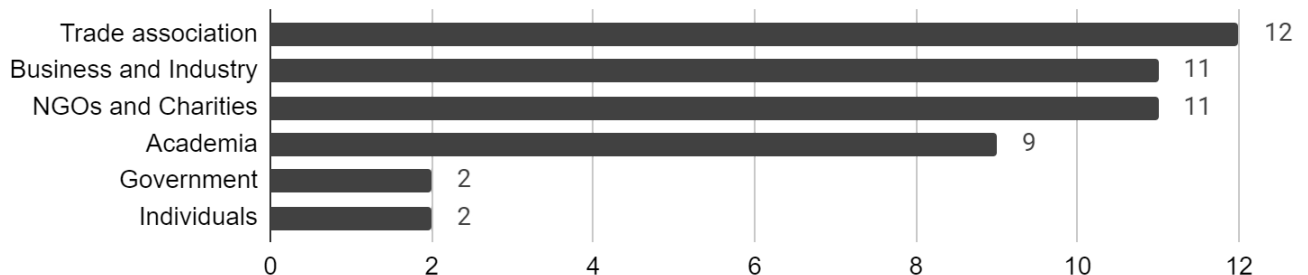
## Question 10: Social impacts and distributional analysis

What are the most important elements of social impacts and the distribution of costs and benefits to society that should be considered in our analysis?

### DESCRIPTIVE STATISTICS

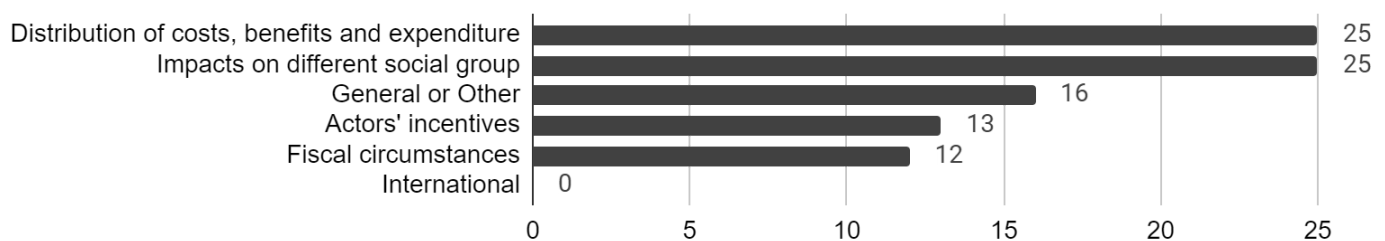
47 responses were submitted to **Question 10**, with a fairly even distribution from trade associations (12 respondents), business and industry (11 respondents) and NGOs and charity organisations (11 respondents), as shown in **Figure 22**.

**FIGURE 22. NUMBER OF Q10 RESPONDENTS BY ORGANISATION TYPE**



For **Question 10**, respondents were asked to select from a list of potential areas of analysis, rather than to select sectoral alignment as per previous questions. The majority of responses to this question captured considerations around the distribution of costs, benefits and expenditure (25 responses) and impacts on different social groups (25 responses), as shown in **Figure 23**. About a third of responses to this question (16 responses) captured 'General' considerations around social impacts and distributional analysis while roughly a quarter of responses captured evidence around actors' incentives and fiscal circumstances (13 and 12 responses, respectively).

**FIGURE 23. NUMBER OF Q10 RESPONSES BY POTENTIAL AREA OF ANALYSIS**



### SUMMARY OF RESPONSES

#### 1. Just transition

- Several respondents emphasise the need for an equitable Net Zero transition, ensuring food and nutritional inequality considerations, especially for rural and agricultural communities, and considerations of the impacts on jobs due to reductions in meat consumptions. Furthermore, respondents also caution the risk of oversimplification using averages in analysis and the potential nutritional implications of altering red meat recommendations.
- Respondents noted that energy markets should be reformed so that the price of energy is reflective of its underlying cost (source, enabling infrastructure and location), its contribution to system flexibility (households should be paid for demand side-response), and its emissions (policy costs should be levied on gas). However, they also note that because a market based on these factors would create both a postcode lottery and would shift the burden away from households that can afford microgeneration,

pricing should also take into account ability to pay, either through the retail energy system or the welfare state.

- Some respondents highlight that a dedicated effort to decarbonise homes has the potential to not only improve the quality of life of some of the poorest in the UK but also alleviate stress on the NHS, while saving money. There were also calls for policies to be designed with health equity objectives which reach the most vulnerable populations.
- Respondents note that there would be a requirement to support workers needing to transition away from fossil fuels with the necessary education to transfer into new and emerging industries.

## 2. Distribution of costs

- Several respondents note that there has to be a clear strategy for how the costs of achieving Net Zero is distributed among government, businesses and customers. The CCC is encouraged to focus on the distribution of costs and benefits among consumers, considering affordability for less well-off households and how costs are financed (e.g., through energy bills, taxation, etc.). Some respondents also advocate for applying the polluter pays principle more rigorously, with higher emissions pricing for higher-income, higher-emitter sectors and activities.
- In the aviation sector, some respondents call for greater support and investment by government into the commercialisation of new solutions while others highlight that the onus of commercialising these solutions should fall on the industry rather than the consumer. In particular, it was noted that aviation plays a key role in connectivity for rural and island populations, and this should be taken into consideration.
- Respondents are also separated on the roles of aviation demand management through proposed policies such as the frequent flyer levy. Some respondents stress the need for these to be implemented while others suggest that greater focus should be given to decarbonising aviation through R&D.

## 3. Social health and wellbeing from changing landscape and loss of green space

- Some respondents note that the Net Zero transition will be accompanied with extensive land use change which may disproportionately affect the most vulnerable populations. One respondent noted that the assumption about building more houses on urban land in the CB6 implies a continuing loss of local green spaces such as playing fields and informal patches of amenity space, citing that this would have a greater impact on deprived communities - who are already more likely to be deprived of green space that is essential for health and climate adaptation

### FURTHER EVIDENCE CITED

- Agile Initiative (2023). [‘Embedding nature recovery in the Levelling-up and Regeneration Bill’](#).
- University of Cambridge (2023). [‘Leading the Way: How government can accelerate UK climate action across the economy’](#).

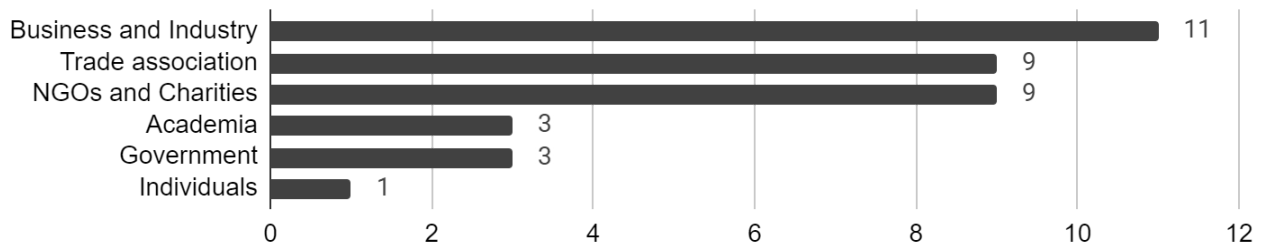
## Question 11: Methodology

Are there any key methodological issues we have missed or, in your view, are mistaken for our Seventh Carbon Budget advice?

### DESCRIPTIVE STATISTICS

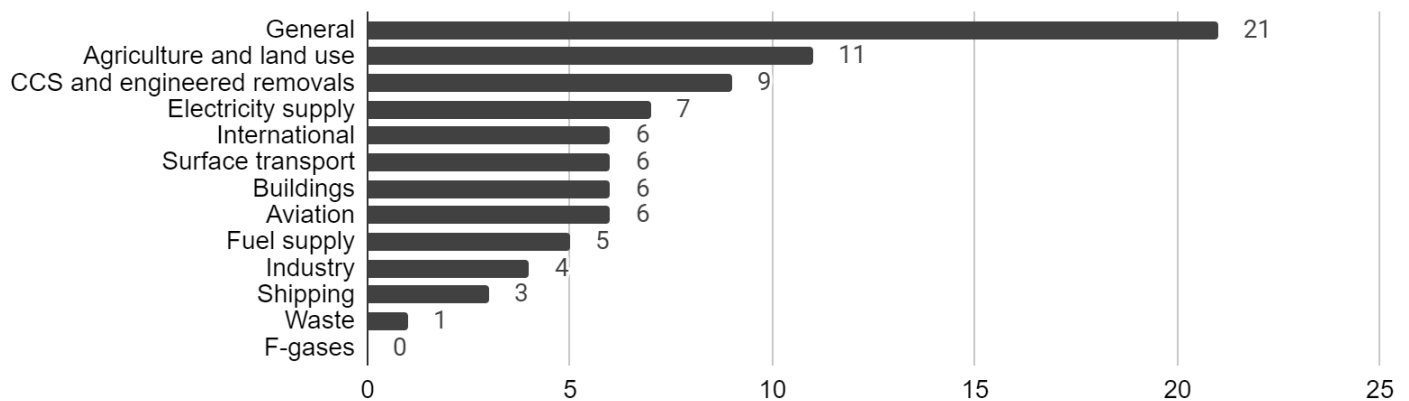
36 responses were submitted to **Question 11**, with the majority coming from business and industry (11 respondents), followed by trade associations (9 respondents) and NGOs and charity organisations (9 respondents), as shown in **Figure 24**.

**FIGURE 24. NUMBER OF Q11 RESPONDENTS BY ORGANISATION TYPE**



Respondents placed the greatest focus on methodological issues which cut across sectors, categorised as 'General' (21 responses), as shown in **Figure 25**. Respondents also submitted evidence on methodological issues specific to the agriculture & land use sector (11 responses) and CCS and engineered removals sector (9 responses).

**FIGURE 25. NUMBER OF Q11 RESPONSES BY SECTOR**



### SUMMARY OF RESPONSES

#### 1. Whole system modelling approach to capture system-wide synergies and trade-offs

- Key themes are centred around deploying a whole system approach for scenarios to accurately determine the cost effectiveness of different solutions. This is particularly pertinent when considering the cross-sectoral solutions such as BECCS (energy and agriculture), but also the synergy opportunities across sectors with the use of hydrogen. Responses on these themes critiqued the choice of only two pathways compared to the CB6's five pathways.

#### 2. Modelling considerations

- Respondents highlight the need for more transparent and clearer methodologies for carbon accounting around BECCS to ensure that these are double counted towards the UK's NDCs.



- Some responses state that BECCS should not be considered negative emissions until the crops start to grow again.
- Respondents note the future technology mix is uncertain and as such CCC should allow for alternative scenarios that consider a different mix of solutions.
- Respondents highlight a gap with explicit analysis which demonstrates the impact of the pathway on the environment and society.
- There is also the need to consider bespoke approaches to accurately modelling power including interconnective emissions, fluctuating prices of natural gas affected by a less than orderly transition to Net Zero.
- One respondent indicated the importance of aligning with the Future System Operator and the Strategic Spatial Energy Plan.
- One respondent also suggested that it will be beneficial to develop the pathways in line with global trends such as the FAO's Global Roadmap for Zero Hunger and 1.5.

### 3. Some concerns around approach to setting a baseline

- Some respondents recommend that the baseline scenario should not assume that CB5 and CB6 are met and that the baseline scenario should be based on the current policies which the government has implemented for reaching these carbon budgets.
- Others consider “the overall logic of policy-agnostic baseline scenarios [to be] sensible” but flagged that baselines should include already-committed policy and recommend the CCC incorporates the removal of Basic Payment Scheme (BPS) in 2023 and the progressive reductions in delinked payments up to 2027 into its CB7 baseline.
- It was apparent in the responses that not all respondents had a common understanding of the CCC's approach to setting a baseline and the assumptions included within the baseline for CB7. We would like to clarify that the CCC's baseline does not assume that CB5 and CB6 are met. Rather, it assumes a hypothetical world without further decarbonisation in the UK, where low-carbon technologies remain at today's stock levels and today's efficiencies.

### 4. Improvements to buildings assumptions

- One of the respondents noted incorrect assumptions in the CB6 regarding the stock and potential retrofits of historic buildings.
- Respondents emphasise the need for correction and improvement in assumptions about historic buildings for CB7.

### FURTHER EVIDENCE CITED

- Energy Systems Catapult - [Suitability of heat pumps for different households](#)
- CO2RE - [Greenhouse Gas Removal Evaluation framework](#)

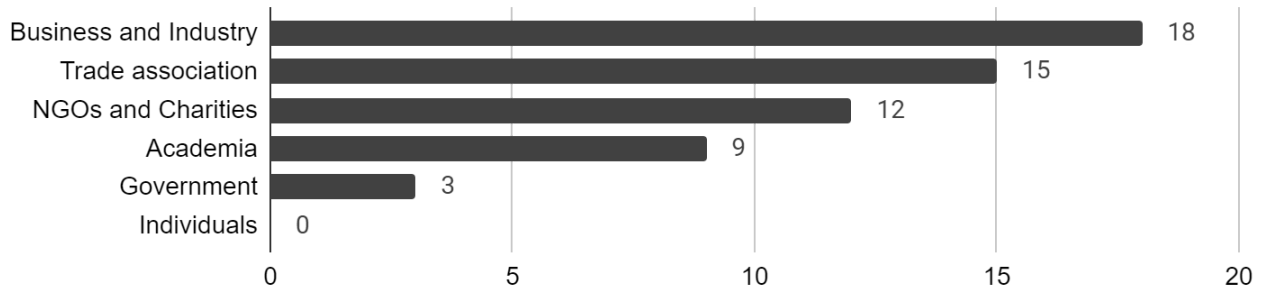
## Question 12: Engagement

How best can we engage with experts and stakeholders to build our evidence base and test our emerging thinking?

### DESCRIPTIVE STATISTICS

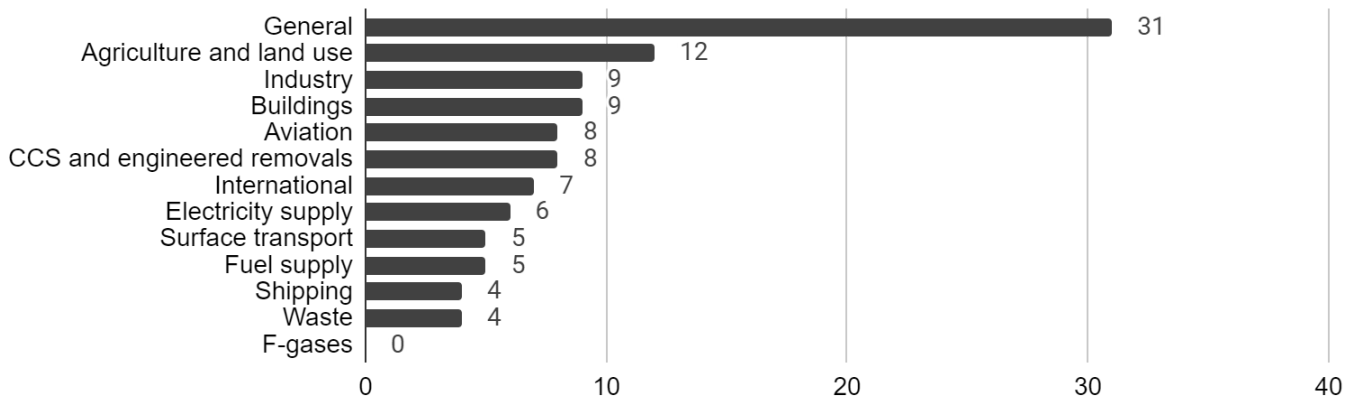
57 responses were submitted to **Question 12**, with the majority coming from business and industry (18 respondents), followed by 15 respondents from trade associations and 12 respondents from NGOs and charity organisations, as shown in **Figure 26**.

**FIGURE 26. NUMBER OF Q12 RESPONDENTS BY ORGANISATION TYPE**



The majority of responses (54%) captured engagement considerations which are applicable across sectors, categorised as 'General' (31 responses). This was followed by 21% of responses capturing engagement considerations specific to the agriculture and land use sector (12 responses), as shown in **Figure 27**.

**FIGURE 27. NUMBER OF Q12 RESPONSES BY SECTOR**



### SUMMARY OF RESPONSES

#### 1. Improved awareness for all stakeholders

- Many respondents highlighted the need for greater awareness of climate issues and advocated for engagement with schools and local communities to enable the public to better understand their expected contributions to change.
- They also note the need for greater citizen engagement in decision making processes, with one suggesting a deliberative dialogue, leveraging methodologies such as those used to produce the People's Plan for Nature, the Land of Plenty: public perspectives report and others.
- Additionally, several respondents recommend engaging the public, especially those most affected by climate change, in an equitable and meaningful manner to develop policies that protect health and wellbeing.

## 2. Local authority or council engagement

- Some respondents highlighted a significant appetite for adoption of policies to reduce emissions.
- DESNZ Local Net Zero Hubs and other regional initiatives were cited as a key enabler for local Net Zero mobilisation and engagement and respondents called for greater utilisation of their services.

## 3. Cross sector engagement

- Respondents noted the need for cross-sectoral engagement between the government, the CCC, the private sector, NGOs, and community and interest groups, to help build the evidence base of CB7 and test emerging thinking.
- These engagements should not focus solely on large organisations but should be expanded to include small and medium enterprises to allow for a more inclusive and comprehensive approach to climate action.
- Respondents also note that these engagements should be timely to allow sufficient input and for the perspectives of industry bodies to be reflected in the pathways.

## 4. Engagement with trade bodies

- Several respondents representing trade bodies have offered to host roundtable conversations which leverage the reach of these bodies to include a wide range of perspectives.
- The roundtable conversations were cited as key mechanisms for facilitating a two-way dialogue between the CCC and specific industry bodies.
- Respondents note that findings from such activities could then be broadcasted to members at regular intervals.

## 5. Public engagement strategy

- Respondents stress the importance of involving and supporting individuals affected by transformations for successful and sustainable change, recommending that public engagement be integrated across all planned activities and pathways to Net Zero.
- Noting that doing so will help ensure no one is left behind, while reducing the risks of backlash against Net Zero policies.

## 6. Engagement with innovative solutions

- Some respondents - in relation to nascent technologies such as nuclear fusion, innovative aviation solutions and untested nature-based solutions - urged the CCC to remain open to insights from case studies and industry trials, despite potential scepticism.

### FURTHER EVIDENCE CITED

- Munro et al. (2020). '[Sustainable Health Equity: Achieving a Net Zero UK](#)'.
- CAST (2023). '[How public engagement can support reducing car use: A briefing for policy makers and communicators](#)'.
- Demski (2021). '[Net zero public engagement and participation](#)'.
- Workman et al. (2020). '[Decision making in contexts of deep uncertainty-An alternative approach for long-term climate policy](#)'.

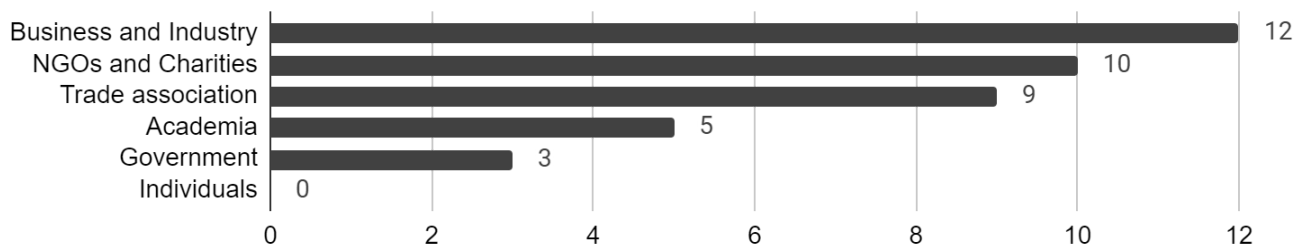
## Question 13: Sharing our advice

What would help make our advice accessible to wider stakeholders, such as citizens, financial institutions, businesses and local government? For example, video explainers, stakeholder specific briefings or social media threads.

### DESCRIPTIVE STATISTICS

39 responses were submitted to **Question 13** with the majority coming from business and industry (12 respondents), as well as 10 responses from NGOs and charities and 9 responses from trade associations, as shown in **Figure 28**.

**FIGURE 28. NUMBER OF Q13 RESPONDENTS BY ORGANISATION TYPE**



Note that this question did not ask respondents for a sectoral or thematic area breakdown.

### SUMMARY OF RESPONSES

#### 1. Targeted summary documents

- Some responses highlighted the need for concise, sector-specific summary documents to make the CB7 Report and related advice more accessible and actionable for different segments of the industry. Examples include tailored briefings for the banking sector, renewable energy, and offshore energies, emphasising the importance of context-specific insights for effective implementation. Suggestions were made for the production of short reports focusing on relevant areas of the report for specific stakeholders, aiding in clearer understanding and engagement by breaking down complex information into manageable, relevant segments.
- The importance of creating easy-to-understand, consolidated recommendations for emissions reduction in specific areas like diet and agriculture was noted, catering to the needs of broader stakeholder groups such as food and farming networks. Clear, actionable recommendations and signposting were advocated for both businesses and citizens, with a call for straightforward messaging that directly addresses the audience's needs and questions.

#### 2. Multimedia content

- There was widespread support for utilising various multimedia content such as video explainers, infographics, and social media threads to communicate complex climate actions and policies in an accessible manner. This includes the use of diagrams and plain language to explain how individual actions fit into broader legislative frameworks and the benefits of different climate action strategies.
- Case studies showcasing successful examples of implementation and the tangible benefits of different approaches, particularly in nature-based solutions and local stakeholder initiatives, were suggested to illustrate positive outcomes and best practices.

#### 3. Enhanced social media presence

- There was a consensus on the need for a stronger CCC presence on social media platforms to broaden the reach and accessibility of climate change advice and recommendations. This includes crafting

concise, engaging content that can be easily shared and understood by the general public, alongside leveraging social media for wider dissemination of multimedia content.

#### **4. Enhanced engagement and collaboration**

- Respondents emphasised the importance of engaging with specific regions and communities, particularly those with defined interests in low-carbon solutions or high levels of deprivation. Suggestions included regional stakeholder briefings and forums to tailor advice to local contexts and needs.
- Responses highlighted the critical role of collaboration with and among industries to share perspectives, disseminate CCC materials effectively, and ensure that the advice is both relevant and actionable. This encompasses partnerships with industry organisations, roundtable discussions, and co-hosting events to facilitate a two-way exchange of knowledge and strategies for climate action.

## Annex: List of respondents to the Call for Evidence

The table below presents a list of 71 respondents to the Call for Evidence who granted permission for their responses to be published. This list does not include 17 respondents who wanted their response to be treated as confidential.

**TABLE 1. LIST OF THE RESPONDENTS WHO GAVE EVIDENCE TO THIS CALL FOR EVIDENCE**

Respondent	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13
<b>Academia, think-tanks and research centres</b>													
Cardiff University							✓			✓		✓	
Centre for Climate Change and Social Transformations (CAST)	✓	✓	✓		✓	✓	✓	✓		✓		✓	
CO2RE Hub/GGR-D Programme	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy Demand Research Centre and University of Leeds	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
London School of Hygiene & Tropical Medicine	✓	✓	✓	✓	✓					✓		✓	✓
UK Corporate Leaders Group (CLG UK)					✓				✓	✓		✓	✓
University of Edinburgh		✓	✓	✓	✓	✓			✓	✓		✓	✓
University of Oxford, Environmental Change Institute and Nature-based Solutions Initiative	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
University of Oxford, Transport Studies Unit	✓	✓	✓	✓	✓	✓							
<b>Business, industry and trade body</b>													
8 Rivers				✓					✓				
Agriculture and Horticulture Development Board (AHDB)	✓	✓	✓		✓	✓			✓	✓	✓	✓	✓
Association for Renewable Energy and Clean Technology (REA)	✓	✓	✓	✓						✓		✓	✓
British Hydropower Association	✓												
Cadent	✓	✓	✓	✓					✓	✓	✓	✓	✓
Carbon Capture and Storage Association	✓	✓	✓	✓		✓	✓	✓	✓			✓	
Carbon Engineering & 1PointFive	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
Chatham House	✓	✓	✓		✓				✓		✓		
Construction Industry Training Board (CITB)	✓	✓	✓			✓	✓					✓	✓
Climatise	✓												
dedlyne	✓					✓	✓	✓					✓
Drax Group	✓	✓	✓	✓		✓			✓			✓	✓
EDF	✓	✓	✓			✓	✓		✓	✓	✓	✓	✓
ERM													✓
First Light Fusion	✓			✓					✓			✓	

Respondent	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13
Foresight Transitions Ltd			✓	✓							✓	✓	
Farmers' Union of Wales (FUW)	✓												✓
Hometree	✓	✓							✓				✓
Hybrid Air Vehicles Ltd	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Hydrogen Ireland	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Hydrogen UK	✓	✓	✓	✓		✓			✓		✓	✓	
Jacobs UK Ltd	✓	✓	✓	✓	✓							✓	
Lloyds Banking Group	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Loganair Ltd	✓		✓	✓	✓	✓			✓	✓	✓		
Make UK	✓	✓	✓	✓	✓				✓	✓		✓	✓
MoltexFLEX	✓			✓					✓				
National Retrofit Hub									✓	✓		✓	
North West Hydrogen Alliance	✓	✓	✓	✓			✓		✓		✓	✓	
Offshore Energies UK	✓	✓	✓		✓				✓	✓	✓	✓	✓
Recoup Energy Solutions Ltd				✓									
Safe Landing	✓	✓	✓		✓	✓			✓	✓	✓	✓	✓
Scientists for Global Responsibility (SGR)	✓	✓	✓	✓									
SGN	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓
Sizewell C	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
SSE plc		✓				✓		✓				✓	
The Kensa Group			✓	✓		✓	✓	✓	✓	✓		✓	
Wildlife and Countryside Link	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
ZeroAvia	✓	✓	✓	✓	✓	✓			✓	✓		✓	
<b>Government</b>													
Historic England	✓	✓	✓						✓	✓	✓	✓	✓
Met Office	✓	✓	✓		✓						✓		✓
NatureScot	✓	✓	✓	✓		✓							
Tees Valley Combined Authority	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
<b>NGOs and Charities</b>													
Aviation Environment Federation (AEF)	✓	✓	✓	✓	✓	✓		✓	✓	✓			
Climate Outreach	✓		✓		✓					✓		✓	
Conflict and Environment Observatory	✓	✓	✓	✓								✓	✓



Respondent	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13
Cut Carbon Not Forests	✓		✓	✓	✓								✓
Green Alliance	✓	✓	✓	✓	✓						✓	✓	✓
IUCN UK Peatland Programme	✓	✓											
Melton Renewable Energy UK	✓	✓	✓						✓	✓			
mySociety											✓		
Plantlife	✓										✓		
Possible	✓	✓	✓	✓	✓					✓			
Retrofit-at-Scale working group including members of The EDGE, LETI, UKGBC, ACAN, and other voluntary sector organisations	✓	✓	✓	✓					✓	✓	✓	✓	✓
Royal Society of Wildlife Trusts	✓	✓	✓	✓				✓			✓	✓	✓
Soil Association	✓	✓	✓		✓							✓	
Sustain, the alliance for better food and farming	✓	✓	✓		✓					✓		✓	✓
The MCS Foundation	✓												
The Royal Society for the Protection of Birds (RSPB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wellcome											✓	✓	
The World Wide Fund for Nature UK (WWF-UK)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
<b>Individuals</b>													
"Independent"			✓								✓	✓	
"Private citizen"	✓	✓		✓	✓				✓	✓			

# Thank you

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