

# In-depth Report on the Results of the Public Consultation on the EU Climate Target for 2040

Final Report

Work carried out by Technopolis Group in association with COWI A/S and Eunomia.

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#### Disclaimer

This document should be regarded solely as a summary of the contributions made by stakeholders in the public consultation on the EU climate target for 2040. It cannot in any circumstances be regarded as the official position of the Commission or its services.

Responses to the consultation activities cannot be considered as a representative sample of the views of the EU population.

The abstracts of the position papers submitted by the stakeholders (Appendix C) are prepared by the contractors and cannot in any circumstances be regarded as the official position of the Commission or its services to these position papers.

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#### 1. Introduction

In the context of the requirement to propose an intermediate EU climate target for 2040, the European Commission (EC) conducted consultation activities aimed at supporting the corresponding impact assessment. These consultation activities are summarised comprehensively in this in-depth report.

The consultation activities for the intermediate EU climate target for 2040 included the following elements:

- Public consultation (questionnaire and position papers): A public consultation was conducted over a 12-week period from the 31/03/2023 until the 23/06/2023. It included a questionnaire and the option to submit position papers. The questionnaire comprised of a general section (17 questions) and an expert section (18 questions). The general section was targeted at a wider group of stakeholders while the expert section was more technical and involved questions about specific policy domains relevant for the target setting. The consultation incorporated mainly closed questions (32) but also few open questions.
- Call for evidence: In addition to the public consultation, stakeholders had the opportunity to share general remarks and feedback on the policy initiative through a call for evidence. They had the opportunity to upload position papers which were analysed together with the position papers received in the public consultation.
- Targeted stakeholder event: A targeted hybrid stakeholder event was hosted by the EC in Brussels. Participants were informed about the policy initiative for setting the EU climate target for 2040 and invited to share their views.

Covering the different consultation activities, the in-depth report is structured as follows:

Chapter 1: Introduction

Chapter 2: Background on the public consultation and methods

Chapter 3: Analysis of the responses to the <u>public consultation questionnaire</u>

**Chapter 4:** Analysis of the <u>public consultation position papers</u>

Chapter 5: Analysis of the call for evidence section

Chapter 6: Key insights from the targeted stakeholder event

Additionally, the report provides the following three appendixes as background materials:

**Appendix A:** Public consultation questionnaire (English version)

Appendix B: Overview of the main characteristics of the selected position papers

**Appendix C:** Abstracts of selected position papers

#### 2. Background on the public consultation and methods

The public consultation was launched on the 31/03/2023 and ran until the 23/06/2023 (twelve weeks). With the public consultation, the EC offered all citizens and stakeholders the opportunity to express their views on the initiative to set an intermediate EU climate target for 2040. Setting an intermediate target is required by the provisions of Art 4. of the European Climate Law.

The public consultation was launched in the EU survey portal. It included the following elements:

- Public consultation questionnaire: The questionnaire involved two sections: A general section and an expert section. The general section consisted of questions that are of relevance for a wide range of stakeholder groups. It included questions on the EU's overall climate ambition for 2040, associated opportunities and challenges, and related policy needs. The expert section consisted of questions that are more technical. It involved questions related to the role of specific policy instruments, the role of carbon removals, and technological options (see Table 1).
- Public consultation position papers: Respondents were given the opportunity to hand-in position papers as part of their response to the public consultation questionnaire as well as in their reply in the call for evidence section.

#### Public consultation questionnaire

The structure of the public consultation, as depicted in Table 1, incorporated a combination of closed and open questions. Most questions were closed questions presented in either multiple-choice, multiple-response, or Likert-scale (5-point) answer formats. In addition, the questionnaire included some open-ended questions. These open-ended questions were designed in some cases as stand-alone questions and in other cases as follow-up questions to get additional feedback on the topic of a previous closed question.

The general section included four sub-sections with 17 questions (+4 follow-up open questions). The expert section contained six sub-sections with 18 questions (+2 follow-up open questions). Overall, the questionnaire included 35 questions (+6 follow-up open questions).

At the end of the questionnaire, respondents were given the opportunity to upload position papers which were then considered for analysis (see Chapter 4).

To ensure accessibility and inclusivity, respondents were able to provide their input in any of the 24 official languages of the EU.

#### Table 1 Structure of the public consultation questionnaire

#### **General section**

Participants were asked to provide feedback on the following sub-sections:

- Overall opinion on the EU's climate ambition for 2040 (Q1-6)
- Contribution of individual sectors to the EU's climate ambition (Q7-9)
- My personal contribution to protect the climate (Q10-13)
- The impacts of the climate crisis (Q14-17)

#### **Expert section**

Participants were asked to provide feedback on the following sub-sections:

- General policy framework (Q18-20)
- Mitigation of GHG emissions from the land sector (agriculture, forestry, and other land use) and policy options (Q21-22)
- The role of carbon removals (Q23-24)
- Technologies (Q25-30)
- Engagement and social impacts (Q31-34)
- Adapting to climate change (Q35)

#### **Public consultation position papers**

Both the position papers collected through the public consultation questionnaire and in the call for evidence section were included in the analysis of public consultation position papers (see Chapter 4).

## 2.1. Methodological approach for survey analysis (public consultation questionnaire)

#### 2.1.1. Stakeholder groups

To improve the accuracy and relevance of the stakeholder groups, a two-step process was undertaken, as described below.

Step 1: Manual review and recoding. The first step involved two types of manual verification and recoding. First, the respondents' self-identification under the stakeholder groups was checked to ensure the accuracy of their selection. Whenever respondents clearly chose an incorrect option, the respective observations were corrected. This step also applied to the "Others" stakeholder group, where responses were assigned to more specific stakeholder groups whenever possible. In the second part of this manual verification process, the focus was put on the size category of the business associations stakeholder group. This was necessary to be able to differentiate economic stakeholders into those that are/represent (i) small and medium-sized enterprises (SMEs) and those that are/represent

- (ii) large companies (see Step 2 below). Business associations typically choose the size category based on their own number of employees. In the manual recoding the size category of the business associations was adjusted to reflect whether they represented SMEs or large companies mainly. The recoding is based on expert judgment regarding the economic sector a business association represents and using lists of their members available online.
- Step 2: Re-assignment to adjusted stakeholder groups. In the second step, the manually checked and recoded stakeholder groups from the questionnaire were re-assigned to better suit the reporting needs of DG CLIMA for their impact assessment (e.g., need to focus specifically on SMEs). Table 2 below summarises this re-assignment of stakeholder groups. The main adjustments to the questionnaire categories are that the responses from economic actors (business associations, business/companies) have been organised into Business associations/companies (large companies) and Business associations/companies (SMEs). In addition, the responses from NGOs, environmental organisations, trade unions, and consumer organisations have been clustered as responses from civil society organisations, due to the limited number of responses form e.g. trade unions and consumer organisations.

 Table 2
 Re-assignment of stakeholder groups

The second secon						
Stakeholder group from questionnaire	Size category	Stakeholder group for survey analysis				
Academic/research institution	• -	<ul> <li>Academic/research institutions</li> </ul>				
<ul><li>Business association</li><li>Company/business</li></ul>	<ul><li>Micro (1 to 9 employees)</li><li>Small (10 to 49 employees)</li><li>Medium (50 to 249 employees)</li></ul>	<ul> <li>Business associations/ companies (SMEs)</li> </ul>				
<ul><li>Business association</li><li>Company/business</li></ul>	• Large (250 employees or more)	<ul> <li>Business associations/companies (Large)</li> </ul>				
<ul> <li>Consumer organisation</li> <li>Environmental organisation</li> <li>Non-governmental organisation (NGO)</li> <li>Trade union</li> </ul>		Civil society organizations				
EU citizen	• -	EU citizens				
Public authority	• -	Public authorities				
<ul><li>Non-EU citizen</li><li>Other</li></ul>	• -	<ul><li>Others</li></ul>				

#### 2.1.2. Analysis of closed questions

The data from closed questions underwent thorough processing and cleaning to facilitate descriptive analysis and representation of the consultation data. The results are consistently presented as percentage values, indicating the proportion of responses within each respective stakeholder group. Additionally, for multiple-choice or multiple-response questions, the absolute number of responses is included in the graphs to provide further information. To simplify the graphical representation of results, the observations categorized as "I don't know" and "No response" are joined into a single response category. For Likert-scale questions, the relative distribution of responses is complemented by an item average. This average is calculated based on the Likert-scale responses, excluding the "I don't know/No response" category. This methodological approach is reasonable since in the questionnaire only the endpoints of the Likert-scale items are labelled, maintaining the interval scale of the response items.

#### 2.1.3. Analysis of open questions

The methodology used for analysing open-text questions involves several steps. After translating all responses to English, eliminating invalid ones, and identifying coordinated responses, a semi-automated thematic analysis was conducted. The initial responses were closely examined for each individual question to identify common themes, employing an inductive approach that allows the data to determine the emerging themes without preconceived notions.

In the survey analysis, certain responses are encountered that are deemed invalid and therefore excluded from the final data set. Invalid responses include those such as ".", "n/a", "na", "yes", "I do not know.", "None", "", "-", "hm".

Additionally, the analysis of open question also touches on the identification of coordinated responses (see next paragraph for more details).

Overall, the views from the public consultation are not statistically representative.

#### 2.1.4. Strategies for campaign identification

For the identification of campaigns, different strategies were used on the subset of closed and open questions in the questionnaire. On the closed questions, a K-means clustering approach was used to identify responses with a high degree of similarity. Since a smaller subset of respondents answered the expert section compared to the general section of the questionnaire, the data on the closed questions were first split into the two sections and then analysed for very similar answers to the closed questions.

Additionally, for the open questions, the similarity of strings was compared based on the Optimal String Alignment (restricted Damerau-Levenshtein distance) algorithm. The approach performs a pairwise comparison of strings and measures the minimum number of operations required to transform one string into another. Strings that show a high degree of similarity are isolated based on the algorithm and then compared manually.

The chosen strategy for the identification of coordinated responses led to the discovery of a distinct group consisting of 23 EU citizens from Slovakia within the questionnaire responses. This group provided coherent open-text narrative responses, emphasizing the importance of politicians avoiding CO<sub>2</sub>-emitting means of transportation. Notably, all these responses were submitted during the final days of the consultation period. Considering the number of responses, their origin from EU citizens within one country, and the high level of agreement observed in the closed questions, this group was classified as a campaign and segregated and analysed separately from the non-campaign responses, in line with the requirements of

the Better Regulation Toolbox #54. The analysis of the campaign responses is presented in a separate summary analysis (see Chapter 3.4).

In addition, the strategy also led to the identification of highly similar open-text responses from approximately nine environmental organizations (number slightly varying by open-text question). However, the closed question responses from these organizations exhibit divergent viewpoints. Considering the small number of responses and the shared knowledge among environmental organisations, it was decided not to treat these answers as a campaign. In the analysis of the open questions, the topics to which the answers of the environmental organisations were counted are mentioned in a footnote to acknowledge the similarities found.

# 2.2. Methodological approach for the analysis of position papers

An analysis of the main views expressed in a selection of position papers was conducted. Three main sources were used to identify 120 relevant papers: the public consultation, the call for evidence and desk research. Papers were selected in agreement with DG CLIMA. The objective of this analysis was to identify the main views expressed during the public consultation. A preliminary screening of all papers was conducted, to identify the main characteristics and core idea of the papers. After selection, an in-depth review of all papers was conducted in an internal Excel file to identify the statements relevant for the analysis and the topics to which they belong. The team then associated them with a unique identifier and basic information on the respondents which was subsequently used as variables for the analysis: stakeholder groups, country, sector etc. The main trends are explained and described, observed through this thematic analysis. In addition, some assumptions are drawn respective to their rationale.

To provide insights into potential differences in opinions between different groups of respondents, the assessment of the respondents' position included an analysis on the composition of stakeholder's groups, e.g. by type of respondent, country, economic sector, based on the information made available by respondents through the consultation survey.

# 3. Analysis of the responses to the public consultation questionnaire

#### 3.1. Overview of responses

In total, 903 stakeholders responded to the public consultation. Among these, one genuine duplicate was identified. Additionally, 23 (3%) responses were classified as part of a single campaign, segregated and analysed separately (see Chapter 3.4). Therefore, the main analysis focussed on the remaining 879 responses.

The public consultation questionnaire was structured in two sections: a general and an expert section. Out of the 879 analysed responses, 819 (93%) respondents opted to reply to the general section and 580 (66%) to the expert section. A subset of 19 respondents did not provide a response to either of them.

#### Geographical distribution of responses from EU Member States

The geographical distribution of EU responses is depicted in Figure 1. 811 responses coming from respondents who self-identified as located in the EU were received. The frequency of responses varied greatly across Member States. Most responses came from Germany (235, 27%), followed by Belgium (129, 15%) and Italy/Spain (both 54, 6%). Relatively high response rates were received from the Netherlands (47, 5%), Slovakia (44, 5%), France (39, 4%), Sweden (36, 4%), Finland (35, 4%), and Austria (35, 4%). In contrast, fewer responses were received from some Central and Eastern European countries.

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<sup>&</sup>lt;sup>1</sup> Response from BDEW Bundesverband der Energie- und Wasserwirtschaft e.V. recorded twice.

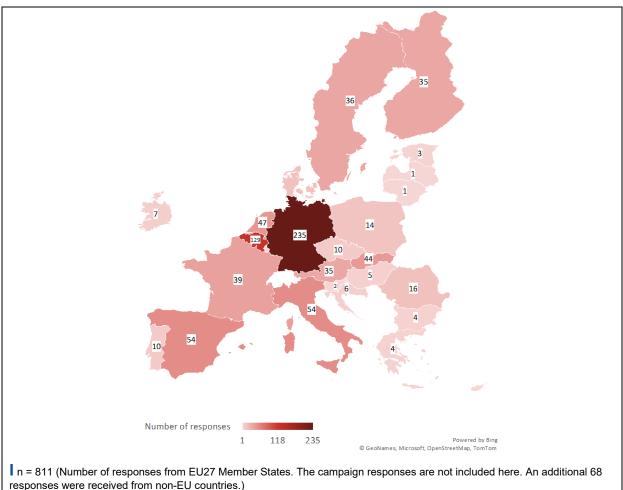


Figure 1 Geographical distribution of responses by EU Member States

#### Stakeholder groups

Among the 879 responses included in the analysis of non-campaign responses, 480 (55%) were provided by private individuals (EU citizen: 468; Non-EU citizen: 12), and 399 (45%) were received from organisations.

As Figure 2 illustrates, out of the 399 responses received from organisations, 244 responses, and thus the largest number, were submitted by companies/businesses (121, 14%) and business associations (123, 14%). For analysis, these responses were further categorised into two groups: companies and business associations that are SMEs or predominantly represent SMEs (108, 12%) and companies and business associations that are large companies (+250 employees) or predominantly represent large companies (136, 16%). The third largest group of organisational responses was from civil society organisations (98, 11%). This category includes responses from NGOs (68, 8%), environmental organisations (20, 2%), trade unions (9, 1%) and consumer organisations (1, 0.1%). In addition, 23 (3%) responses were received from academic/research institutions and a matching number of 23 (3%) responses were provided by public authorities. Also, 23 (3%) responses were classified as "Other".2

<sup>&</sup>lt;sup>2</sup> Includes the responses from non-EU citizens (12).

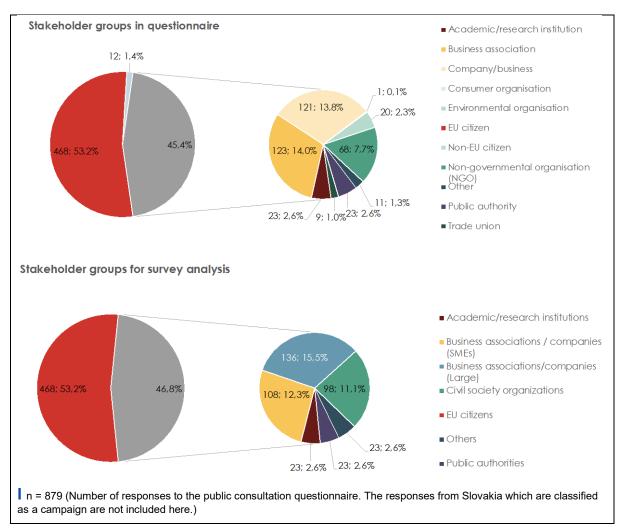


Figure 2 Correspondence between stakeholder groups responding to the public consultation questionnaire and groups used for the analysis

#### 3.2. General section

#### 3.2.1. Overall opinion on the EU's climate ambition for 2040

The first section of the general part of the survey engaged with respondents' **overall opinion** on the EU's climate ambition for 2040.

In particular, this section included questions on the general emission reduction ambition, as well as **concrete proposals for a specific level of ambition** Furthermore, respondents were asked **how carbon removals should be integrated** into the target architecture of EU climate policy i.e. whether there should be a single "net" target or separate targets for emission abatement and carbon removals (nature-based removals/technology-based removals). Stakeholders' views on **challenges and opportunities** associated with an increased climate ambition and **gender aspects of climate policies** are also covered in this section.

#### 3.2.1.1. Q1: Emissions reduction ambition for 2030–2040

In Q1, stakeholders were asked to indicate how the EU should pursue the climate transition up to 2040, when considering the EU's objective of achieving climate

**neutrality by 2050 and the current energy crisis.** Four options were available for selection. Three response options represented a sequence in terms of the level of ambition (accelerate the pace of transition, maintain the current pace of transition, decrease the pace of transition). Additionally, a fourth response option was that the level of ambition should be made dependent on the climate ambition in other countries.

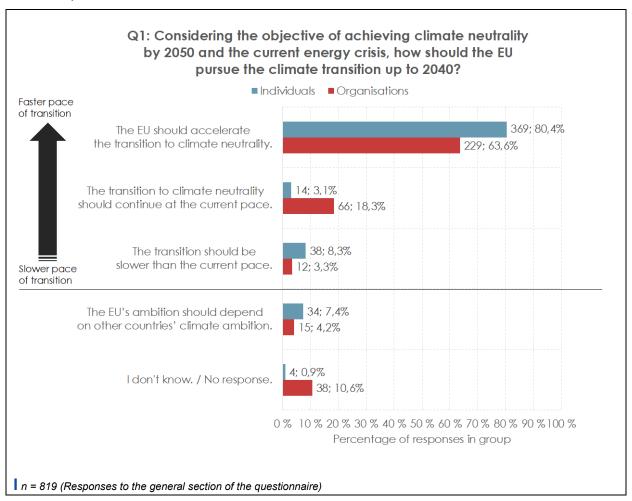


Figure 3 Responses to Q1 of the questionnaire

#### General findings

As depicted in Figure 3, the large majority of respondents want the EU to accelerate the transition to climate neutrality in the 2030-2040 period (Individuals: 369, 80%; Organisations: 229, 64%; Total: 598, 73%). By a wide margin from the first option, the second most frequently chosen option is that the EU's climate transition should continue at the current pace (Individuals: 14, 3%; Organisations: 66, 18%; Total: 80, 10%). Few respondents advocate for a slower transition (Individuals: 38, 8%; Organisations: 12, 3%; Total: 50, 6%) or suggest that the pace should depend on the level of climate ambition in other countries (Individuals: 34, 7%; Organisations: 15, 4%; Total: 49, 6%).

Overall, the responses to Q1 strongly endorse setting an ambitious EU climate target for 2040. This endorsement is particularly pronounced among individuals, where a robust majority expresses support for accelerating the climate transition. Notably, a substantial portion of organizations also backs an acceleration of the transition.

However, it is worth noting that, when comparing organizations and individuals, there is a relatively higher percentage of support for maintaining the current pace among organizations (18%) compared to individuals (3%).

#### Differences between stakeholder groups

Civil society organisations (84, 91%) together with academic and research institutions (17, 85%) are the organisational stakeholders with the highest level of support to accelerate the transition to climate neutrality in the 2030-2040 period.

Businesses and business associations have a relatively greater inclination toward maintaining the current pace of the transition. This applies both for SMEs (25, 26%) and large companies or business associations representing large companies (31, 25%). Thus, the difference between individuals and organisations in the response option to maintain the current pace of the transition can be attributed to the contributions of businesses and business associations mainly. However, also within the group of businesses and business associations, most responses want the EU to accelerate the transition (SMEs: 51, 53%; Large: 60, 48%). Only a few businesses and business associations argue for a slower pace of the transition (SMEs: 7, 7%; Large: 5, 4%).

#### **Differences between Member States**

In addition, Table 3 below breaks down the responses to Q1 by EU Member State. The responses from non-EU countries are aggregated into one row. The percentages represent the shares of chosen answers to Q1 by Member State.

In nearly all Member States there is strong support to accelerate the climate transition.

Notable dissent is observed only among respondents from Czechia and Slovakia, where only 22% (Czechia) and 7% (Slovakia) express a preference for accelerating the current pace of the transition. Among Slovak respondents, who are also relatively larger in number (n = 43), about half of the respondents prefers the option of a pace dependent on other countries' level of ambition (20, 47%), followed by a slower pace compared to the current trajectory until 2030 (15, 35%).

Table 3 Responses to Q1 divided by stakeholders' country of origin.

Member State	Emissions reduction ambition for 2030 – 2040				
	Accelerate the transition	Continue at the current pace	Slower than the current pace	Depend on other countries' climate ambition	I don't know./ No response.
Austria (n = 34)	73,5%	17,6%	2,9%	2,9%	2,9%
Belgium (n = 122)	57,4%	14,8%	7,4%	6,6%	13,9%
Bulgaria (n = 4)	75,0%	0,0%	0,0%	25,0%	0,0%
Croatia (n = 6)	83,3%	16,7%	0,0%	0,0%	0,0%
Cyprus (n = 1)	100,0%	0,0%	0,0%	0,0%	0,0%
Czechia (n = 9)	22,2%	44,4%	11,1%	22,2%	0,0%
Denmark (n = 13)	100,0%	0,0%	0,0%	0,0%	0,0%
Estonia (n = 3)	66,7%	0,0%	0,0%	0,0%	33,3%
Finland (n = 28)	82,1%	3,6%	3,6%	0,0%	10,7%
France (n = 35)	85,7%	14,3%	0,0%	0,0%	0,0%
Germany (n = 223)	88,8%	4,5%	1,8%	1,8%	3,1%
Greece (n = 4)	100,0%	0,0%	0,0%	0,0%	0,0%
Hungary (n = 5)	60,0%	0,0%	20,0%	0,0%	20,0%

Ireland (n = 7)	100,0%	0,0%	0,0%	0,0%	0,0%
Italy (n = 49)	81,6%	6,1%	6,1%	4,1%	2,0%
Latvia (n = 1)	100,0%	0,0%	0,0%	0,0%	0,0%
Lithuania (n = 1)	100,0%	0,0%	0,0%	0,0%	0,0%
Luxembourg (n = 1)	100,0%	0,0%	0,0%	0,0%	0,0%
Malta (n = 2)	100,0%	0,0%	0,0%	0,0%	0,0%
Netherlands (n = 45)	82,2%	4,4%	6,7%	2,2%	4,4%
Poland (n = 13)	61,5%	7,7%	7,7%	23,1%	0,0%
Portugal (n = 9)	44,4%	44,4%	11,1%	0,0%	0,0%
Romania (n = 15)	40,0%	20,0%	26,7%	6,7%	6,7%
Slovakia (n = 43)	7,0%	4,7%	34,9%	46,5%	7,0%
Slovenia (n = 2)	50,0%	50,0%	0,0%	0,0%	0,0%
Spain (n = 49)	67,3%	20,4%	10,2%	2,0%	0,0%
Sweden (n = 34)	85,3%	11,8%	0,0%	2,9%	0,0%
Non-EU countries (n = 61)	75,4%	8,2%	1,6%	6,6%	8,2%

#### 3.2.1.2. Q2: EU emission reduction target for 2040

For Question Q2, participants are requested to provide their opinion on the **net emission reduction target for 2040**: "The EU has committed to reduce its net GHG emissions by 55% compared to 1990 levels by 2030 and aims to achieve climate neutrality by 2050 (-100%). In your opinion, what should be the net emission reduction target for 2040 to put the EU on track to meeting the 2050 climate neutrality target?". There are five available options to choose from, ranking from a low level of ambition of "up to -65% emission reduction" to a high ambition of "more than -90% emission reduction".

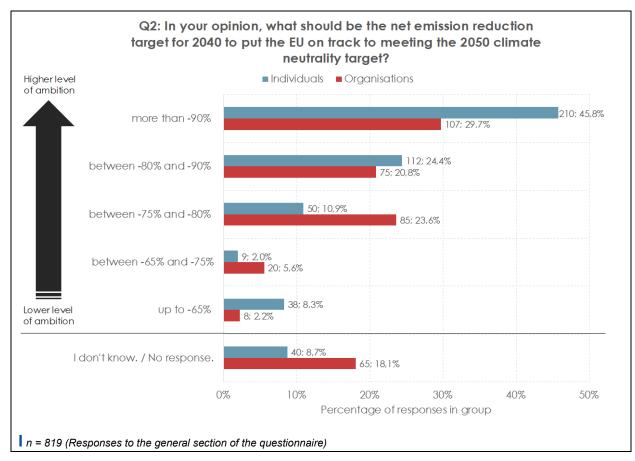


Figure 4 Responses to Q2 of the questionnaire

#### **General findings**

Figure 4 reports the results for Q2. It illustrates that the responses to Q2 align with the findings observed in Q1, wherein a substantial majority of respondents advocate for an acceleration of the pace of the climate transition during the 2030-2040 period.

The largest number of responses (Individuals: 210, 46%; Organisations: 107, 30%; Total: 317, 39%) report that the net emission reduction target for 2040 should be "more than -90%". This means that among the group of private individuals responding to the public consultation, almost half favour a net emission reduction target for 2040 of "more than -90%".

The second most frequently chosen response is that the net emission reduction target should be "between -80% and -90%" (Individuals: 112, 24%; Organisations: 75, 21%; Total: 187, 23%) followed by the net emission reduction target "between "-75% and -80%" (Individuals: 50, 11%; Organisations: 85, 24%; Total 135, 17%).

Only a relatively smaller percentage of responses call for a less ambitious net emission reduction target "between -65% and -75%" (Individuals: 9, 2%; Organisations: 20, 6%; Total: 29, 4%) or "up to -65%" (Individuals: 38, 8%; Organisations: 8, 2%; Total: 46, 6%).

#### Differences between stakeholder groups

There are differences in the level of ambition called for between different stakeholder groups. The results are shown in Figure 5. The groups most in favour of a highly ambitious target of "more than -90%" are civil society organisations (58, 63%) together with EU citizens (202, 45%). Also, academic and research institutions exhibit a strong preference for an ambitious target with 35% (7) of the respondents choosing "more than -90%" and another 35% (7) choosing "between -80% and -90%".

For business associations and companies, the response pattern is more diverse. The highest level of approval is evident for a moderate target range of "between -75% and -80%" (Large companies: 29.4%, 37; SMEs: 28.9%, 28). However, in both groups, there is also support for a highly ambitious target. This is especially notable among SMEs, where approximately 20% advocate for a target of "more than -90%" and another 20% for a target "between -80% and -90%." Additionally, only a few business associations and companies call for an ambition level below -75%.

For public authorities as well, the largest share of approval can be observed for a moderate target range of "between -75% and -80%" (37.5%, 6).

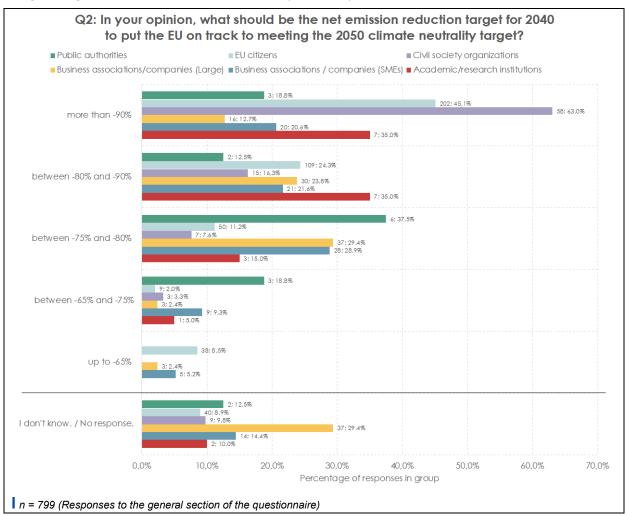


Figure 5 Responses to Q2 of the questionnaire by stakeholder group

#### 3.2.1.3. Q3: Role of carbon removals in the 2040 climate target

The third question Q3, looks more closely at the consideration of carbon removals in the architecture of EU climate targets. The participants are asked to indicate how they believe carbon removals should be considered, so that the EU achieves its 2040 climate target. Specifically, it is asked if there should be a single "net" emission target, which considers carbon removals together with actual GHG emissions, if carbon removals and GHG emission reduction should be separate targets or if it is better to have three targets, one target for reducing GHG emissions, one target for nature-based carbon removals and another target for industrial removals with permanent storage.

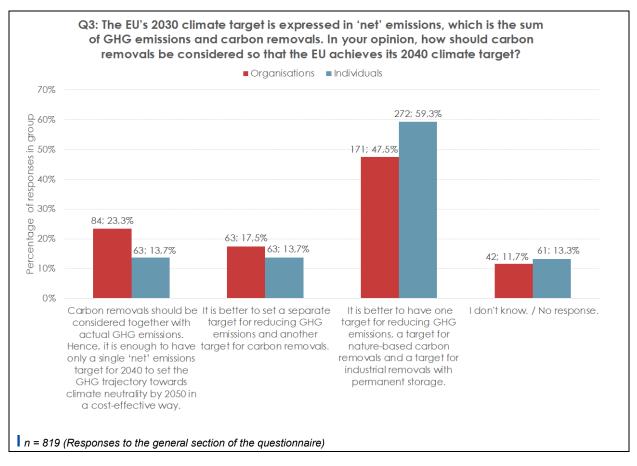


Figure 6 Responses to Q3 of the questionnaire

#### **General findings**

Analysing Figure 6, it can be observed that most respondents (Individuals 272, 59%; Organisations 171, 48%; Total 443, 54%) believe that it is better to have separate targets for GHG emission reductions, nature-based carbon removals and industrial removals with permanent storage. Only 126 respondents (Individuals: 63, 14%; Organisations: 63, 18%; Total: 126, 15%) favour the option of considering both types of carbon removals together, but separately from emission reduction targets. Finally, only a small proportion of respondents (Individuals: 63, 14%; Organisations: 84, 23%; Total: 147, 18%) prefer a single "net" emissions target (reduction and removal).

Thus, it can be observed that most respondents call for a different approach in deriving the climate target architecture for 2040 compared to the current approach for 2030, where carbon removals play a lesser role compared to expectations for the 2030-2040 period.

On this question, individuals and organisations generally show a similar response pattern. However, with 59% (272) in comparison to 48% (171), a larger proportion of individuals than organisations favoured separate targets for GHG emission reductions, nature-based carbon removals and industrial removals with permanent storage. Meanwhile, a larger proportion of organisations (84, 23%) than individuals (63, 14%) chose the option of a single "net" emissions target.

#### Differences between stakeholder groups

When comparing the different organisational stakeholder groups, it is particularly noticeable that the majority of civil society organisations and academic/research institutions believe that three separate targets are the best solution (civil society organisations: 64, 70%;

Academic/research institutions: 14, 70%). Only few (civil society organisations: 9, 10%; Academic/research institutions: 1, 5%) institutions favour the single target.

In contrast, large and SME business associations/companies as well as public authorities seem to disagree more on this question. This is reflected by the fact that they are more evenly divided between the group in favour of three separate targets (Large: 46, 37%; SMEs: 34, 35%; Public authorities: 7, 44%) and the group in favour of a single target (Large: 42, 33%; SMEs: 26, 27%; Public authorities: 3, 19%). The stronger call for a single "net" target from the organisational stakeholders is mainly due to the positions expressed by business associations/companies (SMEs and large). Together they account for 68 (SME: 26; Large: 42) of the 84 organisations that call for a single "net" target.

#### 3.2.1.4. Q4: Opportunities associated with higher climate ambition

The fourth question Q4 gauges what opportunities and benefits the respondents expect from an ambitious climate target by 2040. The participants are able to choose multiple answers from a range of opportunities, describing the impact of an ambitious climate target on mitigating the climate crisis, avoiding societal, business-related and individual costs, improving personal well-being, increasing energy security, establishing a circular economy, reinforcing EU's leading role in climate diplomacy, creating green jobs, improving European economic competitiveness as well as living up to our responsibility towards future generations and non-EU states and societies. The results are depicted in Figure 7.

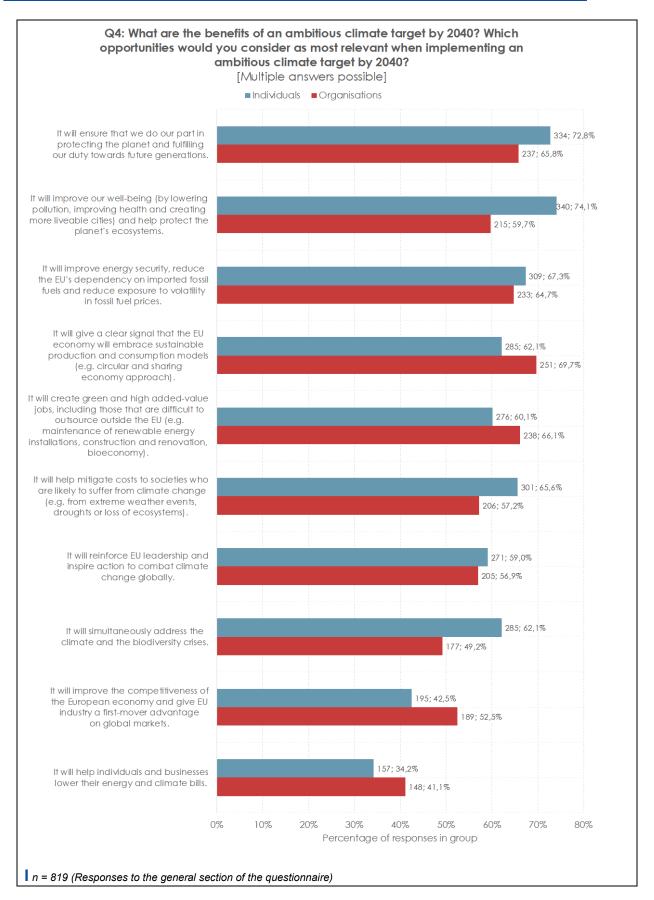


Figure 7 Responses to Q4 of the questionnaire

#### **General findings**

As demonstrated in Figure 7, from the selection, the top three benefits associated with a more ambitious climate goal are "It will ensure that we do our part in protecting the planet and fulfilling our duty towards future generations." (Individuals 334, 73%; Organisations 237, 66%; Total, 571, 70%), "It will improve our well-being (by lowering pollution, improving health and creating more liveable cities) and help protect the planet's ecosystems." (Individuals 340, 74%, Organisations 215, 60%; Total 555, 68%) and "It will improve energy security, reduce the EU's dependency on imported fossil fuels and reduce exposure to volatility in fossil fuel prices." (Individuals 309, 67%; Organisations 233, 65%; Total 542, 66%).

Overall, at least 50% of the total 819 respondents choose almost all selectable possible benefits. The only two options that are selected by fewer than 50% of the respondents are "It will improve the competitiveness of the European economy and give EU industry a first-mover advantage on global markets." (Individuals 195, 43%; Organisations 189, 53%; Total 384, 47%) and "It will help individuals and business lower their energy and climate bills." (Individuals 157, 34%; Organisations 148, 41%; Total 305, 37%).

When comparing individuals and organisations, individuals seem more focused on the positive potentials of higher climate ambitions regarding positive environmental and health effects. This is reflected in their most selected option being "It will improve our well-being (by lowering pollution, improving health and creating more liveable cities) and help protect the planet's ecosystems." (340, 74%). Conversely, organisations associate an ambitious climate goal most closely with a change towards more sustainable economic production patterns reflected in their most common selection "It will give a clear signal that the EU economy will embrace sustainable production and consumption models (e.g. circular and sharing economy approach)." (251, 70%). Both Individuals' (157, 34%) and Organisations' (148, 41%) least common selection is "It will help individuals and businesses lower their energy and climate bills."

#### Differences between stakeholder groups

For SMEs associations/companies, large business associations/companies and for public authorities the most promising potentials are all related to economic factors, such as green jobs (59%, 57% and 75%), economic signals (58%, 73% and 75%) and energy security (56%, 59% and 81%). Additionally, these actors interpret the transition also as a potential to ensure that the EU can fulfil its duty towards future generations (53%, 61%, and 50%).

Conversely, civil society organisations focus on social aspects as the benefits of an ambitious climate target, such as the mitigation of social damages to societies (89%), the improvement of our well-being (89%) and the fulfilment of our duty towards future generations (87%).

Academic/research institutions focus most on the EU's energy security (80%) and the reinforcement of EU leadership to combat climate change globally (80%).

## 3.2.1.5. Q5: Challenges and enabling actions for the EU climate ambition to 2040 and beyond

For question Q5 the respondents are asked how important, from a scale from 1 (very unimportant) to 5 (very important), they consider different challenges and associated enabling factors to be for the EU to reach its climate ambition. The list of addressed challenges and factors contains a faster expansion of renewables accompanied by supporting legislation, ensuring public support for climate ambition supported by EU policy, improvements in energy efficiency promoted by the EU, a change in investment flows by aiding green financing, avoiding an increase in energy prices for vulnerable households through a societal just transition, supporting small and medium enterprises through the

transition, avoiding new resource dependencies by securing the supply, supporting research and innovation, monitoring the evolution of GHG emissions and climate impacts through EU space data, financing the capturing and storing of CO2 and overcoming lock-in effects due to old infrastructure by employing digital solutions on a large scale that reduce GHG emissions (for full description of challenges compare Figure 8).

#### **General findings**

Overall, we can see in Figure 8 that the responses indicate that all challenges and related enabling factors are relevant to the stakeholders. Among these the most prioritised challenges and associated enabling factors for the EU climate ambition are avoiding an increase in energy prices for vulnerable households through a societal just transition (Average = 4.34, 52% rating 5), ensuring public support for climate ambition supported by EU policy (Average = 4.29, 56% rating 5) and improving energy efficiency (Average = 4.27, 56% rating 5).

While still considered important, the least prioritised challenges and associated enabling factors for the EU climate ambition are financing the capturing and storing of  $CO_2$  (Average = 3.52, 31% rating 5), by employing digital solutions to reduce GHG emissions (Average = 3.57, 23% rating 5) and furthering research and innovation (Average = 3.76, 37% rating 5).

A general trend which can be observed from these answers, is that respondents seem to prioritize social challenges over more technical or industrial challenges, possibly due to these being less salient to the public than others. Furthermore, broad challenges to which all respondents have a direct link to, like improving overall energy efficiency are more agreeable than more "narrow" factors like overcoming old infrastructure through digital solutions.

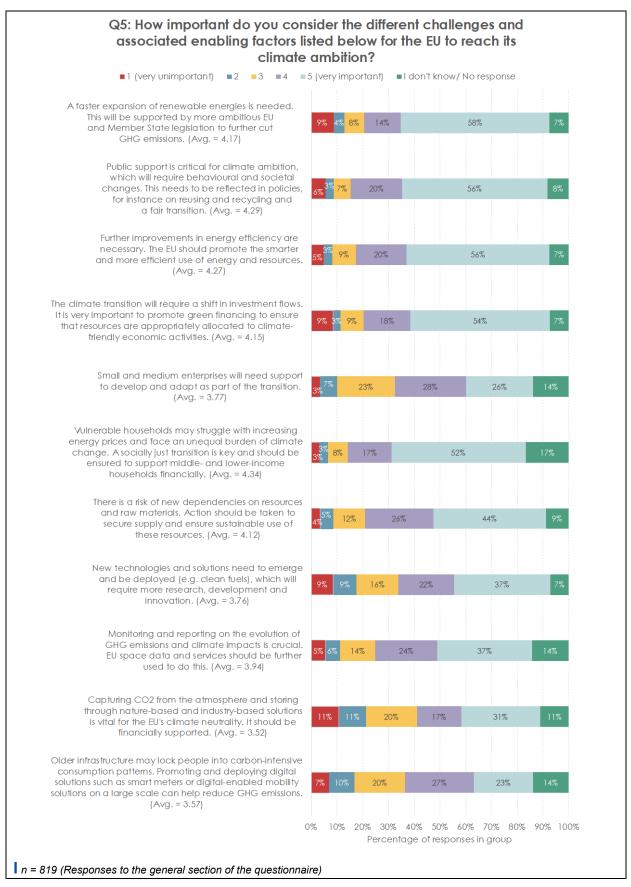


Figure 8 Responses to Q5 of the questionnaire

#### Differences between stakeholder groups

Generally, EU citizens and organisations agree on the most and least important challenges to the EU climate ambition. For both stakeholder groups the most prioritised options are aiding vulnerable households with energy prices and boasting public support for climate action through adequate policy for societal change. The least important for both groups is capturing CO<sub>2</sub> from the atmosphere.

In contrast, organisational stakeholders among themselves differ in their opinions. For civil society organisations, the most prominent challenges are further improvements in energy efficiency (Average = 4.75, 74% rating 5) and a faster expansion of renewable energies (Average = 4.72, 72% rating 5). The least prioritised aspects are the deployment of new technologies (Average = 3.16, 28% rating 5) and the role of carbon capture (Average = 3.53, 28% rating 5). Academic/research institutions rate further improvements in energy efficiency (Average = 4.50, 55% rating 5) and a socially just transition (Average = 4.46, 45% rating 5) as the most important challenges. Support for SMEs (Average = 3.32, 15% rating 5) and the promotion and deployment of digital solutions (Average = 3.40, 10% rating 5) are rated the least important challenges. SMEs rate the deployment of new technologies (Average = 4.40, 54% rating 5) and the risk of new dependencies (Average = 4.32, 46% rating 5) as the most prominent challenges. The least prominent challenges for this stakeholder group are the deployment of digital solutions (Average = 3.89, 30% rating 5) as well as the support for SMEs (Average = 3.89, 30% rating 5). These answers suggest that SMEs feel prepared to reach EU's climate ambition as they see governmental support as one of the least prominent aspects in this context. Large business associations/companies depict a similar response pattern compared to the SMEs. The two most important challenges are public support (Average = 4.49, 48% rating 5) and the risk of new dependencies (Average = 4.48, 57% rating 5). In contrast to other organisational stakeholder groups, large companies furthermore stress the importance of new technologies and R&I (Average = 4.47). In contrast to other organisational stakeholder groups, large companies furthermore stress the importance of new technologies and R&I (Average = 4.47, 56% rating 5). The least important challenges are the support of SMEs (Average = 3.79, 20% rating 5) and Capturing CO2 (Average = 3.92, 40% rating 5). For public authorities, the most prominent challenges are the required shift of investment flows (Average = 4.47, 69% rating 5) and further improvement in energy efficiency (Average = 4.40, 63% rating 5). The least prominent challenges for this stakeholder group are the support of SMEs (Average = 3.80, 31% rating 5) and the deployment of digital solutions (Average = 3.87, 19% rating 5).

#### 3.2.1.6. Q6a: Gender aspects of climate policy (closed question)

For question Q6 the respondents are asked how much they agree, from a scale from 1 (No, I totally disagree) to 5 (Yes, I totally agree) with the statement that gender aspects should be considered more in the transition to climate neutrality and in climate and related policies.

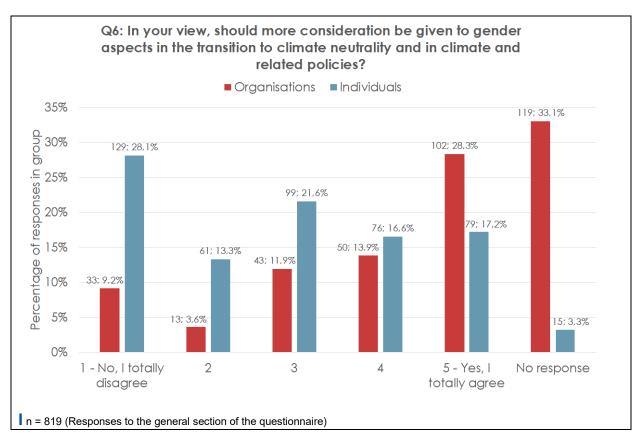


Figure 9 Responses to Q6a of the questionnaire

#### **General findings**

As Figure 9 illustrates, varying perspectives on the more comprehensive consideration of gender aspects in the transition to climate neutrality can be observed. Individuals agree less that the inclusion of the gender perspectives in climate policy is important than organisations.

While all response options get a relevant number of replies, the most common answers are polarised on the extremes of the scale. 22% (181) of all respondents indicate that they totally agree with a greater inclusion of gender aspects concerning the climate transition while a similar share (19%, 162) indicate that they totally disagree with the EU considering gender aspects more. This illustrates a possible divide in the response to this question. This gulf is also represented in the comparison of the response patterns of individuals and organisations. While individual's most common answer is that they totally disagree (129, 28%), the most common response by organisation is that they totally agree (102, 28%).

#### Differences between stakeholder groups

Looking at the mean scores of the 5-point scale for different stakeholders, EU citizens exhibit the lowest average with 2.78. Contrarily, civil society organisation have the highest average with 4.26. Notably, a high share of the no responses was provided by business associations/companies (SMEs and large), indicating that few corporate stakeholders are willing to share their views on the role of gender aspects for climate policy.

#### 3.2.1.7. Q6b: Gender aspects of climate policy (open question)

In total, 237 valid open-text responses were submitted to Q6b. Please note that one response can be included in multiple themes. Based on a thematic analysis of the survey

responses to Q6b questions, the most preferred themes regarding how climate and related policies should better address gender aspects are:

- Gender inequality and vulnerability theme was mentioned in 82 out of 237 responses, 35%\*, highlighting the importance of gender equality in decision-making processes, promoting women's participation and representation in policy-making, and addressing gender-specific vulnerabilities to climate change.
- **Gender impact assessments and policy integration** theme appeared in 68 out of 237 responses, 29%\*, suggesting the incorporation of gender impact assessments into climate policies and the integration of gender objectives throughout the policy cycle, including governance, analysis, impact assessments, and monitoring.
- **Education and training** theme was present in 41 out of 237 responses, 17%, emphasizing the significance of providing education, training, and empowerment opportunities for women, particularly in STEM fields and green jobs, to enhance their involvement in climate action.
- Intersectionality and inequalities theme appeared in 26 out of 237 responses\*, 11%, emphasizing the need to consider the intersectional nature of climate and gender issues, and address multiple forms of discrimination and inequalities such as race, disability, and socioeconomic factors in climate policies.

I \*Nine responses were identical or semi-identical. It was decided not to declare these responses as campaign due to the small number and they were included into the analyses. These responses are marked in the result.

As the other end of the spectrum, **scepticism and disbelief** was present in 35 out of 237 responses, representing responses that express scepticism disbelief, or dismissal of the relevance of gender in climate policy and question the need for addressing gender aspects.

Figure 10 illustrates the survey responses to the Q6b question, displaying the total stakeholder responses (237) in the first column. The subsequent columns present the identified themes grouped by stakeholder categories.

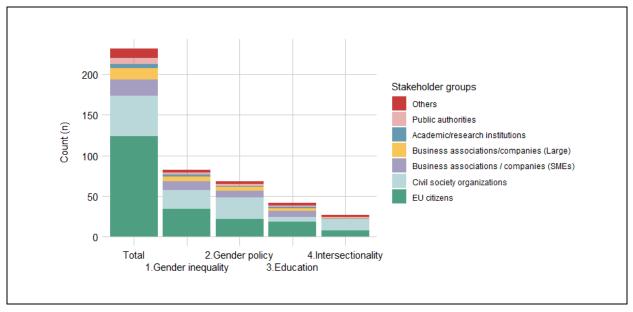


Figure 10 Number of responses to Q6b grouped by identified themes and stakeholder groups

#### 3.2.2. Contribution of individual sectors to the EU's climate ambition

After exploring the respondents' overall opinion on the EU's climate ambition for 2040, this section investigates stakeholders' views on the **contribution of specific sectors to the EU's climate ambition**. First, it is analysed which sector should do more to reduce GHG emissions. Subsequently, participants are requested to rank different sectors in terms of their expectations for achieving climate neutrality first. Lastly, the different stakeholders are asked to evaluate their capacity to innovate and access financing of the sector or company they are working in.

#### 3.2.2.1. Q7: Which sector should do more to reduce GHG emissions?

In question Q7 the respondents are asked which economic sector should do more to reduce GHG emissions. The participants give a response on a scale from 1 (can reduce little more) to 5 (can reduce a lot more) regarding the extent to which the six sectors have the potential to reduce their GHG emissions.

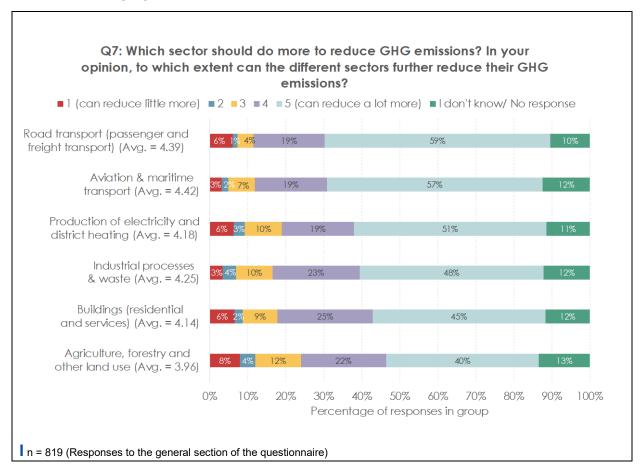


Figure 11 Responses to Q7 of the questionnaire

#### **General findings**

Looking at Figure 11, the responses regarding the level of ambition in specific sectors of the economy are in line with the call for an overall more ambitious 2040 climate target (see Q1). Across all sectors, at least 40% of the respondents give a rating of 5, meaning that a sector "can reduce a lot more".

Of the six sectors, the three that respondents deemed should do much more, were "Aviation & maritime transport" (Average = 4.42, 57% rating 5), "Road transport (passenger and freight

transport)" (Average = 4.39, 59% rating 5) and "Industrial processes & waste" (Average = 4.25, 48% rating 5). The lower half of the list includes "Agriculture, forestry and other land use" (Average = 3.96, 40% rating 5), "Buildings (residential and services)" (Average = 4.14, 45% rating 5) and "Production of electricity and district heating" (Average = 4.18, 51% rating 5).

#### Differences between stakeholder groups

For EU citizens the most prioritised sector is "Aviation & maritime transport" (Average = 4.40, 65% rating 5) while the least prioritised sector is "Agriculture, forestry and other land use" (Average = 3.81, 41% rating 5; civil society organisations: Average = 4.59, 68% rating 5). Conversely, civil society organisations deem the sector "Road transport (passenger and freight transport)" to be the most important for reductions (Average = 4.75, 70% rating 5), while also seeing "Agriculture, forestry and other land use" to be the least prioritised among the economic sectors (Average = 4.59, 68% rating 5). Hereby, civil society organisations seem to conclude that all sectors can significantly reduce GHG emissions, reflected in all average ratings being higher than 4. The same accounts for academic/research institutions which also indicate high average values for all sectors, from "Road transport (passenger and freight transport)" (Average = 4.78, 75% rating 5) to "Buildings (residential and services)" (Average = 4.28, 50% rating 5).

The group of SMEs selects "Road transport (passenger and freight transport)" (Average = 4.47, 48% rating 5) as the sector that should do the most and the sector "Agriculture, forestry and other land use" (Average = 3.72, 23% rating 5) that should do the least to cut GHG emissions. Large business associations/companies indicate that the sector "Road transport (passenger and freight transport)" should do the most to reduce emissions (Average = 4.55, 48% rating 5) and that the sector "Industrial processes & waste" (Average = 3.92, 29% rating 5) should do the least. Lastly, public authorities believe that the sector "Production of electricity and district heating" (Average = 4.87, 81% rating 5) should mostly enhance their efforts to cut GHG emission, whereas the sector "Agriculture, forestry and other land use" (Average = 3.53, 31% rating 5) should do this the least.

According to these responses there exists an overall agreement that all sectors should accelerate their transition towards climate neutrality. Nevertheless, there are stakeholder-specific differences concerning the prioritisation of sectors.

#### 3.2.2.2. Q8: Sectors expected to reach climate neutrality first

In Q8 the respondents are asked what economic sectors they expect to reach climate neutrality first in the coming decades. They rank the different sectors in the order they expect them to achieve climate neutrality from 1 (first to reach climate neutrality) to 6 (last to reach climate neutrality). Unlike the other questions, the analysis of Q8 is distinct because the ranking of one sector influences the ranking of other sectors. This is because only one sector can be chosen for each rank, resulting in sector-rank combinations being displayed in the analysis.

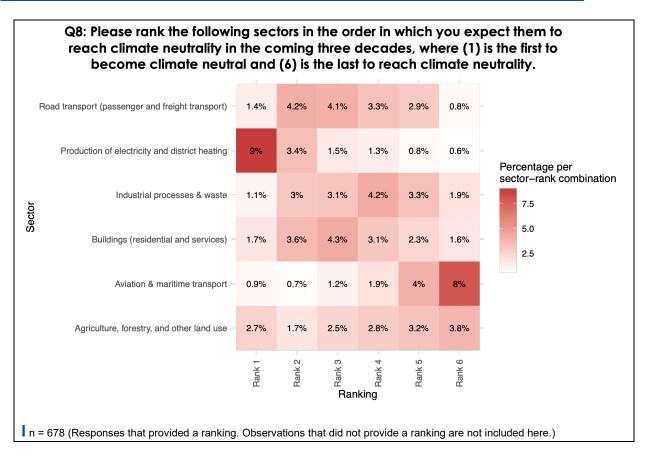


Figure 12 Responses to Q8 of the questionnaire

As can be seen in Figure 12, respondents most frequently choose the "Production of electricity and district heating" sector as the first to achieve climate neutrality, with 54% of the respondents (9% of sector-rank combinations) ranking it as their first choice. Conversely, the "Aviation & maritime transport" sector is most selected as the last to attain climate neutrality, with 48% of the respondents (8% of sector-rank combinations) ranking it sixth. Additionally, there is a descending (ascending) pattern for the remaining Ranks assigned to the sector "Production of electricity and district heating" ("Aviation & maritime transport"), which further supports the ranking of the sector.

A more balanced pattern can be observed for the other four sectors. Interestingly, by giving the two decentralised sectors "Road transport (passenger and freight transport)" and "Buildings (residential and services)" a lower ranking than to the sector "Industrial processes & waste", the respondents indicate that they expect these sectors to achieve climate neutrality sooner.

For the sector "Agriculture, forestry, and other land use", 16% of the respondents (3% of the sector-rank combinations), believe that it is the first sector to achieve climate neutrality. But for the other ranks an ascending pattern is observed with 23% (4% of the sector-rank combinations) believing that this sector will achieve climate neutrality last. This divergence in the responses may be due to differing expectations about the extent of nature-based carbon removal and/or the ability to reduce agricultural emissions in the coming decades.

#### 3.2.2.3. Q9: Capacity to innovate

For this question Q9, respondents assess the existing capacity to innovate and access financing of the sector or company they are working in. They gauge whether they agree with these three statements, from a scale from 1 (very unimportant) to 5 (very important): that their sector or company has the capacity to carry out the necessary innovation for the transition to a net-zero emission economy, that their sector or company has access to risk capital and financing and that their sector or company has access to EU dedicated facilities for the green transition.

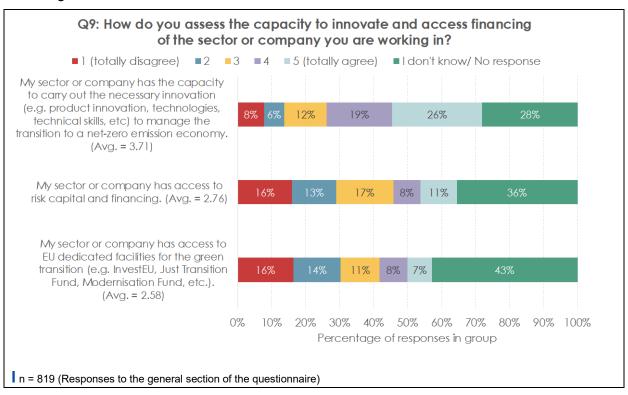


Figure 13 Responses to Q9 of the questionnaire

#### **General findings**

First, it should be noted that Question 9 can be interpreted differently by the varying stakeholder groups. While the question is most directly relatable for the two stakeholder groups business associations/companies (SMEs) and business associations/companies (large), other stakeholder groups, such as EU citizens, may relate this question to their individual working environment. For other stakeholder groups, such as civil society organizations, the link to their sectoral work environment may be less clear. This divergent understanding is presumably responsible for the relatively high shares of "I don't know/No response" answers observable in Figure 13.

However, when excluding the "I don't know/No response" answers, most respondents believe that their sector or company has the capacity to carry out the necessary innovations to manage the transition to a net-zero economy (Average = 3.71, 26% rating 5). Far fewer respondents consider their sector or company to have access to risk capital and financing (Average = 2.76, 11% rating 5) and that their sector or company has access to EU facilities (Average = 2.58, 7% rating 5).

#### Differences between stakeholder groups

The stakeholder groups for which the question is most salient and therefore whose answers are the most meaningful are business associations/companies from both SMEs and large companies. Such types of respondents are both highly optimistic about their sectoral and company capacity to carry out the innovation needed for a transition to net zero (SMEs: Average of 4.2, 37% rating 5; Large: Average of 4.14, 35% rating 5). For the other two question items on the access to financing, respondents from the group of companies/business associations (large) show a slightly higher level of agreeing than their counterparts from the group of SMEs.

For the question item on access to risk capital and financing, large firms respond with an average of 3.11, with the largest proportion of respondents answering with the neutral response option in the middle of the 5-point scale (45, 36%). Among SMEs, the average is 2.9, with the majority of responses again coming from the midpoint of the scale (33, 34%). Among SMEs, the number of those who choose the answer option "I don't know/No response" is significantly higher (SMEs: 30, 31% vs. Large: 20, 16%).

When asked about access to EU-specific financial facilities, the average is 2.63 for large companies and business associations, which primarily represent large companies, and only 2.49 for their SME counterparts. Given the need for private investment to facilitate the net-zero transition, the results for business/industry stakeholders may suggest that sufficient access to private risk finance and public support facilities remains a challenge for some sectors.

#### 3.2.3. My personal contribution to protect the climate

This sub-section of the general section aims to explore the **individual willingness of respondents to contribute to climate protection**. First, the respondents are asked how aware they and society are to the impacts of climate change. Then, the next question investigates what people expect as being the most relevant changes to peoples' daily lives. The other two questions ask for the willingness to act on a personal level and what incentives would most benefit climate action.

#### 3.2.3.1. Q10: Awareness of climate change impact and climate

For Q10, respondents were asked how aware they were with regards to the effects of climate change, and their views on society's awareness of the realities of climate change and its impact. They were asked to indicate whether they agreed on a scale from 1 (totally disagree) to 5 (totally agree) with different statements referring to awareness and actions at an individual level, as well as individuals' views on society's awareness and readiness in meeting challenges of climate change. Given that responses to this question relate to actions and opinions at the individual level, and therefore only general comments can be made regarding the views and opinions of organisations. This is reflected in Figure 14, at least half of responses from Organisations were "I don't know/No response" across the statement categories.

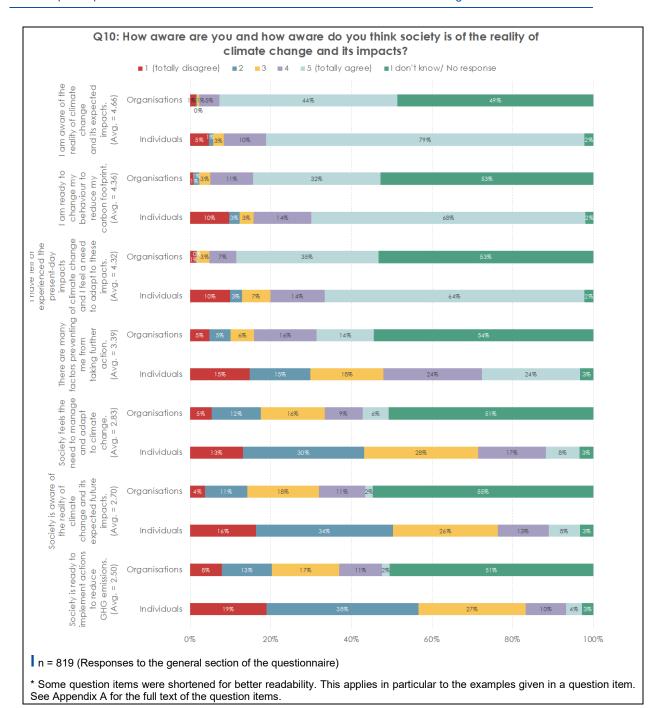


Figure 14 Responses to Q10 of the questionnaire

As depicted in Figure 14, the majority of responses indicate that they are aware of the reality of climate change and its expected impacts (363 individuals, 79% rating 5) (Avg. = 4.66 of all respondents). The second most preferred option for Individuals is being ready to change their behaviour to reduce their carbon footprint (e.g., by using sustainable transport; using or producing renewable energy; reducing consumption, reusing, and recycling products; consuming foods with a lower climate impact; etc.) (312 individuals, 68% rating 5) (Avg. = 4.36 of all respondents). Contrarily, only a low number of individuals assumed that these actions also apply on the societal scale: Society feels the need to manage and adapt to climate change (38 individuals, 8% rating 5) (Avg. = 2.83 of all respondents), society is aware of the reality of climate change (36 individuals, 8% rating 5) (Avg. = 2.70 of all respondents),

and society is ready to implement actions (18 individuals, 4% rating 5) (Avg. = 2.50 of all respondents).

Even though respondents that represent an organisation do not offer a clear perspective on whether their answers reflect their personal views or those of their organisations, most of them chose preferred to say they are aware of the reality of climate change and its expected impacts (159, 44% rating 5).

## 3.2.3.2. Q11a: Most important changes expected for peoples' daily lives (closed question)

Question 11a gathers individual responses on where they expect to see the greatest changes happening in their daily life. Respondents were able to pick from multiple answers across seven categories including, "My current job", "Transport used for long-distance trips", "Food (including food waste)", "Education and skills needed for future jobs", "Housing (e.g. energy consumption in buildings, living space)", "Consumer goods and services (including reduce, reuse, repair & recycle), "Transport used for short-distance trips". The responses to this question relate to actions and opinions at the individual level, hence the focus on individuals over organisations.

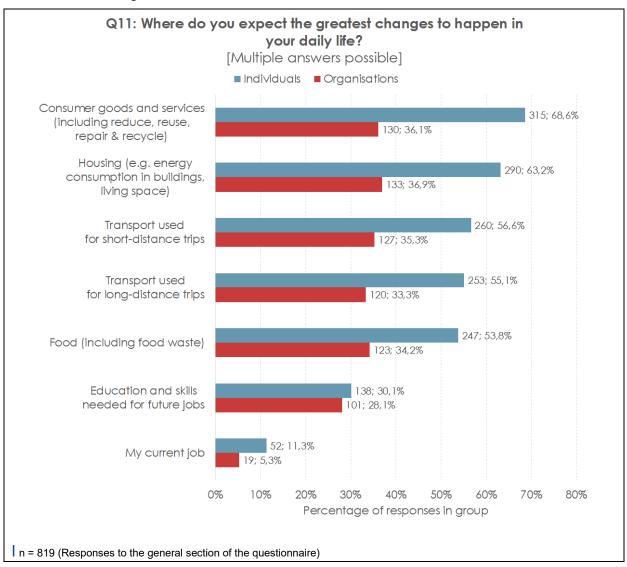


Figure 15 Responses to Q11a of the questionnaire

Most respondents (315; 69%) indicated that they expected the greatest changes to happen in how they consumed goods and services (e.g., reduce, reuse and recycle).

Housing (e.g., energy consumption in buildings, living space) was the second most selected option by individuals (209;63%) for greatest change in daily life. Considerably fewer responses (52; 11%) referred to challenges associated with changes that would reflect in their current jobs. Even though respondents that represent an organisation do not offer a clear perspective on whether their answers reflect their personal views or those of their organisations, most of them chose housing (e.g., energy consumption in buildings) (133; 37%) to be the area of potential greatest change.

3.2.3.3. Q11b: Most important changes expected for peoples' daily lives (open question)

In total, 212 valid open-text responses were submitted to Q11b, 23 responses were segregated from the analysis as they were identified as a campaign. 193 responses were included in the analysis. Please note that one response can be included in multiple themes. Based on a thematic analysis of the survey responses to Q11b questions, the themes identified most often by respondents regarding what changes expected in their daily life due to the efforts to reach climate neutrality are:

- Changes in consumption and lifestyle theme was present in 41 out of 193 responses\*, 21%. This theme includes reducing energy and demand, controlling unsustainable products, and promoting reduction in consumption linked to deforestation. It also involves promoting sustainable diets, car-sharing, and remote work. Waste reduction, reuse, and repair were also mentioned.
- Transitioning from fossil fuels theme was mentioned in 20 out of 193 responses\*, 10%. This theme encompasses the challenge of transitioning regions that heavily rely on fossil fuels to more sustainable and renewable energy sources. Respondents mentioned issues with energy shortages and potential failure of renewables such as wind and solar energy.
- Land use changes and water management theme appeared in 18 out of 193 responses\*, 9%. Responses mentioned land use changes such as rewetting landscapes and the management of water resources. These changes are expected to contribute to carbon sequestration and enhance resilience to climate change impacts.
- **Social and economic impacts** theme was mentioned in 14 out of 193 responses, 7%. This theme encompasses various aspects such as social tensions, wealth disparity, poverty, loss of purchasing power, social unrest, and economic impacts resulting from climate change mitigation and adaptation measures.

I \*Five responses were identical or semi-identical. It was decided not to declare these responses as campaign due to the small number and they were included into the analyses. These responses are marked in the result.

Figure 16 illustrates the survey responses to the Q11b question, displaying the total stakeholder responses (193) in the first column. The subsequent columns present the identified themes grouped by stakeholder categories.

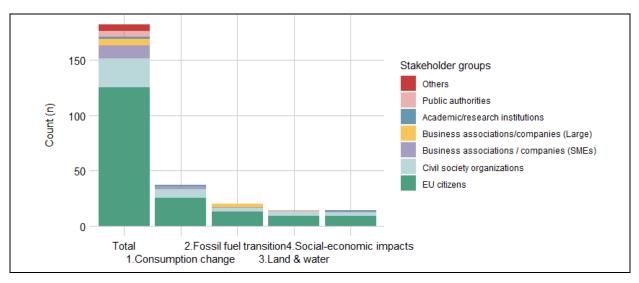


Figure 16 Number of responses to Q11b grouped by identified themes and stakeholder groups

## 3.2.3.4. Q12: Willingness for action at individual level

For question Q12, respondents were asked which personal actions they would be willing to take to fight climate change. Answers ranged from 1 (No, I would not be willing to do this), 2 (I am not sure whether I would do it or not), and 3 (Yes, I would be willing to do this). The list of actions ranged from reducing wasteful consumption, have goods repaired or reuse them rather than buying new ones, eat food with a lower climate impact, such as plant based, local or sustainably produced food, to compensating some of their emissions through reliable and certified carbon-offsetting programmes.

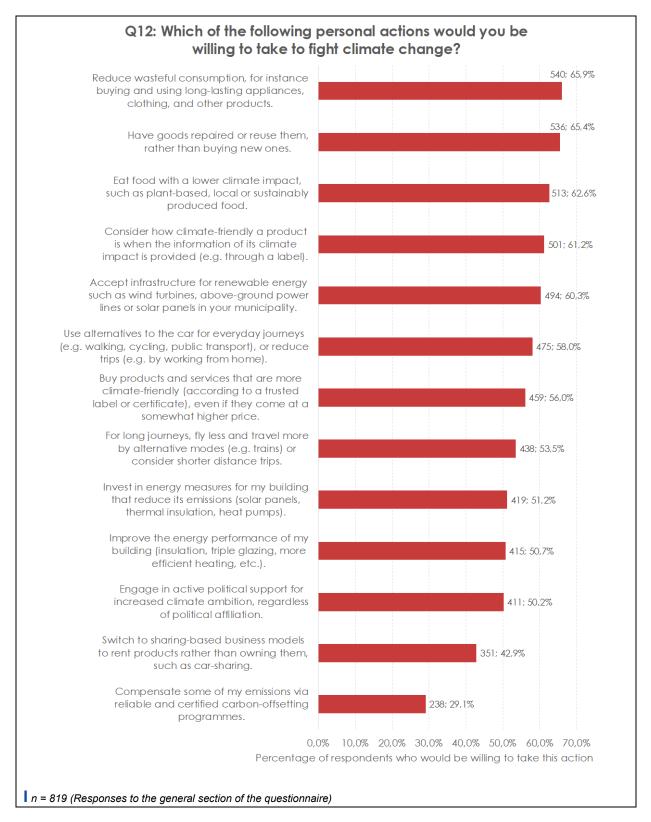


Figure 17 Responses to Q12 of the questionnaire

Overall, the responses to Q12 relate to actions and opinions at the individual level, hence focusing on individual respondents is of high importance.

Most individual respondents indicated that they are willing to reduce wasteful consumption, through buying and using long-lasting appliances, clothes, and other products (Individuals: 409, 89%; Total: 540, 66). Closely behind the first option, individuals report a willingness to have goods repaired or reuse them, rather than buying new ones (Individuals: 404, 88%; Total: 536, 65%). Considerably fewer Individuals are willing to compensate some of their emissions via reliable and certified carbon-offsetting programmes. Fewer individuals reported that investing in energy measures for my building that reduce its emissions (solar panels, thermal insulation, heat pumps), and improving the energy performance of my building (insulation, triple glazing, more efficient heating, etc.) was not applicable to their case (Individuals: 184, 40%; Total: 238, 29%).

Even though respondents that represent an organisation do not offer a clear perspective on whether their answers reflect their personal views or those of their organisations, the majority of them chose that they would be willing (133, 37%) to use alternatives to the car for everyday journeys (e.g. walking, cycling, public transport), or reduce trips (e.g. by working from home), to have goods repaired or reuse them, rather than buying new ones (132, 37%) and to reduce wasteful consumption (131, 36%).

# 3.2.3.5. Q13a: How to improve incentives for climate action (closed question)

For Q13a respondents were asked which proposals would help to reduce their personal climate footprint. They rank the different proposals from 1 (not helpful) to 5 (very helpful). Respondents could also rank the proposals by answering "I don't know" and "No response".

The list of proposals ranged from ensuring the price of goods and services reflects their impact on climate-change making climate-friendly products with a lower climate impact more attractive, to providing better information on how to invest in solutions that will help people reduce their GHG emissions or increase carbon removals notably from buildings, food consumption or transport. Similarly to Q10, as depicted in Figure 18 at least half of the organisations did not provide a response across the statement categories, or they indicated that they did not know which proposal would help them reduce their personal climate footprint.

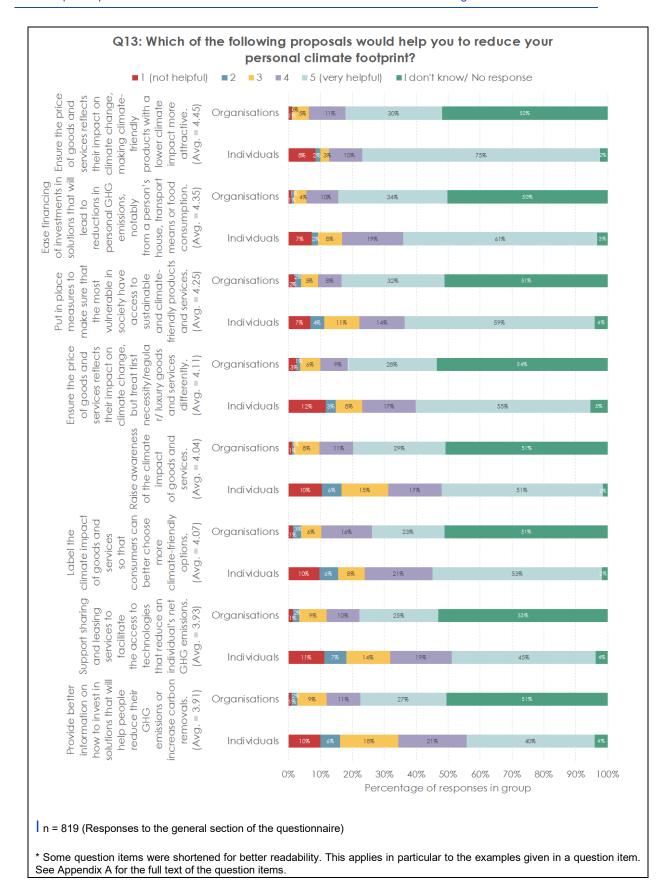


Figure 18 Responses to Q13a of the questionnaire

Most individual respondents believe that ensuring that the price of goods and services reflects their impact on climate change thus making climate-friendly products more attractive would be very helpful (342 individuals, 75% rating 5) (Avg. = 4.45 of all respondents). Other items that are rated as helpful included easing the financing of investments in solutions that lead to reductions in personal GHG emissions (279 individuals 61% rating 5) (Avg. = 4.35 of all respondents) and creating access for the most vulnerable in society to have access to sustainable and climate-friendly goods and services (273 individuals, 59% rating 5) (Avg. = 4.25 of all respondents). Aspects that were perceived as less, but still, helpful included the proposals to provide better information on how to invest in solutions that will help people reduce their GHG emissions or increase carbon removals, notably from buildings, food consumption or transport (187 individuals, 40% rating 5) (Avg. = 3.91 of all respondents) and to support sharing and leasing services to facilitate the access to technologies that reduce an individual's net GHG emissions (e.g. heat pump, photovoltaic panels or electric vehicles) (207 individuals, 45% rating 5) (Avg. = 3.93).

Even though respondents that represent an organisation do not offer a clear perspective on whether their answers reflect their personal views or those of their organisations, most of them choose that proposals that ease finance of investment in solutions that would lead to personal GHG reductions in homes, were very helpful (123, 34%).

# 3.2.3.6. Q13b: How to improve incentives for climate action (open question)

In total, 157 valid open-text responses were submitted to Q13b. Please note that one response can be included in multiple themes. Based on a thematic analysis of the survey responses to Q13b questions, the top 4 identified themes regarding what proposals would help to reduce personal climate footprint are:

- Fossil fuel subsidies and consumption reduction theme was mentioned in 36 out of 157 responses\*, 23%. This theme focuses on the need to eliminate fossil fuel subsidies and adopt measures to support the reduction of consumption. It emphasizes the importance of phasing out environmentally harmful subsidies and decreasing reliance on fossil fuels.
- Public transportation and mobility theme was present in 25 out of 157 responses, 16%. This theme focuses on improving public transport provision and expanding public transportation networks. It emphasizes the promotion of climate-friendly public transport options and the reduction of reliance on cars through the encouragement of active mobility, aiming to enhance accessibility and reduce emissions in transportation.
- Carbon pricing and taxes theme was mentioned in 25 out of 157 responses, 16%. This theme emphasizes the need for implementation of carbon pricing mechanisms, such as carbon taxes, to incentivize emission reductions. It also suggests the levying of taxes on various environmentally harmful products and the use of economic incentives and regulation to drive behaviour change towards more sustainable practices.
- Sustainable agriculture and dietary choices theme appeared in 12 out of 157 responses, 8%. This theme highlights the importance of promoting sustainable agricultural practices and supporting plant-based diets. It emphasizes the need to make vegan and plant-based foods more affordable, reduce the carbon footprint of agricultural products, and conserve biodiversity in agriculture.

I \* Nine responses were identical or semi-identical. It was decided not to declare these responses as campaign due to the small number and they were included into the analyses. These responses are marked in the result.

Figure 19 illustrates the survey responses to the Q13b question, displaying the total stakeholder responses (157) in the first column. The subsequent columns present the identified themes grouped by stakeholder categories.

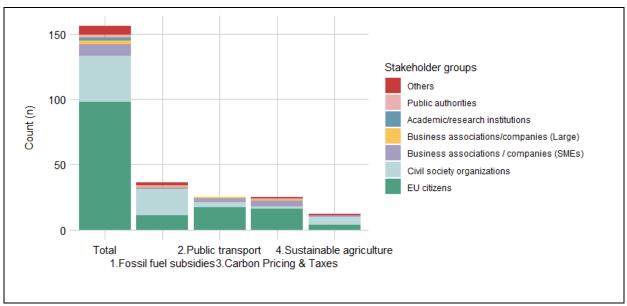


Figure 19 Number of responses to Q13b grouped by identified themes and stakeholder groups

# 3.2.4. The impacts of the climate crisis

This sub-section of the general section of the public consultation explores the **expectations** of the respondents regarding the impacts of the climate crisis. First, focus is on the possible effects of climate change for individuals. Consequently, people are asked about the possible effects of climate change at the place they live and for society as a whole. Lastly, the respondents are asked about their level of agreement on statements regarding the need to adapt to climate change.

## 3.2.4.1. Q14a: Possible effects of climate change for individuals (closed question)

"Loss of biodiversity and natural habitats" is of the biggest concern for 506 answers (62% of all). This is the case both to individuals (355; 77%) and organisations as a whole (151; 42%). It is also of very high concern to academics (13; 65%) and CSO (65; 71%) and not so high to business associations of large companies (26; 21%) and business associations of SMEs (31; 32%).

It is closely followed by "Damage from natural hazards" which is of high concern both to individuals (327; 71%) and organisations (151; 42%). It is also of very high concern to academics (11; 55%) and CSO (65; 71%) and not so high to business associations of large companies (26; 21%) and business associations of SMEs (32; 33%).

"Loss of job or income due to changes in the sector where I work" is of little concern both to individuals (52; 11%) and to organisations as a whole (45; 13%). A higher share of CSOs (24; 26%) single this out as a concern.

"Increasing material losses to my property" is of little concern too: individuals (63; 14%) and organisations (50; 14%). A higher share of CSOs (30; 33%) single this out as a concern.

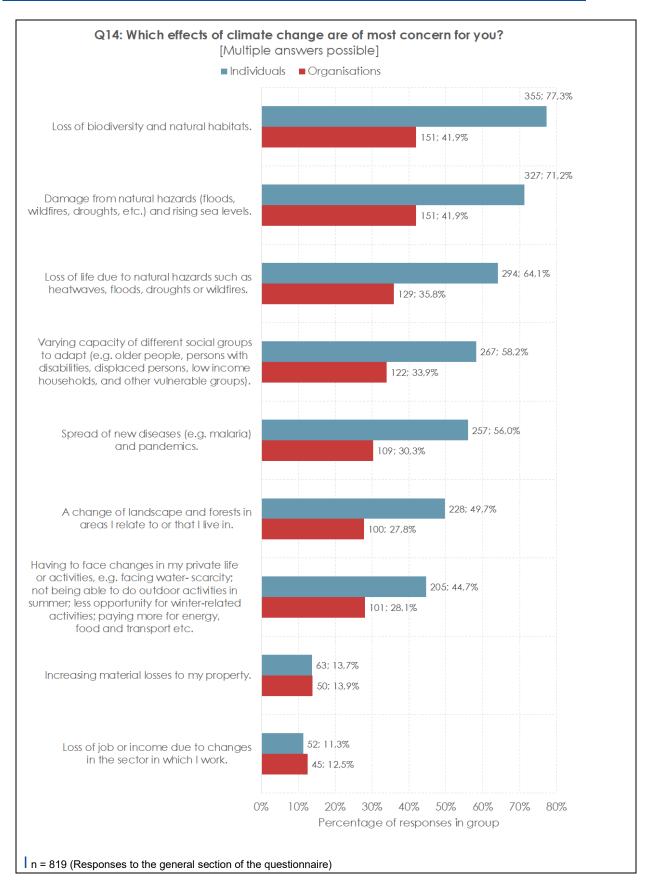


Figure 20 Responses to Q14a of the questionnaire

## 3.2.4.2. Q14b: Possible effects of climate change for individuals (open question)

In total, 152 valid open-text responses were submitted to Q14b. Please note that one response can be included in multiple themes. Based on a thematic analysis of the survey responses to Q14b questions, the top 4 identified themes regarding what effect of climate change people most concerned about:

- Climate refugees and migration theme was present in 28 out of 152 responses, 18%. Many respondents expressed concerns about migration and the displacement of people due to climate change. They highlighted the potential for forced migration, large-scale population movements, and the emergence of climate refugees who are forced to leave regions made uninhabitable by climate change impacts. The fear of migration waves, conflicts over resources, and the limited capacity of countries to accommodate refugees were common themes.
- Social and political conflicts theme was mentioned in 24 out of 152 responses, 16%. Social and political conflicts arising from climate change were major concerns among respondents. They mentioned the possibility of social unrest, polarization, and division within societies. The fear of social tipping points, conflicts, and wars over resources such as water was prevalent. Many respondents also highlighted the potential destabilization of democracies and the rise of non-democratic or authoritarian regimes.
- Health impact theme appeared in 22 out of 152 responses\*, 15%. The impact of climate change on health was a significant concern for respondents. They emphasized the sub-lethal effects of heat, humidity, air pollution, and other climate-related factors on human health. Mental health issues, such as climate anxiety and depression, were frequently mentioned. Concerns about respiratory and heart diseases, as well as health inequalities resulting from climate change, were also expressed.
- Economic impact theme was mentioned in 10 out of 152 responses, 7%. Economic consequences resulting from climate change were a concern for many respondents. They mentioned the potential for financial disasters, increased living costs, and loss of livelihoods. Economic slowdowns and higher prices were also mentioned. Inequality, both within and between countries, was a common theme, with respondents expressing worries about the unequal distribution of climate change impacts and the exacerbation of economic inequalities.

I \*Five responses were identical or semi-identical. It was decided not to declare these responses as campaign due to the small number and they were included into the analyses. These responses are marked in the result.

Figure 21 illustrates the survey responses to the Q14b question, displaying the total stakeholder responses (152) in the first column. The subsequent columns present the identified themes grouped by stakeholder categories.

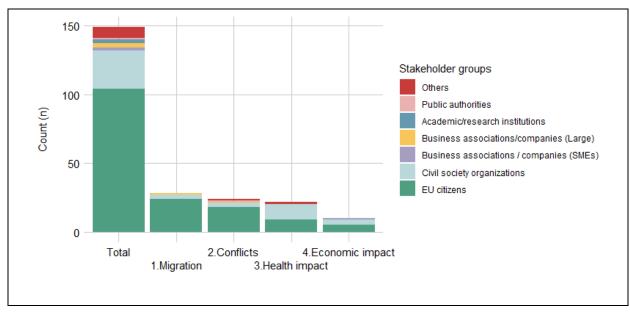


Figure 21 Number of responses to Q14b grouped by identified themes and stakeholder groups

# 3.2.4.3. Q15: Possible natural hazards caused by climate change at the place where you live

Individuals indicate the highest level of fear regarding heatwaves (322; 70%), droughts (310; 68%) and lack of water (306; 67%). This group is followed by floods and intense rain (223; 49%); and wildfires (191; 42%).

As an average, organisations fear the same hazards - heatwaves (142; 39%), droughts (139; 39%) and lack of water (127; 35%), as well as floods and intense rain (141; 39%).

From the point of view of public authorities, floods and intense rain is the most feared hazard (11; 69%) followed by droughts (9; 56%), heatwaves (8; 50%), lack of water (8; 50%) and wildfires (56; 38%). Rising sea levels and windstorms are the lowest concern to public authorities (2; 13%).

Academics fear droughts and heatwaves the most (12; 60%) followed by floods and intense rain (10; 50%) and lack of water (9; 45%). Rising sea levels (3; 15%), windstorms (5; 25%) and wildfires (6; 30%) are feared the least by academics.

Business associations of SMEs rank floods and intense rain first (31; 32%); followed by droughts and heatwaves (27; 28%). Windstorms are of the least concern for SMEs (11; 11%) together with rising sea levels (16; 17%). Business associations of large companies prioritise lack of water (29; 23%) in addition to floods and intense rain (31; 25%), droughts (25; 20%) and heatwaves (28; 22%).

Civil society organisations (CSO) are concerned to a high extent by most hazards whereby heatwaves (62; 67%), droughts (59; 64%), lack of water (55; 60%); floods and intense rain (54; 59%), and wildfires (52; 57%) are ranked closely.

Rising sea levels and windstorms are feared the least both by individuals (97; 21% and 78; 34%) and organisations (78; 22% and 79; 22%).

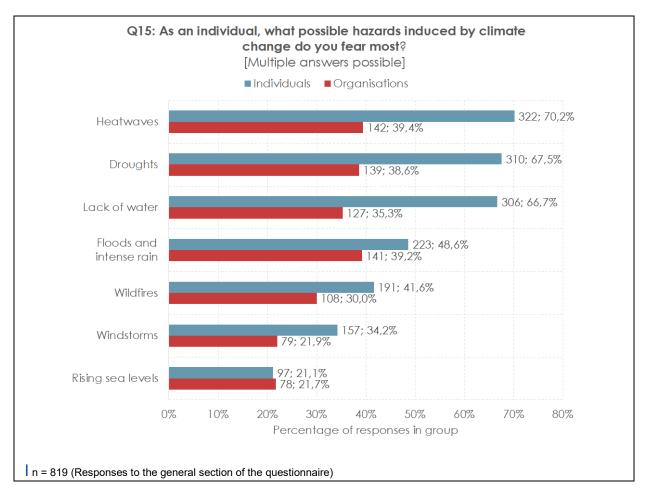


Figure 22 Responses to Q15 of the questionnaire

#### 3.2.4.4. Q16: Possible effects of climate change for society

Individuals identify three main impacts for their countries: natural disasters (338; 74%), negative impacts on food production (315; 69%) and migration or refugee movements (307; 67%) while three others are of similar, slightly lower importance: negative impact through increasing water availability (280; 61%); increasing inequalities due to climate hazards (275; 60%) and negative impacts on health (275; 60%).

Negative impacts on energy supply (127; 28%) and negative impacts on critical infrastructure (146; 32%) are of lowest importance to individuals as potential impacts of climate change.

On average, organisations single out natural disasters as the main impact (167; 46%) while all others have been selected by between 27% and 37% of the responding organisations.

According to public authorities, natural disasters (11; 69%) and negative impact on health (11; 69%) have the highest negative impacts followed by negative impacts through decreasing water availability (9; 56%) and negative impacts on food production (8; 50%). Loss of lives (25%), negative impacts on the economy and employment (4; 25%) and more conflicts between countries due to declining water cycles and less resources (4; 25%).

Business associations of SMEs single out negative impact on energy supply as the highest impact (34; 35%) followed by natural disasters (31; 32%). Loss of lives is of the least concern (13, 13%). Business associations of large companies identify natural disasters as the highest concern (38; 30%) while loss of lives (14; 11%), negative impact on the economy and

employment (14; 11%) and migration or refugee movement due to climate change (15; 12%) are of the least concern.

Almost all of the negative impacts are of high concern to CSOs (between 50; 50% and 68; 74%).

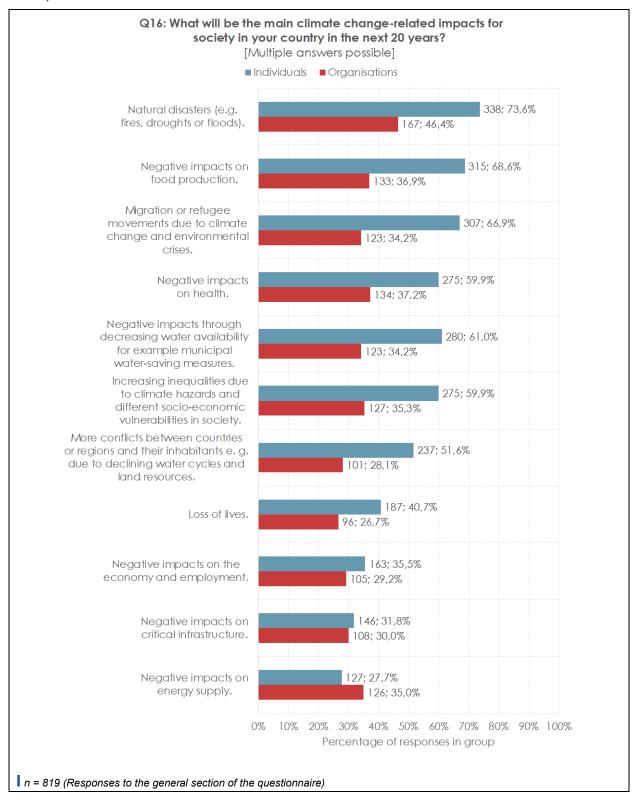


Figure 23 Responses to Q16 of the questionnaire

# 3.2.4.5. Q17: Adapting to climate change where you live

It has to be noted that on average more than half of the organisations either do not know or have not responded to all statements (at least 203 respondents per item in the group of organisations) hence the opinions of those who responded are skewed. The share of these organisations is the highest for associations of large companies (around 80%, 100 respondents in the group of large business associations/companies) and the lowest – for public authorities (20-30%, 4 to 5 respondents in the group of public authorities).

79% of the individuals (strongly) agree (4 and 5) that local or national authorities should do more to prepare the city and region to climate change (363 individuals, Avg. = 4.33 of all respondents). 36% of organisations (strongly) agree with that statement (129 respondents), but the percentage is relatively high for academics (10, 50%) and CSOs (60, 65%).

64% of the individuals (strongly) agree (4 and 5) that they would be ready to invest to make their building more resilient to climate change (294 individuals, Avg. = 3.98 of all respondents). Only 28% of organisations (strongly) agree with that (102 respondents), although the percentage is relatively high for academics (9, 45%) and CSOs (46, 50%).

43% of the individuals (strongly) agree (4 and 5) that we need more climate adaptation policies that take gender differentiated needs and the needs of disadvantages age groups into consideration (199 individuals, Avg. = 3.39 of all respondents). Only 26% of organisations (strongly) agree with that (91 respondents), but the percentage is relatively high for CSOs (49, 54%).

75% of individuals (strongly) disagree (1 and 2) that plans to prepare for inevitable climate change events have been sufficiently prepared (346 individuals, Avg. = 1.71 of all respondents). At the same time, 38% of public authorities agree with the statement (6 respondents). The share of those who agree is very low for other types of organisations.

69% of individuals (strongly) disagree (1 and 2) that concrete actions to improve climate resilience in their place of residence have been carried out and judge them sufficient (316 individuals, Avg. = 1.80 of all respondents). At the same time, 19% of public authorities agree with the statement (3 respondents). The share of those who agree with this view is very low for other types of organisations.

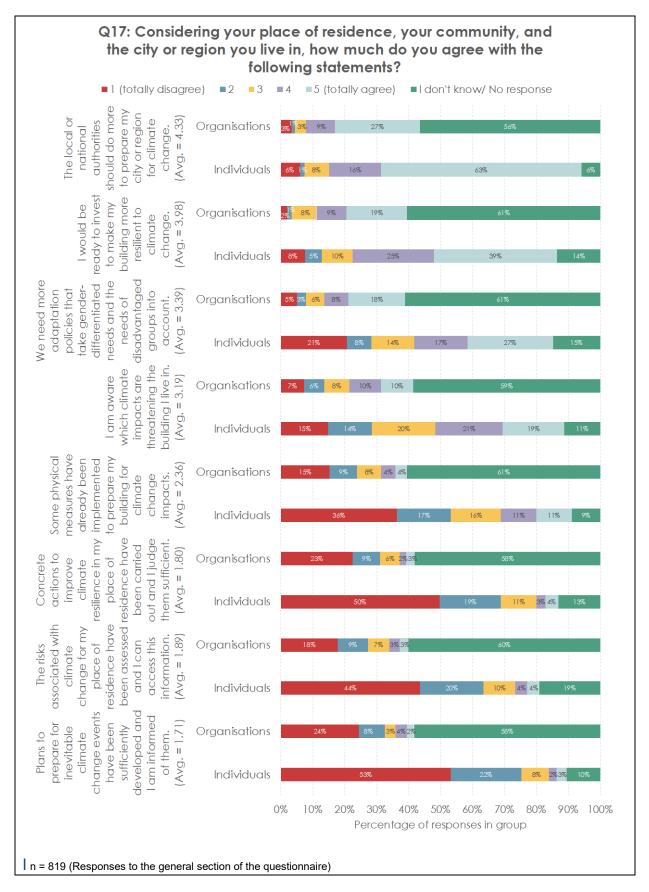


Figure 24 Responses to Q17 of the questionnaire

# 3.3. Expert section

# 3.3.1. General policy framework

The first part of the expert section is focused on aspects regarding the EU's general policy framework, including the scope and role of the carbon pricing instruments, the Carbon Border Adjustment Mechanism (CBAM) and the Effort Sharing Regulation (ESR) as well as its links with the ETS. In addition to the European Climate Law, the public consultation highlights the EU's current policy instruments, the EU Emission Trading System (ETS), the Effort Sharing Regulation (ESR) and the LULUCF Regulation (land use, land use change and forestry), before providing the questions.

# 3.3.1.1. Q18: Scope and role of EU-wide carbon pricing instruments

For Question Q18, stakeholders are asked to state their opinion on how the emissions trading in the EU could evolve in a post-2030 policy framework in terms of GHG coverage, sectoral coverage, and relations with non-EU emissions trading schemes. Stakeholders can indicate their agreement for each of the five statements on scale, ranging from 1 (totally disagree) to 5 (totally agree). More precisely, stakeholders can indicate their agreement on the EU emissions trading covering all fossil fuel uses, all non-CO2 GHG emissions and all GHG emissions also from other sectors. The other two statements relate to potential links with other markets and the role of Carbon Capture and Utilization (CCU): "Options to link the EU ETS with other compliance carbon markets should be pursued, provided that the environmental integrity, potential cost-efficiency gains and more options for emissions abatement are carefully assessed." and "The EU emissions trading should maintain the obligation to surrender allowances for CCU for sectors with hard to abate, residual emissions and for sectors that require a carbon feedstock to promote carbon circularity."

### **General findings**

As depicted in Figure 25 among the response items for the evolution of EU emissions trading post-2030, respondents most strongly advocate that all fossil fuel uses should be covered by emissions trading, including those that are so far not or not entirely covered (Average = 4.27, 48% rating 5).

The second most prioritised response with an equally strong level of agreement among respondents is that the EU emission trading should also cover non-CO $_2$  GHG emissions (Average = 4.09, 46% rating 5). The third most prioritised item is the extension of EU emissions trading to other sectors not yet subject to emissions trading (Average = 3.80, 36% rating 5). In contrast to the first item, this option rather concerns non-fossil-fuel related emissions from e.g., extractive industries or the land sector.

A relatively smaller percentage of the responses argues for a link between EU ETS and other compliance carbon markets (Average = 3.79, 29% rating 5). The item on which there is the most disagreement is on whether or not to adjust the obligation to surrender allowances for hard-to-abate sectors and those which require a carbon feedstock. (Average = 3.48, 21% rating 5). Regarding this response item, a relatively higher share of 37% of respondents answer "I don't know/No response".

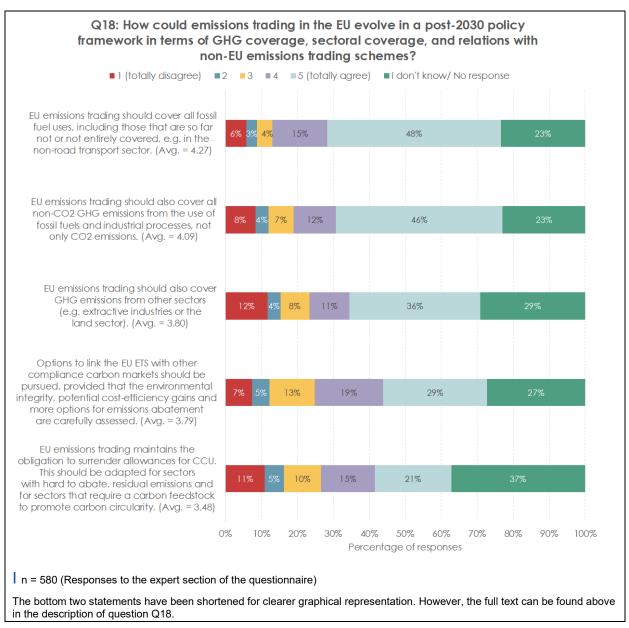


Figure 25 Responses to Q18 of the questionnaire

## Differences between stakeholder groups

For Q18, the following deviations between the stakeholder groups are observed: civil society organisations are in very strong agreement that EU emissions trading should cover all fossil fuel uses (Average: 4.69) and that EU emissions trading should also cover all non-CO2 GHG emissions (Average: 4.66). Additionally, civil society organisations appear to be more sceptical about the abolishment of the obligation to surrender allowances for CCU (Average: 2.82) and the linking with other ETS systems (Average: 2.97).

For business associations/companies, linking the EU ETS with other compliance markets (Large, average: 4.19; SME, average: 3.96) and full coverage of all fossil fuel uses (Large, average: 4.10; SME, average: 3.94) are the response items that are associated with the highest level of agreement. The preference for a linking may be explained by the competitiveness dimension and the hope for a prolonged availability of allowances. In contrast to the other stakeholder groups business associations/companies more strongly

advocate for a reform on the treatment of CCU under the EU ETS (Large, average: 3.63; SME, average: 3.90).

EU citizens display a relatively strong agreement across all items. Particularly regarding the coverage of non-CO<sub>2</sub> emissions (Average: 4.43), coverage of all fossil fuel emissions (Average: 4.31), and the coverage of other sectors (Average: 4.27).

# 3.3.1.2. Q19a: Future role of the carbon border adjustment mechanism (CBAM) (closed question)

In question Q19 the respondents express their opinion regarding the future role of the CBAM. They do so by indicating whether they agree from a scale from 1 (totally disagree) to 5 (totally agree) with the following statements: "Priority should be given to sectors where the emission reduction efforts are the lowest", "Any extension of CBAM to all ETS products, which will replace free allocation, should be done progressively and prioritise certain sectors." and "Priority should be given to sectors where absolute emissions are the highest.".

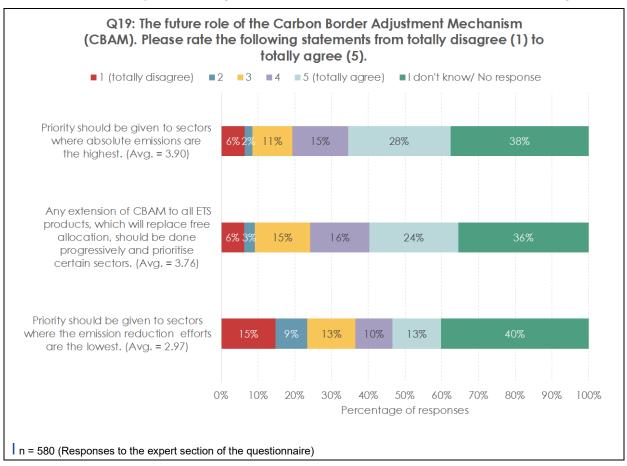


Figure 26 Responses to Q19a of the questionnaire

#### **General findings**

The first thing that becomes apparent when analysing Figure 26 is that across all three question items about 40% of the respondents did not provide an answer. This is probably due to the novelty of the envisaged CBAM regulation and its specificities.

Among the evaluable answers, most responses seem to agree that the sectors where absolute emissions are the highest should be prioritised (Average = 3.90, 28% rating 5). Then, the second most prioritised response is that an extension of CBAM to all ETS products

should be done progressively and prioritise certain sectors (Average = 3.76, 24% rating 5). The least favoured answer concerns the prioritisation of sectors where the emission reduction efforts are the lowest (Average = 2.97, 13% rating 5).

#### Differences between stakeholder groups

For all stakeholder groups, the question on prioritising the sectors with the least effort to reduce emissions is the one with the lowest level of agreement.

Respondents from civil society organisations, and from the group of EU citizens most frequently selected the option regarding the prioritisation of sectors where absolute emissions are the highest (Averages: civil society organisation, 4.45; EU citizens, 4.01), resembling the overall trend.

In contrast, respondents from SMEs and large businesses as well as public authorities most frequently select the answer that the CBAM extension should be done progressively and prioritise certain sectors (Averages, SMEs, 3.80; Large businesses, 3.95; Public authorities, 4.27).

# 3.3.1.3. Q19b: Future role of the carbon border adjustment mechanism (CBAM) (open question)

In total, 151 valid open-text responses were submitted to Q19b. Please note that one response can be included in multiple themes. Based on a thematic analysis of the survey responses to Q19b questions, the top 3 identified sectors where CBAM could extend are:

- **Transportation** sector appeared in 29 out of 151 responses\*, 19%. The transportation sector received attention in the survey responses, with respondents emphasizing the need to address emissions from various modes of transportation. Aviation, maritime transport, freight, and passenger transport were specifically mentioned. Respondents called for measures to reduce emissions from vehicles, improve efficiency, and potentially ban emission-intensive luxury goods. The importance of considering carbon leakage risk and observing international agreements in the transportation sector was also highlighted.
- Chemicals and polymers sector was mentioned in 24 out of 151 responses\*, 16%. The chemicals and polymers industry are another sector that was frequently mentioned as a priority for CBAM extension. There is a call to phase out free allowances for the sector and focus on sustainable production practices. The carbon footprint of chemicals and polymers, as well as the potential impact of CBAM on the sector, are areas of concern. It is evident that stakeholders want to address emissions in the industry and ensure a smooth transition towards more sustainable chemical and polymer production.
- Agriculture sector was present in 20 out of 151 responses, 13%. The agriculture sector emerged as one of the top priorities for the extension of the CBAM based on the survey responses. Respondents emphasized the importance of including agriculture in the scope of CBAM, particularly in addressing emissions from livestock production, farming practices, and food production. Additionally, the inclusion of livestock production and the promotion of regenerative agriculture are highlighted as important focus areas. The impact of deforestation on the agriculture sector is also mentioned, suggesting the need to consider its effects when implementing CBAM. There were no explicit mentions of arguing for CBAM coverage specifically in case a carbon price is set for agricultural emissions.

I \*Nine responses were identical or semi-identical. It was decided not to declare these responses as campaign due to the small number and they were included into the analyses. These responses are marked in the result.

Note that the Energy sector was mentioned in the responses frequently. However, as electricity is already included in the CBAM, these were excluded from the analysis. The energy and power sector were mentioned in the responses, highlighting its relevance to CBAM. Respondents emphasized the inclusion of energy-related sectors such as solar, wind, hydrogen, and refineries. The focus was on addressing emissions associated with energy production, ensuring a full value chain approach, and replacing free allowances. The importance of renewable energy sources and their role in reducing carbon emissions was also highlighted by some respondents.

As the other end of the spectrum, 12 out of the 151 respondents (8%) provided **sceptical responses** towards CBAM.

Figure 27 illustrates the survey responses to the Q19b question, displaying the total stakeholder responses (151) in the first column. The subsequent columns present the identified themes grouped by stakeholder categories.

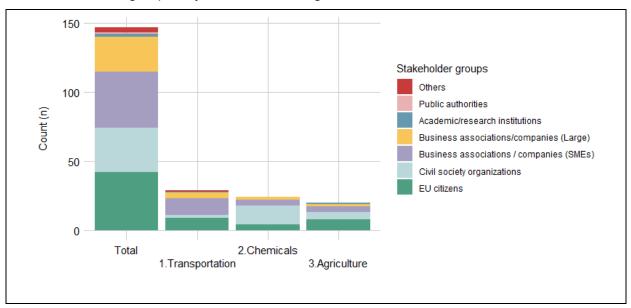


Figure 27 Number of responses to Q19b grouped by identified themes and stakeholder groups

# 3.3.1.4. Q20: Future role of the Effort Sharing Regulation (ESR) and links with the ETS

In Question Q20 the respondents express how the scope of emissions under the Effort Sharing Regulation and the associated national targets should evolve in the EU's post-2030 climate policies. They do so by indicating whether they agree with the following statements from a scale from 1 (totally disagree) to 5 (totally agree): "The ESR and associated national targets should cover only GHG emissions that are not subject to the EU ETS", "National targets should be replaced by EU-wide sectoral legislation.", "The ESR and associated national targets should keep the same GHG scope as currently, covering both emissions that are not under the EU ETS and emissions from fuels used in road transport and buildings." and "There should be national targets covering all GHG emissions from all sectors (including those covered by the EU ETS)."

#### **General findings**

Similar to the responses to Q19a about the CBAM, it should be noted that across all question items, around 40% of the respondents did not provide an answer, hinting at a potential unfamiliarity with the ESR.

The first three response options can be seen as a sequence of a varying scope of the ESR targets (1- only cover emissions not subject to emissions trading, 2- keep scope of current ESR and thereby have dual targets for the emissions covered by ETS2, 3- extend ESR targets to all emissions including those covered by ETS1/ETS2). The fourth option represents an alternative where targets are set based on sectoral legislation.

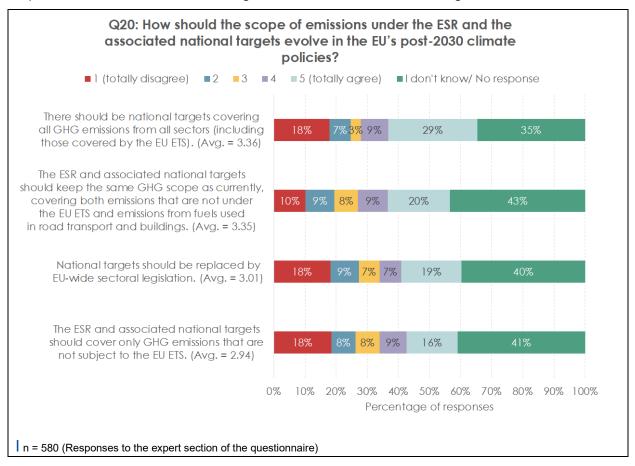


Figure 28 Responses to Q20 of the questionnaire

As illustrated by the homogeneous appearance of Figure 28 there are no clear response patterns across the different statements. However, one aspect that can be observed is that the two options, to extend the scope of the national targets in the ESR to all GHG emissions from all sectors (Average = 3.36, 29% rating 5) and to keep the current scope, (Average = 3.35, 20% rating 5) receive more agreement than the other two options.

#### Differences between stakeholder groups

For civil society organisations, a favourable attitude towards extending the scope of the national targets in the ESR to all GHG emissions from all sectors (Average = 4.38, 55% rating 5) or to keep the current scope (Average = 4.34, 49% rating 5) is most pronounced. Conversely, their view of the narrower scope of the ESR, which only covers emissions not covered by EU emissions trading or the introduction of EU-wide sectoral legislation, is not positive.

Especially large companies or business associations representing large companies favour the idea that national targets should only cover emissions not covered by an ETS (Average = 4.11, 37% rating 5), whereas they strongly disagree with the idea that national targets should cover all GHG emissions from all sectors (Average = 1.85, 7% rating 5).

The emerging pattern of differing opinions between economic stakeholders and stakeholders from civil society is consistent with the results of Q18 and Q19.

# 3.3.2. Mitigation of GHG emissions from the land sector and policy

Regarding the mitigation of GHG emissions, the land sector is of particular importance with agriculture contributing to 12% of EU emissions. Therefore, this section of the survey delves deeper into the evaluation of potential solutions for mitigating GHG emissions in this sector. It particularly focuses on the **role of carbon pricing and non-carbon pricing instruments** as well as on **different actors**, **for which setting a carbon price would be most effective**.

3.3.2.1. Q21: The role of carbon pricing and non-carbon pricing instruments for agricultural emissions and land-based removals

Question Q21 deals with different instruments for handling agricultural emissions and land-based removals. Four statements are presented, focusing either on climate policies to set a carbon price on agricultural emissions or on other options, such as national targets, sectoral standards, or better information and support. Stakeholders can indicate their agreement regarding these statements on a scale from 1 (totally disagree) to 5 (totally agree).

### General findings

First, Figure 29 shows that a higher share of "I don't know/No response" options can be observed among the organizations (about 50% per response item) as compared to the individuals (between 16-27% per response item). The higher share of non-responses among organizations is primarily due to business associations and companies providing no response to the question. The reason likely being that their economic activities are unrelated to the agricultural sector.

Among the items, respondents indicate that they mostly agree with the option that unsustainable farming practices should be ruled out through ambitious sectoral standards (Total: Average = 4.23, 37% rating 5; Individuals: 52% rating 5; Organisations: 27% rating 5). The second most prioritised response is that emission reductions and carbon removals in the agricultural sector should be covered by national targets and achieved through, inter alia, the EU Common Agricultural Policy (CAP) (Total: Average = 4.01, 27% rating 5; Individuals: 31% rating 5; Organisations: 25% rating 5). Taken together, the two items in combination may be interpreted as a preference by respondents to maintain the current national targets supported by the CAP and underpin them by ambitious sectoral standards that rule out unsustainable farming practices.

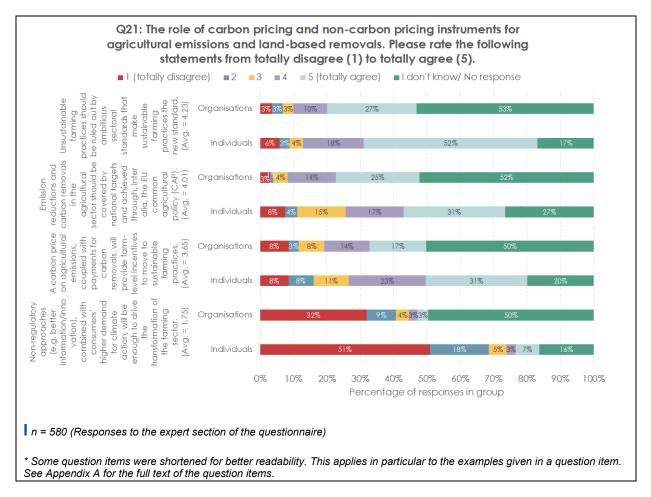


Figure 29 Responses to Q21 of the questionnaire

Carbon pricing of agricultural emissions, coupled with payments for carbon removals, gets an average level of support among the respondents (Total: Average = 3.65, 22% rating 5; Individuals: 31% rating 5; Organisations: 17% rating 5).

The response item that non-regulatory approaches (better information, innovation funding, consumer demand for climate action in farming) would be enough to drive the transformation of the agricultural sector is strongly disagreed with (Total: Average = 1.75, 5% rating 5; Individuals: 7% rating 5; Organisations: 3% rating 5).

#### Differences between stakeholder groups

The stakeholder groups that show the same response pattern as the overall trend are civil society organisations and EU citizens. EU citizens are relatively more supportive of carbon pricing of agricultural emissions than civil society organisations. (EU citizens: Average = 3.73, 30% ranking 5; civil society organisations: Average = 2.83, 14% ranking 5).

Large business associations/companies (subset of approximately 30% that responded) and academic research institutions are in strong support of all options (all averages above 4), with the exception that non-regulatory approaches will be sufficient to reduce agricultural emissions (Large business associations/companies: Average = 1.56, 0% ranking 5; academic research institution: Average = 1.27, 0% ranking 5). The respondents from SMEs (subset of approximately 45% that responded) indicate an overall agreement on the statements (all averages above 3.4), except for the fact that a non-regulatory approach will be insufficient (Average = 2.30, 6% ranking 5).

For public authorities the most favoured option is that emission reductions and carbon removals in the agricultural sector should be covered by national targets and achieved through the EU common agricultural policy (CAP) and thereby maintaining national responsibility (Average = 4.25, 22% ranking 5).

Despite the nuanced differences between the stakeholder groups regarding the best strategies for the agricultural sector, all stakeholders agreed that a non-regulatory approach will be insufficient to drive the transformation of the agricultural sector.

# 3.3.2.2. Q22: Agricultural emissions and climate policies

In Q22 stakeholders are asked to indicate for which actors a carbon price should be set. Four options are presented, and on each one can be (dis)agreed on, on a scale, ranging from 1 (totally disagree) to 5 (totally agree). Four different actors are available for selection: Food companies, producers of fertilisers, consumers, and farmers.

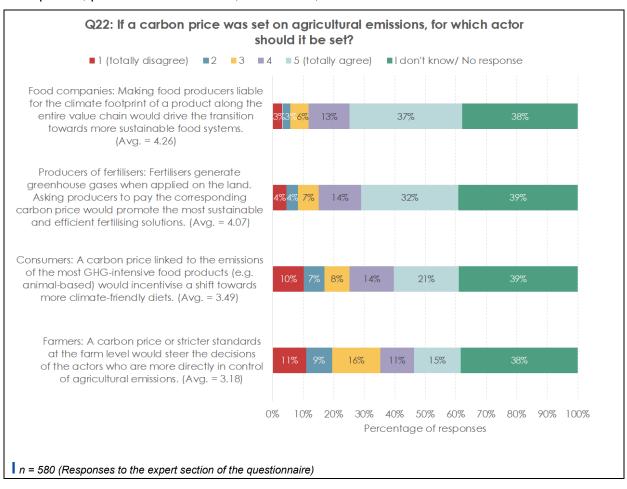


Figure 30 Responses to Q22 of the questionnaire

## **General findings**

Figure 30 highlights that, overall, respondents agree the most on a carbon price on agricultural emissions set at the level of food companies (Average = 4.26, 37% rating 5). The second most prioritised response is that there should be a carbon price on producers of fertilisers (Average = 4.07, 32% rating 5). Thus, the two most agreed on options are the ones where the carbon price would be set for industry actors and then passed-on along the value chain. The other two options, where consumers (Average = 3.49, 21% rating 5) or farmers are subject to a carbon price (Average = 3.18, 15% rating 5) are less favoured by the

respondents. High "I don't know/No response" shares of about 40% are observed. They are especially high among business associations and companies.

### Differences between stakeholder groups

Regarding variations among different stakeholder groups, the following results can be observed: The stakeholders from the group of civil society organisations, EU citizens as well as from SMEs and large business associations/companies depict the same preferences as the overall trend. For civil society organisations the agreement to place the carbon price on food companies or producers of fertilizers is most pronounced (for food companies: Average = 4.62, 58% ranking 5; for producers of fertilizers: Average = 4.30, 49% ranking 5).

For public authorities, food companies are the most preferred actor for a carbon price (Average: 4.08, 28% ranking 5), followed by consumers (Average: 3.62, 17% ranking 5), producers of fertilisers (Average: 3.54, 17% ranking 5) and the least preferred actor for a carbon price are farmers (Average: 3.23, 22% ranking 5).

Academic/research institutions have an overall high level of agreement with all response items but also exhibit a preference for putting a carbon price on producers of fertilisers (Average: 4.50, 37% ranking 5) or food companies (Average: 4.46, 42% ranking 5).

In comparison with Q21, which asks whether a carbon price would be a suitable means of reducing emissions in the agricultural sector, there is greater agreement among the stakeholder groups on the subordinate question of where in the value chain such a carbon price signal could be introduced. This is particularly true of civil society stakeholders and stakeholders from the economic sector.

# 3.3.3. The role of carbon removals

This part of the expert section investigates stakeholders' opinion on the role of carbon removals to limit the temperature increase to 1.5°C. After a short introduction on nature-based solutions as well as on industrial ones that capture atmospheric carbon, two questions are presented. The first question deals with the **general role of carbon removals** whereas the second one looks more closely on the **relative contribution of nature-based removals and industrial removals** as potential parts of the solution to achieve EU's climate target.

#### 3.3.3.1. Q23: General role of carbon removals

For Q23, participants are requested to select one out of two options. They can either advocate that carbon removals should play a very limited role as all GHG emissions can be brought close to zero by 2050, including in sectors that are currently considered as difficult to fully abate (like agriculture, aviation or some industrial processes). Or respondents can advocate for an important role of carbon removals because this approach can compensate remaining unabated GHG emissions in different sectors, including agriculture, industrial processes, while driving the growth of the EU clean industry and providing co-benefits for other environmental objectives.

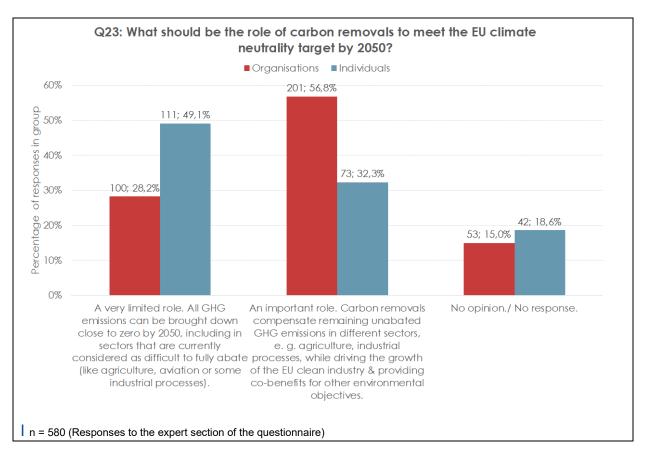


Figure 31 Responses to Q23 of the questionnaire

# **General findings**

As depicted in Figure 31, there is no clear opinion on the role of carbon removals. On the one side, almost half of the respondents indicate that carbon removals should play an important role to meet climate neutrality by 2050 (Individuals: 73, 32%; Organisations: 201, 57%; Total: 274, 47%). On the other side, 36% of respondents (211 participants in total) argue for a very limited role of carbon removals to meet climate neutrality by 2050 (Individuals: 111, 49%; Organisations: 100, 28%). 16% of respondents (95 participants in total) indicate to have no opinion on this topic or did not provide a response (Individuals: 42, 19%; Organisations: 53, 15%).

Hence, there seems to exist a general disagreement among the respondents when it comes to the role of carbon removals with a slight preference for a more important role to meet climate neutrality by 2050. In this context, respondents representing organisations seem to favour the important role of carbon removals whereas respondents in the group of private individuals seem to favour the limited role.

#### Differences between stakeholder groups

Analysing the responses from different stakeholder groups, the following distinctions are observed: civil society organisations (52, 62%) together with EU citizens (110, 50%), are the stakeholders who prefer to limit the role of carbon removals to meet the climate neutrality target by 2050.

In contrast, academic/research institutions (10, 53%), public authorities (11, 61%) and SMEs (60,63%) as well as large business associations/companies (94, 73%) have a higher share of responses in favour of an important role of carbon removals. The percentage of respondents who did not provide an opinion or response is around 13% to 20% for all stakeholder groups.

Thus, the observed disagreement between the respondents seems to arise particularly due to the different opinions from the groups of EU citizens and the organised civil society on the one hand, and other stakeholder groups from the academic, economic, and public sector on the other hand.

#### 3.3.3.2. Q24: Relative contribution of nature-based removals and industrial removals

After exploring stakeholders' attitude on the general role of carbon removals, in question Q24, respondents indicate their attitude regarding the relative role of nature-based compared to industrial removals. Three statements are provided, ranking from a stronger reliance on nature-based removals via a balanced approach between nature-based and industrial removals through to a stronger reliance on industrial removals.

### General findings

Figure 32 shows that, overall, 31% of the respondents (180 participants in total) believe that there should be a stronger reliance on the LULUCF sink, since they are convinced that the large-scale deployment of industrial removals is uncertain (Individuals: 106, 47%; Organisations: 74, 21%).

Closely followed, 27% of the respondents (156 participants in total) indicate that there should be a balance between the LULUCF sink and industrial removals (Individuals: 47, 21%; Organisations: 109, 31%).

Fewer respondents argue for a stronger reliance on industrial removals, since the evolution of the LULUCF sink is uncertain (Individuals: 21, 9%; Organisations: 87, 25%, Total: 108, 19%). At the same time, 23% of the respondents (136 participants in total) refrain from indicating an opinion or response (Individuals: 52, 23%; Organisations: 84, 24%).

Thus, it seems that a slight preference for the reliance on the LULUCF sink and a balanced approach exists, rather than a primary focus on industrial removals.

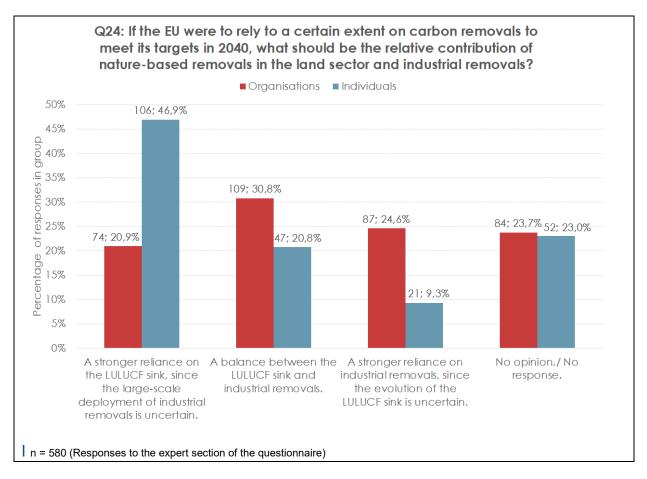


Figure 32 Responses to Q24 of the questionnaire

## Differences between stakeholder groups

When exploring the answers of the different stakeholder groups, the following differences occur: Both, civil society organisations (50, 60%) and EU citizens (105, 48%) are the stakeholders with the highest share on support for a stronger reliance on the LULUCF sink. This pattern aligns with question Q23, where these two groups also scored highest for a limited role of carbon removals.

In contrast, academic/research institutions (9, 47%), large business associations/companies (53, 41%) as well as public authorities (6, 33%) show the highest support for a balanced approach between the LULUCF sink and industrial removals. Only the respondents from the group of SMEs display a preference for a stronger reliance on industrial removals, since the evolution of the LULUCF sink is seen as uncertain (32, 33%).

Overall, the share of participants with no opinion or no response is particularly pronounced for respondents from SMEs (29, 30%), public authorities (6, 33%), large business associations/companies (31, 24%) and EU citizens (51, 23%). This may assign a unique role to SMEs, implying that this group may potentially benefit the most from industrial removals at the economic level, considering that SMEs are especially suited to offer such solutions.

Thus, there seems to exist a pronounced difference between EU citizens and civil society organisations on the one hand and SMEs on the other hand. Half of the stakeholder groups (academic/research institutions, large business associations/companies, public authorities) agree on a more balanced approach when it comes to the role of nature-based and industrial carbon removals.

# 3.3.4. Technologies

This part of the expert section evolves around technologies and their roe in EU's transition towards climate neutrality. On the on de hand, this section investigates **the barriers to carbon capture and storage technologies** and the **prioritisation of several deployment options.** On the other hand, the **most relevant energy technologies** are evaluated as well as the **opportunities and challenges** regarding these technologies and their deployment.

# 3.3.4.1. Q25: Barriers to carbon capture and storage technologies

On the barriers to the use of CCS, its cost is overall ranked as the main one. The next most important barriers are economic signals and availability of storage capacity, but not much different to the assessment of technological maturity and regulatory framework. Public acceptance is rated as the least important barrier. The average share on "I don't know/No response" is 25%.

The four barriers i) costs of CCS, ii) price signals, iii) CO<sub>2</sub> storage availability and iv) the maturity of the technology are all related to each other and all are ranked as important indicating that the economic case for using the technology is not considering to be strong.

There are significant differences across the stakeholder groups on what they rank as the most important barriers as depicted in Figure 33.

- Academic/research institutions rank economic signals as the most important barrier followed by the regulatory framework and the technology cost. They score technological maturity, public acceptance and CO<sub>2</sub> storage capacity as the least important barriers (all three have similar scoring of importance).
- Business associations and companies representing SMEs rank cost of CCS highest followed by economic signals and regulatory framework. They score public acceptance as the least important barrier.
- Business associations and companies representing large companies rank cost of CCS highest followed by the regulatory framework. They score technological maturity as the least important barrier.
- Civil society organisations rank economic signals, technological maturity and cost of CCS has almost equally high in importance. They score regulatory framework as the least important barrier.
- EU citizens rank cost of CCS and technological maturity as the most important barriers. They rank public acceptance as the least important barrier.
- Public authorities rank cost of CCS as the highest and then economic signals, technological maturity and storage available as second (similar scoring of importance). They score public acceptances as the least important barrier.

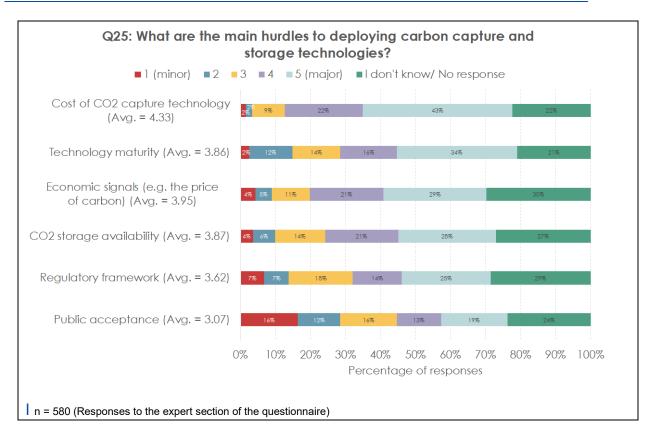


Figure 33 Responses to Q25 of the questionnaire

#### 3.3.4.2. Q26: Carbon capture and use or storage

Capture of  $CO_2$  from non-energy related industrial process is scored as the most favoured deployment of CCS. Capture of  $CO_2$  from combustion of biomass is second most favoured followed by the coproduction of clean gas and biochar and followed by capture of  $CO_2$  from combustion of fossil fuels. In relation to the storage technologies, permanent storage is slightly favoured compared to uses of the captured  $CO_2$  in fuels and products. On average, 32% of the respondents have not scored the listed technological options.

Figure 34 shows that there is some difference between the stakeholder groups:

- Academic/research institutions score capture from non-energy industrial process highest and they favour permanent storage. Capture of CO<sub>2</sub> from combustion of fossil fuels is favoured the least.
- Business association and companies (SMEs) consider capture of CO<sub>2</sub> from the combustion of biomass, together with capture from non-energy related industrial process as the CCS deployment options that should have the highest priority. Permanent storage is favoured more than use of captured CO<sub>2</sub>.
- Business associations and large companies consider the capture of CO<sub>2</sub> from energy-related industrial processes as the CCS deployment option to be prioritised. This stakeholder group have a slightly higher preference towards permanent storage over the use of captured CO<sub>2</sub> in fuels and products to replace virgin fossil carbon. This stakeholder group (both SMEs and large companies included) generally give a higher priority to all technologies compared to the average answers.
- Civil society organizations give the highest priority to the capture of CO<sub>2</sub> from nonenergy industrial process. Then they have capture of CO<sub>2</sub> from the air as the

technology with second highest priority. No other stakeholder group score this technology so high. In general, they have lower scoring of all technologies compared to the average answers.

- EU citizens also have given the highest priority to capture of CO<sub>2</sub> from non-energy related industrial processes. Then, they give almost equal scoring of all the other technologies.
- Public authorities have given the highest priority to capture of CO<sub>2</sub> from non-energy related industrial processes and to permanent storage of the captured CO<sub>2</sub>. Then high priorities are given to use of the captured CO<sub>2</sub> and to coproduction of clean gas and biochar. Overall, this stakeholder group has given similar levels of priority to the different deployment technologies.

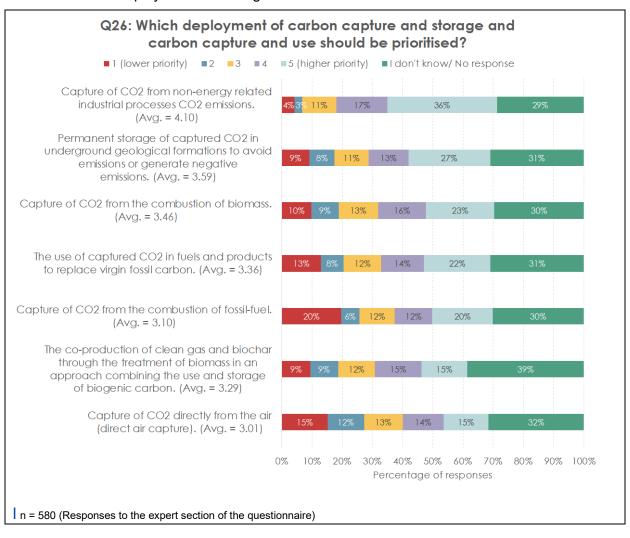


Figure 34 Responses to Q26 of the questionnaire

# 3.3.4.3. Q27a: Energy technologies (closed question)

As depicted in Figure 35, the respondents consider that the most relevant technologies are wind, solar and hydropower. Then highly relevant are also energy efficiency, storage technologies, demand management and other forms of renewable energy. Less relevant are nuclear power, and the various forms of biofuels. Finally, fossil fuel with CCS is considered the least relevant technology.

Most of the stakeholder groups have answered like the average answers presented above.

Business and companies (including both SMEs and large companies) have scored the relevance differently. They also have the renewable energy wind, solar and hydro as the technologies with highest relevance, but then all other technologies are considered more or less equally relevant. Only fossil fuel with CCS is considered less relevant. Furthermore, large companies have also given the highest score to hydrogen ant its derivatives among the stakeholders, having it as the third most relevant technology.

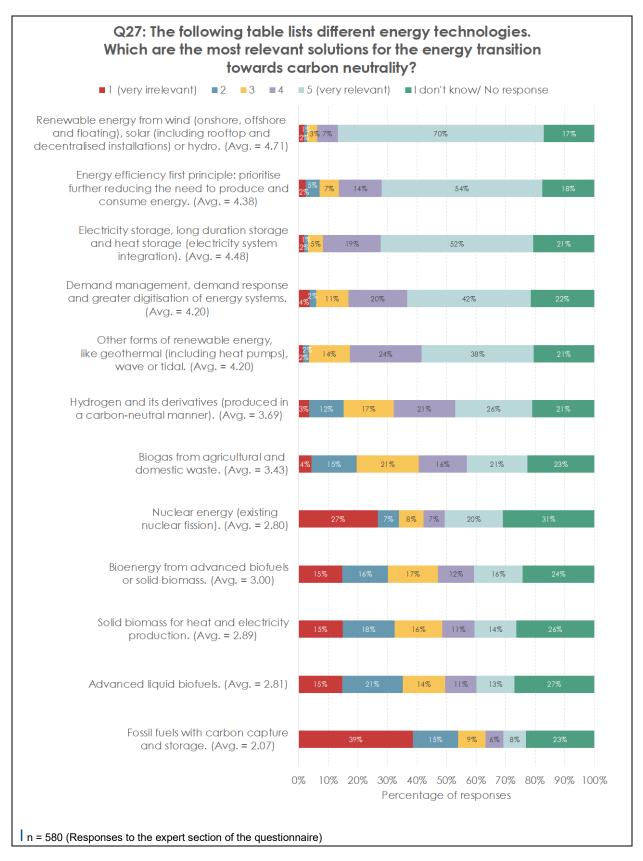


Figure 35 Responses to Q27a of the questionnaire

# 3.3.4.4. Q 27b: Energy technologies (open question)

In total, 156 valid open-text responses were submitted to Q27b. Most of the responses were mentioning technologies (e.g., Renewable, Hydrogen and Nuclear) that were already included in Q27a.

- Renewable energy (48 out of 156 responses, 31%) sources such as wind, solar, biomass, geothermal, and hydropower were frequently cited as key solutions for achieving carbon neutrality. These sources were recognized for their potential to generate clean energy and contribute to reducing greenhouse gas emissions.
- Hydrogen (19 out of 156 responses, 12%) produced from renewable sources emerged as an important solution. Respondents highlighted the importance of basing hydrogen production on renewable energy, emphasizing its potential as a clean and sustainable energy carrier.
- Nuclear power (15 out of 156 responses, 10%) including both fusion and fission technologies, emerged as a prominent solution. There were mentions of fourthgeneration nuclear fission and small modular reactors (SMRs) as potential avenues for transitioning to carbon neutrality.

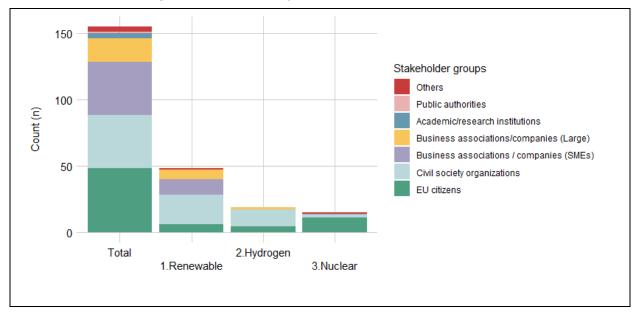


Figure 36 Number of responses to Q27b grouped by identified themes and stakeholder groups

Other specific technology mentioned in the responses was **Bioenergy with Carbon Capture** and Storage (BECCS) (4 responses).

Even though, not technology solutions, the concept of a market economy and the law of supply and demand were frequently mentioned in the responses. As well as energy efficiency and consumption reduction were emphasized as crucial strategies for the energy transition. Suggestions included promoting a culture of energy and product consumption reduction, as well as focusing on insulation, reuse, and recycling to minimize energy demand.

Figure 36 illustrates the survey responses to the Q27b question, displaying the total stakeholder responses (156) in the first column. The subsequent columns present the identified themes grouped by stakeholder categories.

# 3.3.4.5. Q28: Opportunities and challenges with regard to energy technologies and their development

Full question: What are the biggest opportunities in the energy sector and in the sectors of the economy consuming energy (residential, industry, transport), including for the wider economy and security of supply? What are the biggest challenges related to the future development of a low-carbon energy sector, including as regards to public acceptance or the availability of land and natural resources?

In total, 269 valid open-text responses were submitted to Q28. This question can be divided into two parts, responses addressing the opportunities and responses addressing the challenges. Please note that one response can be included in multiple themes.

## **Opportunities**

Based on a thematic analysis of the survey responses to Q22 questions, the top 5 identified opportunities regarding energy technologies and their development are:

- Renewable energy deployment as opportunity was mentioned in 112 out of 269 responses, 42%. The opportunity lies in accelerating the deployment of renewable energy sources such as solar and wind power. This can lead to a significant reduction in greenhouse gas emissions, enhanced energy efficiency, and the creation of a sustainable and clean energy system.
- Energy efficiency and energy savings as opportunity appeared in 59 out of 269 responses, 22%. Emphasizing energy efficiency and implementing energy-saving measures can result in reduced energy consumption and lower energy bills. By optimizing energy use in buildings, transportation, and industrial processes, we can achieve more sustainable and cost-effective energy systems.
- Technological advancements and innovation as opportunity was mentioned in 39 out of 269 responses, 15%. The opportunity lies in fostering technological advancements and promoting innovation in the energy sector. This includes the development of new renewable energy technologies, energy storage solutions, grid optimization systems, and digitalization, which can drive the transformation towards a low-carbon energy future.
- Clean air and reduced dependence on fossil fuels as opportunity was mentioned in 33 out of 269 responses, 12%. Transitioning to clean energy sources presents an opportunity to improve air quality by reducing pollutants emitted from fossil fuel combustion. It also offers the chance to decrease reliance on finite fossil fuel resources and enhance energy security.
- **Job creation and economic growth** as opportunity was present in 21 out of 269 responses, 8%. Investing in clean energy technologies and industries can generate new employment opportunities and stimulate economic growth. This includes jobs in renewable energy installation, manufacturing, research and development, and related sectors, contributing to a green and resilient economy.

#### Challenges

Based on a thematic analysis of the survey responses to Q22 questions, the top five identified challenges regarding energy technologies and their development are:

• Lack of policy implementation and ambition as challenge was mentioned in 107 out of 266 responses, 40%: A key challenge is the inadequate implementation and lack of ambition in policies related to the energy transition. Without robust policy

frameworks and ambitious targets, it becomes difficult to drive the necessary changes and achieve the desired outcomes.

- Cost and affordability of clean energy as challenge appeared in 51 out of 266 responses, 19%. The challenge lies in making clean energy sources more affordable and cost-competitive compared to traditional fossil fuel-based alternatives. High upfront costs limited financial incentives, and market dynamics can hinder the widespread adoption of clean energy technologies.
- Access to financing and investments as challenge appeared in 31 out of 266 responses, 12%. Securing sufficient financing and investments for clean energy projects is a critical challenge. The availability of affordable capital, access to funding mechanisms, and mitigating investment risks are crucial factors in scaling up clean energy deployment and achieving a sustainable energy transition.
- **Infrastructure requirements** as challenge was mentioned in 27 out of 266 responses, 10%: The transition to a low-carbon energy sector necessitates significant infrastructure development, including renewable energy generation facilities, grid expansion, and energy storage systems. Addressing the infrastructure requirements poses challenges in terms of planning, financing, and timely implementation.
- Public acceptance and engagement as challenge appeared in 18 out of 266 responses, 7%. The challenge involves gaining public acceptance and engagement in the energy transition. This includes addressing concerns, fostering awareness, and involving communities in decision-making processes to ensure a smooth and inclusive transition.

Figure 37 illustrates the survey responses to the Q28b question, displaying the total stakeholder responses (266) in the first column. The subsequent columns present the identified themes for opportunities and challenges grouped by stakeholder categories.

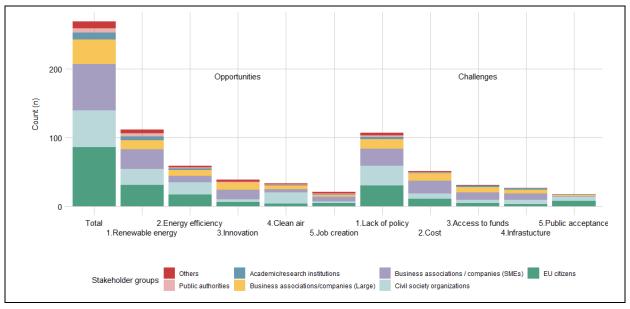


Figure 37 Number of responses to Q28 grouped by opportunities, challenges, identified themes and stakeholder groups

## 3.3.4.6. Q29: Other options to fight climate change to be considered

The respondents overall rate nature-based options the highest. It means afforestation, peatland restoration and agroforestry are the highest rated options. Then, other nature-based

options such as coastal blue carbon and soil carbon sequestration are rated high followed by innovative solutions through digitalisation and innovative mobility technologies. The least rated option is solar radiation modification. Respondents that have not replied or replied I don't know are around 39%.

The is some difference across stakeholder groups:

- Academia/research institutions consider all options more or less equally relevant except solar radiation modification and nuclear fusion energy.
- Business associations and companies also rate most of the options as relevant. Again, solar radiation is considered less relevant compared to the other options followed by option on plant-based meat substitutes. This stakeholder group have a high share of no reply or I don't know replies (for most options above 50% of the respondents in this category.)
- Civil society organisations rate the nature-based options such as peatland restauration, afforestation, agroforestry and coastal blue carbon as most relevant options. The least relevant include solar radiation modification, ocean-based carbon storage and nuclear fusion. The are rated as irrelevant or very irrelevant.
- EU citizens also rate the nature-based options as the most relevant options followed by the innovative techniques (digitalisation in certain sectors and mobility). They also rate solar radiation modification as irrelevant. The other options are scored between irrelevant and relevant.

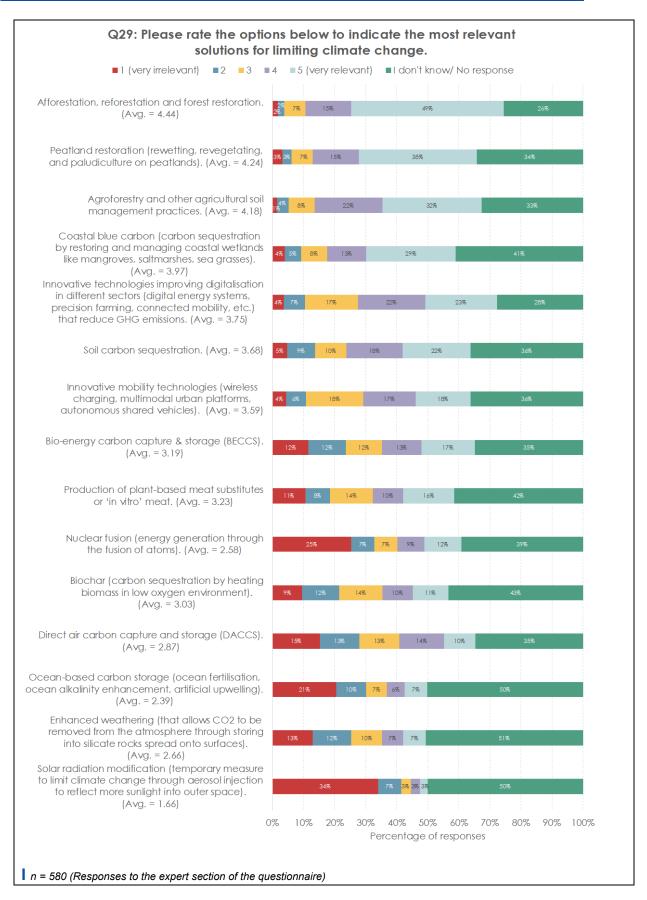


Figure 38 Responses to Q29 of the questionnaire

### 3.3.4.7. Q30: Open question on the future role of other innovative options

Full question: Which other innovative technologies could be used to reduce emissions, in particular in hard-to-abate industrial sectors or to compensate for hard-to-capture emissions?

In total, 167 valid open-text responses were submitted to Q30. Please note that one response can be included in multiple themes. Based on a thematic analysis of the survey responses to Q30 questions, the top three identified themes regarding future role of other innovative options:

- Ecodesign of products and processes (18 out of 167 responses, 11%) involves the integration of sustainability principles into the design, manufacturing, and life cycle of products. The responses emphasized the significance of considering environmental impacts throughout the entire product lifecycle, including material sourcing, production methods, and end-of-life considerations. Ecodesign was proposed as an innovative approach to reduce emissions by optimizing resource efficiency, minimizing waste, and promoting sustainable manufacturing practices.
- Nature-based solutions (11 out of 167 responses, 7%) refer to approaches that
  utilize and restore natural ecosystems to address climate change and environmental
  challenges. The responses highlighted the importance of nature-based solutions in
  tackling emissions reduction, emphasizing concepts such as biodiversity
  conservation, ecosystem restoration, and green infrastructure. These solutions
  leverage the power of ecosystems to sequester carbon, enhance resilience, and
  provide co-benefits such as improved biodiversity and water management.
- Carbon capture and utilization (CCU) technologies (9 out of 167 responses, 5%) aim to capture CO2 emissions from industrial processes and utilize them for various purposes, such as producing valuable products or storing the captured carbon. The responses emphasized the importance of CCU in offsetting hard-to-capture/abate emissions and reducing the overall carbon footprint. The potential of CCU in sectors like maritime and cement production was highlighted, indicating its relevance in hard-to-abate industrial sectors.

Note that most of the question were not directly addressing innovation options.

Figure 39 illustrates the survey responses to the Q30 question, displaying the total stakeholder responses (167) in the first column. The subsequent columns present the identified themes grouped by stakeholder categories.

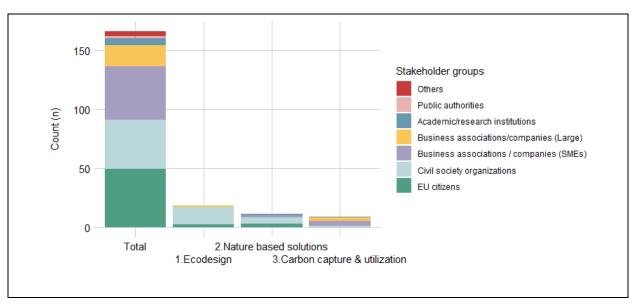


Figure 39 Number of responses to Q30 grouped by identified themes and stakeholder groups

## 3.3.5. Engagement and social impacts

This part of the expert section approaches several aspects concerning the involvement of different actors as well as the social and sectorial impacts of climate change. Specifically, the survey asks about the local and regional implementation of the European Green Deal as well as about the social impacts of climate change policies and sectoral impacts of the transition.

#### 3.3.5.1. Q31: Local and regional implementation of the European Green Deal

Figure 40 depicts stakeholders' opinion on the involvement of local, regional and private actors in the green transition: One third of the individuals that have replied, states that it is absolutely not the case and one third that it is not the case, that they are sufficiently involved in the support of the green transition. Only around 10% of the individuals that have replied find it to be the case. For organisations, there is slightly more positive opinion. Still one third find it not to be the case and only 10% that it is the case.

There are some differences between the different stakeholder groups. Among organisations, academia/research institution and civil society organisations are most critical and here around 40% says that local, regional and private actors have absolutely not been sufficiently involved and around 28% that it is not the case. In total, these stakeholders plus the EU citizens, vary between 62-68% in believing that local, regional and private sector actors have not been sufficiently involved. The opposite opinion, in that these groups have been sufficiently involved, vary between 0% and 10% between academic institutions, civil society and EU citizens. Among Business associations and company respondents, circa 25% that finds the involvement to have been not sufficient, while 13% find it to be sufficient. Here 36% has not provided an opinion. Public authority respondents are the most positive. Here 50% of the respondents have the neutral opinion, while around 17% of the respondents find that involvement has not been sufficient and the same share that it has been sufficient.

Opinion on national energy and climate plans (NECPs): One third of the individuals have not replied or replied I don't know. This may reflect less knowledge about the plans, though this cannot be concluded based on the answers. There is about 26% of respondents that find the NECPs not a good source to inform the 2040 policy framework, while about 23% consider it

to be good source. For organisations, the opinion is more positive. 27% finds the NECPs a good source, 20% are more neutral on 22% do not find the NECPs a good source. There is also for this category about one third with no opinion.

The pattern of differences among the organisations that have replied is similar to the subquestion on involvement.

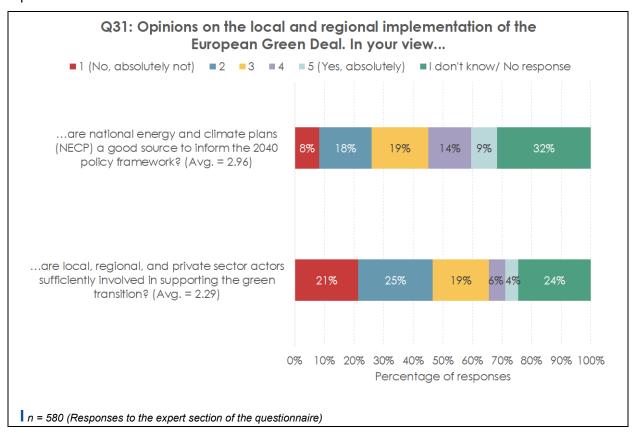


Figure 40 Responses to Q31 of the questionnaire

### 3.3.5.2. Q32: Social impacts of climate change policies

This question lists four statements about requirements for a just transition to green economy. Overall, all stakeholder groups agree with the five statements and there are only minor differences in how they rate or score each statement. On the statement on ensuring intergenerational fairness 55% of all respondents that said that they totally agree. On the statement about the need for supporting low- and middle-income households financially, 50% totally agree. Then, 41% totally agree with the last two statements on the need to support vulnerable individuals and more generally that strengthening of carbon pricing may lead to a need for mitigation the impacts on the citizens.

There are limited differences across the stakeholder groups. The main difference is that for business associations and companies, about half of the respondents in these categories have either not provided a response or replied I don't know.

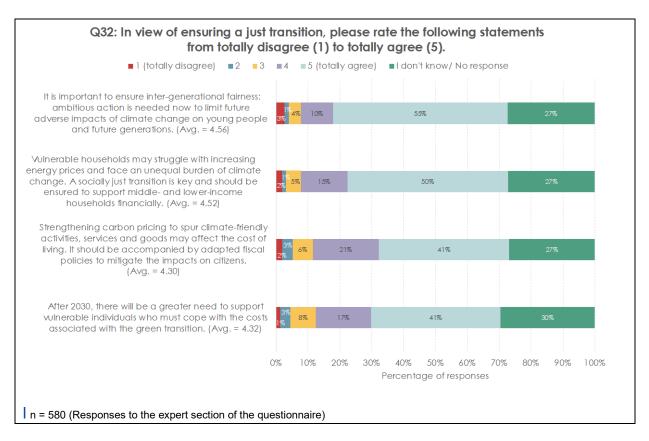


Figure 41 Responses to Q32 of the questionnaire

### 3.3.5.3. Q33: Sectoral impacts of the transition

The question includes six statements on sectoral impacts of the green transition. As depicted in Figure 42 round 27% of all respondents totally agrees with all statements, while almost 40% of the respondents have not provided a scoring of their agreement. The statement on the need for EU action to reskill and upskill the workforce is totally agreed by 46% of all respondents. The statement on a larger impact on micro-companies is the stamen where less totally agree – here it is around 15%.

There are no major differences across stakeholder groups.

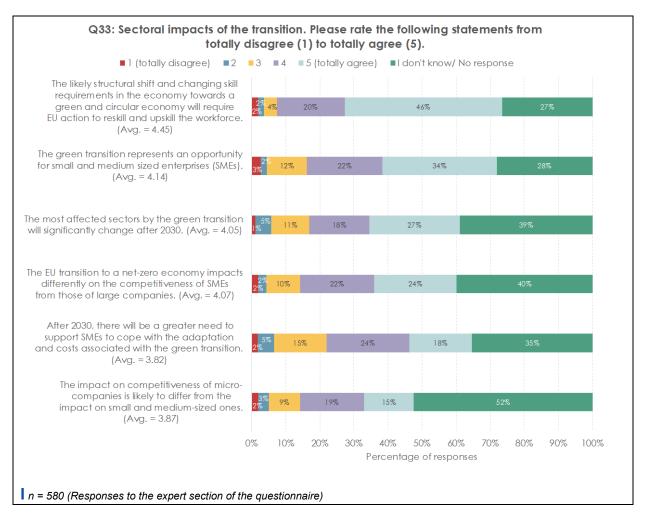


Figure 42 Responses to Q33 of the questionnaire

### 3.3.5.4. Q34: Open Question on affected sectors after 2030

Full question: If you believe the sectors affected by the green transition will change after 2030, which sectors do you believe will be affected by then and how?

In total, 151 valid open-text responses were submitted to Q34. Please note that one response can be included in multiple themes. Based on a thematic analysis of the survey responses to Q34 questions, the top 3 identified sectors that will be affected by 2030 and how:

- The energy sector (58 out of 151 responses, 38%) is expected to undergo significant changes as part of the green transition. Respondents widely acknowledge the need to phase out fossil fuels, particularly coal and gas, and transition towards renewable energy sources. This shift will require substantial investment in clean energy technologies and infrastructure. The sector will face challenges in adapting to these new technologies and ensuring a reliable and sustainable energy supply. Rapid decarbonization is seen as crucial for mitigating climate change and achieving a greener energy system.
- The agriculture and food sector (28 out of 151 responses, 19%) is expected to be significantly impacted by the green transition. Respondents stress the need for sustainable farming practices and a shift towards plant-based agriculture. This includes reducing the intensity of animal farming and promoting agroecology to

minimize environmental impacts. Climate resilience, biodiversity conservation, and food security are also crucial considerations for the sector. Transitioning to more sustainable and resilient food systems will require changes in production methods, land management practices, and consumer behaviours.

• The transport sector (11 out of 151 responses, 7%) is expected to experience transformative effects from the green transition. Respondents recognize the urgency of reducing emissions and promoting sustainable mobility. The transition to electric vehicles (EVs) and alternative fuels is seen as essential for reducing reliance on internal combustion engine vehicles. Furthermore, improving public transportation, expanding rail systems, and encouraging car-sharing initiatives are highlighted as key strategies. To achieve greener transportation, there is an emphasis on reducing private car usage and promoting active transportation modes like walking and cycling.

Figure 43 illustrates the survey responses to the Q34b question, displaying the total stakeholder responses (151) in the first column. The subsequent columns present the identified themes grouped by stakeholder categories.

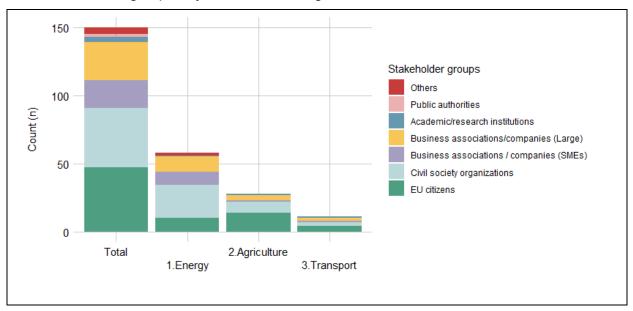


Figure 43 Number of responses to Q34 grouped by identified themes and stakeholder groups

## 3.3.6. Adapting to climate change

The last part of the expert section involved one question on the right scope of regulation of EU's adaptation needs, especially to safeguard and ensure resilience of the economic sectors that are of high relevance for mitigation efforts.

### 3.3.6.1. Q35: EU policy ambition on climate resilience of mitigation efforts

As Figure 44 shows, on average, 29% of all respondents believe the EU should draft new legislation. Around 18% support that EU should do more to promote climate resilience through soft measures and circa 20% responded that EU should make specific provisions within exiting legislation. Only 5% believe that current EU legislation is sufficient. Finally, 28% has either replied I don't know or not replied to this question.

There are several differences across stakeholder groups. Academia/research institutions and EU citizens have replied that they think the EU should draft new legislation – here the share is around 40-50% of the respondents. For business associations and companies only a little more than 10% favour new legislation while 25% answers that EU should promote climate

resilience of the mitigation effort through soft measures. For public authorities the share in favour of soft measures is 28%, while only 11% reply that EU should draft new legislation.

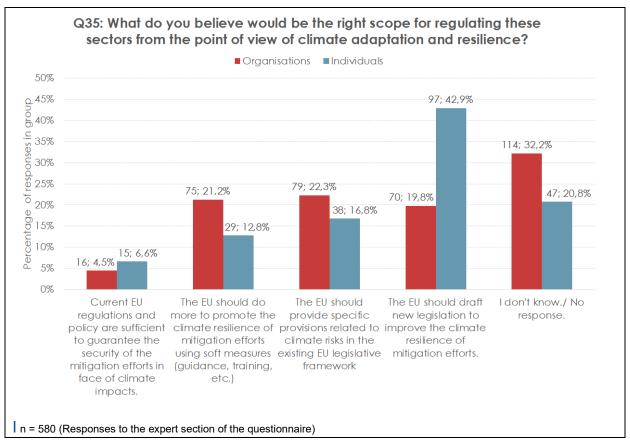


Figure 44 Responses to Q35 of the questionnaire

# 3.4. Results of the identified campaign

Among the responses to the public consultation, one campaign is identified. In total, 23 responses of private individuals from Slovakia are classified as part of a campaign. The identification of the campaign is mainly based on the answers provided in the open-text question Q11b, where respondents are given the opportunity to provide an open-text response to the question which other important changes the expect for peoples' daily lives (see Section 3.2.3.3) The 23 responses provided coherent open-text narratives, emphasizing the importance of politicians avoiding CO<sub>2</sub>-emitting means of transportation. Additional supporting reasons to classify the responses as a campaign include a high level of agreement observed in the closed questions, that the responses were submitted during the final days of the consultation period, and that all originated from the specific group of EU citizen from Slovakia.

All campaign responses only submit replies to the general section of the questionnaire. Therefore, the expert section is not affected by the identified campaign. To avoid possible bias in the results, the campaign responses are isolated and presented separately. This approach is in line with the requirements of the Better Regulation Toolbox #54.

An insight into the consolidated views of the campaign is given in the following:

• (Q1) Regarding the overall opinion on the EU's climate ambition for 2040, most of the campaign response (19, 83%) emphasize that the EU should make its ambition

depend on other countries' climate ambition. Few individuals in this campaign (4, 17%) advocates for a slower transition than the current pace.

- (Q2) Almost all respondents did not provide a preferred net emission reduction target for 2040 (22, 96%).
- (Q3) Almost all replies indicated that it is better to have one target for reducing GHG emissions, a target for nature-based carbon removals and a target for industrial removals with permanent storage (21, 91%).
- (Q6) The respondents in the campaign unanimously disagreed with the idea that gender aspects should be considered in the transition to climate neutrality (23, 100%).
- (Q11b) In response to the open question about what other important changes can be expected for people's daily lives, respondents give coherent narratives and stressed the importance of politicians avoiding CO<sub>2</sub>-emitting modes of transport (identifying attribute for the campaign).

Overall, the answers in the campaign can be characterised as expressing climate-sceptical beliefs and attitudes. In the other questions in the general section, for example, they show a significantly lower willingness to act on an individual level (e.g. to accept renewable energy infrastructure or to buy climate-friendly products). In addition, respondents expressed the expectation that climate change would have minimal impact on their daily lives, as they did not expect any dangerous effects from more frequent climate-related hazards. Nevertheless, they strongly agreed with aspects of a socially just transition by supporting the vulnerable in society to have access to sustainable and climate-friendly products and services.

# 4. Analysis of the public consultation position papers

#### Key messages of the public consultation position paper analysis:

- Overall, a strong support to the EC was expressed regarding the principle of setting the GHG target for 2040. There were however fewer responses regarding the overall level of ambition to be set, with a large majority of opinions advocating for an acceleration (between -80% target and net zero). No paper called for a slower transition, but some called for a careful feasibility analysis.
- A higher climate ambition would bring economic, environmental and social benefits. It
  would strengthen the EU leadership at the global scale, and foster innovation.
- To achieve the 2040 target, the EU will face multiple challenges, from a broad range of perspectives: technological, financial, social, political or regulatory. If properly addressed, these challenges could however become enabling factors for the transition.
- Among the sectors that should further reduce their GHG emissions, transport, agriculture and forestry, buildings and industry were particularly highlighted.
- The ETS plays a key role for mitigating EU emissions, and will continue to do so in the future. It however needs to evolve to effectively support the 2040 target. Challenges to be addressed include, among others, the extension of the sectoral coverage, the articulation with carbon removals, and the international articulation.
- Opposing views exist on the role of CBAM, with stakeholders considering it will become a key instrument and others that its efficiency is still unsure. Consequently, extension of CBAM is also a controversial issue.
- Views on the ESR are scarcer, but opinions expressed indicated a potential for adjustment, notably in articulation with ETS.
- To tackle agricultural emissions, several options were underlined, ranging from sustainable farming to dietary changes or the role of agriculture as a carbon removal.
- Carbon removals are considered instrumental to reach climate neutrality, but should not deter GHG emission reduction at source.
- Some support exists for the uptake of carbon capture and storage technologies.
   Views are mixed regarding the type of technologies. Concerns are expressed on the economic viability, the scale-up potential or the energy consumption.
- Among the barriers associated to CCUS, regulation, economic and technical barriers are the most commonly identified.
- In terms of technologies, an increased share of renewable energies, better energy efficiency and CCUS are identified as the most relevant solutions. A combination of these technologies will be needed to achieve the target. The development of energy technologies was most closely associated with increased opportunities for sustainability, economic development and innovation. Economic, infrastructure and regulatory aspects are the most significant barriers.
- The importance of a fair transition was clearly underlined.

NB. Position papers are less consistent or comprehensive than surveys and by their nature focus on what the submitter believed to be a priority. In addition, respondent formulations to

some extent need to be interpreted into common terminology and supporting/opposing/neutral views. Therefore, counts of respondents in this section should be treated with caution. The survey provides a more systematic reflection of views. These results cannot be considered statistically significant given the limited number of papers providing opinions of each topic. However, with regard to the organisation's influence, these opinions should nevertheless be considered.

# 4.1. Overview of position papers selected and status of analysis

A total of 237 position papers were received from the public consultation, and 146 through the call for evidence (63 were submitted to both). In addition, a couple of additional papers were identified through desk-research. Based on a preliminary review and a selection agreed with DG CLIMA (removal of duplicates, relevance, type of stakeholder, previous contribution to IIA), 120 papers were thoroughly analysed.

42 papers, representing more than a third of the papers originated from business associations, 17 papers were analysed from public authorities (14%),16 papers (13%) came from NGOs, and 13 papers from private enterprises from various sectors (11%, notably companies from the transport and energy sectors as well as the manufacturing industry). The remaining papers included positions from Academia (12, 10%), Environmental Organisations (8, 7%), Trade Unions (2, 2%), Consumer organisation (1, 1%) and others (9, 8%).

In terms of geographical distribution, a vast majority of the paper originated from EU Member States. In terms of Members, Belgium, with 53 papers (44%), Germany, with 19 papers (16%) and Finland and the Netherlands, with 7 each (6%) represent the major contributors. 7 papers (6%) originate from non-EU countries.

The sectoral coverage of the analysed papers is broad, with 44 papers originating from organisations working in all sectors and 24 organisations focusing on various sectors. For stakeholders involved in a single sector, the most frequently represented sector was the energy sector with 21 papers, followed by the manufacturing industry (12) and the transport sector (7). In addition, 7 positions from the sectors of land-use, land-use change and forestry were analysed, together with 3 positions from the finance sector, and 2 from the building sector.

In the following section, identified views from all stakeholder groups concerning multiple aspects related to the EU 2040 climate targets are presented. In general, because of the open nature of the position papers and the diversity of views presented it is difficult to draw any strong conclusions about responses from any stakeholder groups or a particular sector.

# 4.2. General stakeholder opinion on the 2040 target and associated opportunities, challenges and enabling factors

## 4.2.1.Level of ambition for 2040 target

Of the position papers, 103 (86%) touched on the general topic of target setting for 2040 and the associated impact assessment. Almost all contributions mentioned that they support the Commission's target setting process in principle. Notably 2 position papers submitted by public authorities say that in their view the target setting for 2040 should be postponed as it is still too uncertain to predict the impact of a 2040 target and that the implementation of measures to achieve the 2030 climate targets should remain the primary objective.

Regarding the level of ambition associated with the 2040 climate target, relatively fewer contributions provided specific statements. A total of 41 papers (34% of the total) analysed contained a specific statement on the level of ambition for the net emission reduction target for 2040. Most of the papers that included a specific statement (32) advocated for an acceleration of the transition (more than -80% target), four papers argued for an ambitious target without further specifying if this would involve an acceleration of the transition, and five argued for maintaining the current speed of the transition (75-80% target).

In the group arguing for an acceleration of the transition, 7 position papers, all from the stakeholder groups of environmental organisations and NGOs, called for a net zero target for 2040. Another 8 position papers argued for a target of -90% or more and 7 papers for a target of -80% or more. The remaining 10 position papers were not as specific, but some referred to the 1.5°C degrees target and/or the Paris Agreement, implying an ambitious interim target for 2040.

There are no position papers that explicitly called for a slower transition. However, many of the contributions contained statements calling on the Commission to undertake a critical review of the practical feasibility of an ambitious 2040 target. Aspects mentioned more frequently included an analysis of the enabling environment (e.g., financing, availability of renewable energy, development of energy infrastructure), impacts on competitiveness (carbon leakage), the impact on energy prices and the cost-effectiveness of a more ambitious target. Overall, these aspects can be summarised as deriving the 2040 target from the perspective of a realistic transition pathway for industry.

Other aspects mentioned about the target setting included that the reliance on a science-based approach and that not only the intermediate target but also the carbon budget approaches are of high relevance. Additionally, 1 public authority advocated for setting an additional interim target for 2035, which would be aligned with the five-year timeframe for Nationally Determined Contributions (NDCs).

## 4.2.2. Opportunities related to a higher climate ambition

57 papers (48% of the papers analysed) specifically expressed an opinion about the opportunities related to higher climate ambition.

22 of these submissions emphasized that a higher ambition towards climate neutrality would benefit EU's economic competitiveness and would give economic actors first-mover advantages on the global market. In this context, stakeholder generally stressed the economic benefits of an ambitious transition.

14 responses indicated that a higher climate ambition would help to create new jobs, particularly in the green sector. The same number of submissions emphasised that a more ambitious transition would improve EU's energy security and decrease the current dependency on imported energy.

Additionally, 8 stakeholders particularly felt that a higher climate ambition would reinforce EU leadership by delivering effective climate action as a role model on the global level. Another aspect that was specifically mentioned by 7 responses is that a higher ambition towards climate neutrality would enhance the development and deployment of innovations and technologies (including, for example, circular solutions).

Furthermore, 6 papers stressed that a higher climate ambition would give a clear signal that the EU economy embraces sustainable production and consumption models, including smart incentives and a higher degree of predictability for economic actors. 6 papers also mentioned that a higher climate ambition would help individuals and businesses lower their energy and climate bills.

3 submissions stressed that a higher ambition would improve our well-being. Moreover, the following economic, energy-related and social aspects were explicitly highlighted as opportunities by two responses each: help to decrease economic resource dependencies, enhance global cooperation, foster a fair and just global trade, support a faster energy transition, mitigate costs to societies who are likely to suffer from climate change, to significantly support countries of the Global South to enable mitigation, and simultaneously address the climate and the biodiversity crises.

On top of this, the following economic opportunities were mentioned by one stakeholder each: avoidance of high costs and/or high-risk technologies in pursuit of decarbonization, financial stability, enhancement of the EU's location advantage, kick-start of the hydrogen economy, and fostering of local food production and woodworking industry. Additional energy-related and social aspects also highlighted in one paper each included: support to decentralized renewable energy production, acceleration of coal phase out or the transition of the transport sector, support to local governments to achieve climate neutrality, implementation of long-term measures and improvement of the discussion on climate risks.

## 4.2.3. Challenges and enabling factors related to the climate target for

A total of 89 submission (74% of the papers analysed) expressed an opinion about the challenges and associated enabling factors regarding the EU climate ambition to 2040 and beyond. Overall, the submissions showed that the EU is facing multiple, technological, financial, social, and political challenges.

18 of these responses explicitly highlighted political and administrative challenges, such as regulative and administrative barriers, bureaucratic hurdles or unstable political commitment and leadership. Additionally, this challenge encompassed complex requirements, including the need for appropriate legal frameworks and adequate definitions regarding climate policies. Sufficient and effective (administrative) coordination and cooperation on different political and stakeholder levels, including the prevention of overburdened and understaffed political institutions, were also rated as a major challenge. Related to these political and administrative challenges, 4 responses anticipated that additional challenges may arise due to different interest on the national and EU level. Two stakeholders also explicitly mentioned the competitive geopolitical context as a crucial barrier for the EU to achieve the climate target for 2040.

13 submissions indicated that the climate transition will require a shift in investment flows, ensuring that resources are appropriately allocated to climate-friendly economic activities. In this regard, respondents considered that this required shift was critical for EU to maintain its economic competitiveness. In general, financial aspects were perceived as a crucial challenge: seven respondents felt particularly concerned about increasing costs and prices, evoked by the green transition; six responses emphasised that a lack of financial resources represented a significant hurdle, and five submissions specifically stressed that avoiding financial burdens on citizens, workers and industries depicted a great challenge.

Besides, regarding the role of technologies and energy supply, 13 responses indicated that the development and deployments of new technologies and solutions represent a crucial challenge in order to reach the 2040 climate targets. In this context, hydrogen power seems to be of high importance for the stakeholders. Furthermore, 9 submissions believed that a faster expansion of renewable energies is needed to reach EU's climate ambitions. four responses considered that an improvement in energy efficacy is necessary. At the same time, 7 opinions doubted on the role of new technologies and the possible acceleration of energy efficiency, e. g. the limitations of the deployment of carbon removals. The same scepticism was expressed regarding the allocation and availability of affordable green

electricity. A further 3 submissions perceived energy security as a major challenge. Hence, the technology and energy sectors were generally evaluated as challenging factors in the climate transition.

Moreover, 11 stakeholders emphasised that ensuring a fair transition poses a significant challenge that the EU must consider while striving for climate neutrality. In particular, the responses demanded that climate policies consider the needs of younger and following generations as well as countries of the Global South to achieve a fair and equitable distribution of global mitigation efforts (regarding the social costs of delayed or a lack of action). On top of this, the rights of workers were also stressed because a fair transition is only possible if workers are not subjected to exploitation.

8 stakeholders explicitly expressed concerns regarding the limited time horizon to keep the global temperature below 1.5°C, especially when considering the technical time frame of measures that go beyond 2030 or 2040.

When it comes to the role of the general public, 6 submissions found that public support is a critical challenge for climate ambition, particularly concerning behavioural and social change. On a related note, three stakeholders considered more awareness and education for citizens as crucial.

On the economic level, 3 submissions stressed that balancing between a free and a regulated market may be challenging in the context of the climate transition. Two responses considered the requirements of new economic models as a major hurdle, including the shift away from constant growth. Creating adequate incentives for business to become climate friendly was rated as a further challenge by two stakeholders.

An additional aspect that was mentioned by 4 stakeholders represented the challenge for hard-to-decarbonise sectors to reach climate neutrality, e. g. transport sector.

Monitoring and reporting on the evolution of GHG emissions and supporting small and medium enterprises are challenges that were highlighted by three stakeholder each. Furthermore, two submissions each stressed challenges related to the need for more research in the climate field as well as the establishment of a sustainable infrastructure in the transport sector as a requirement for a sustainable transition.

Challenges that are brought up by single submissions included: green washing, ocean protection, lack of level playing field, policies to scale up CCS, reducing energy demand, the skill gap, and the risk of new dependencies on resources and raw material as well as the support of vulnerable households who may struggle during the climate transition.

Next to these major challenges, 80 stakeholders explicitly emphasise enabling factors related to the climate target for 2040. In general, the submissions centred around political, financial, and technological aspects that, if approached adequately, can operate as enablers. There are significant overlaps between the identified challenges and enabling factors, suggesting a fine line between what withholds and what accelerates the EU's climate transition.

52 responses stress that political and administrative measures are powerful to promote the climate transitions. These submissions particularly highlight the positive effect of robust, holistic, and inclusive frameworks that support and incentivise sustainable decisions. Such frameworks and binding legislations will ensure long term predictability, stability, and transparency, which, in turn, are perceived as meaningful conditions that can operate as enabling factors. In this regard, stakeholders emphasize that such frameworks should also encourage the development of technologies and innovations, facilitating a streamlined process with less bureaucracy and faster deployment. The potential of collaborations at different political levels represents another political and administrative aspect that the responses explicitly name as critical enabling factor. In this context, some submissions argue

for EU-wide legislations and regulations whereas other responses demand more room for local decision-making. A strong political will and staple commitment are deemed essential driving forces to achieve the 2040 climate target. Furthermore, stakeholders acknowledge the importance of enhancing existing regulations like the EU ETS and CBAM for their full transformative potential.

Apart from the role of political and administrative action, 15 submissions point out to sophisticated investments and financial fundings as enabling factors in the climate transition. These factors contribute, again, to economic predictability and facilitate the deployment of necessary technologies, innovations, and transformations. The enabling dimension of new technologies and solutions is stressed in further 12 responses, including the role of digitalisation, hydrogen power, energy supply in general and research. The positive potential of innovations is explicitly highlighted in a further 7 submissions.

Regarding the energy sector, 5 stakeholders perceive the expansion of renewable energies a meaningful catalyst of the climate transition and 4 respondents believe that a further improvement in energy efficiency will help to reach the 2040 climate target.

Additionally, 3 submissions explicitly mention that monitoring and reporting of EU and national emissions are enabling factors related to the 2040 climate target. 2 responses highlight the potential of sufficient and skilled workforces as another crucial enabling factor.

The woodworking industry as well as forests and forest-based sectors are also seen as potential enabling forces by 3 stakeholders. 2 submissions also point out to carbon capture and storage as an enabling factor.

On top of this, the following enabling factors are highlighted by 1 submission each: establishing free markets where effective, focusing on effective carbon management (e. g. in the agriculture sector), combining behavioural and technological changes and promoting public support as well as targeting companies responsible for the climate crisis.

# 4.2.4.Linkage of an ambitious climate target to climate change

When it comes to the connection between climate change mitigation and climate change adaptation, and particularly how to regulate sectors essential for mitigation efforts but impacted by the effects of climate change (e.g., energy infrastructure, transport infrastructure, or land-use), only a small number of position papers, 6 out of 120, offer specific feedback.

Among these, one position paper advocates for the implementation of a Climate Adaptation Law that should be guided by nature-positive principles, prioritizing people and equity, and guided by investing in future capacity to enhance climate resilience within the EU.

Additionally, 2 other papers emphasize the significance of joint planning for both climate change mitigation and adaptation to identify co-benefits and trade-offs between these measures. Another paper suggests implementing provisions within the existing framework to better support the development of a resilient industry.

One position paper highlights the necessity for society to adapt to reduced water availability as another key impact in addition to the escalating occurrences of extreme weather events. Lastly, one paper points out the potential of sustainable finance in driving climate change adaptation.

Impact of climate policies on SMES

17 position papers (14% of the total) provided opinions on the impact of climate policies on SMEs. These notably included 12 companies and business associations, one organisation from research and academia and one NGO.

Overall, the respondents do not expect negative impacts on SMEs provided that the administrative burden does not increase, and that support and resources are provided to cope with the needed transition, with the principle of fair transition underlined in many instances. On the contrary, climate policies could be a trigger for innovation, growth and for job-creation at SME level.

## 4.3. General stakeholder opinion on the contribution of Individual sectors to the EU's climate ambition

Position papers have been analysed with regards to priority sectors that should further reduce their GHG emissions, to sectors expected to reach climate neutrality first.

Around 70 position papers (58% of all answers) provided opinions on the prioritisation of sectors and the following sectors were singled out: transport; industrial processes and waste; production of electricity and district heating; buildings (residential and services); LULUCF; energy intensive industries; fertilisers; ETS sectors; oil and mining; food; pharmaceuticals; and HORECA.

### 4.3.1. Priority sectors that should further reduce their GHG emissions

A number of policy papers identified the following sectors as priority for GHG emission reduction:

- **Transport.** 24 position papers identified the sector as priority to further reduce GHG emissions, originating from the following stakeholder groups: companies and business associations (10, out of these 4 are related to emission trading and different modes of transport), NGOs (3), Public Authorities (3) and academia (2) and Other (4).
- Agriculture and forestry. 14 position papers identified the sector as priority to further reduce GHG emissions, originating from the following stakeholder groups: Public Authorities (4), companies and business associations (2), NGOs (2) and Environmental organisations (2), academia (1); Other (3). One of the business associations prioritising this sector comes from the forestry sector.
- Buildings. 11 position papers identified the sector as priority to further reduce GHG
  emissions, from various stakeholder groups: companies and business associations,
  academia, consumer organisation. It is worth noting that the business associations
  prioritising buildings represent producers of materials (glass, wood) used in building
  renovations.
- **Industry.** 10 position papers identified the sector as priority to further reduce GHG emissions, originating from the following stakeholder groups: Academia (3); companies and business associations (2); NGOs (2) and Environmental organisations (2) and Other (1). One of the business associations prioritising this sector is of SMEs.

## 4.3.2. Sectors expected to reach climate neutrality first

14 position papers (12% of all answers) dwell on the issue of which sectors are or should be expected to reach climate neutrality first, from all stakeholder groups, with business associations representing half the opinion expressed. Buildings have been identified 4 times

as the sector expected to reach climate neutrality first. 2 of the businesses associations have identified buildings are of industries relevant to building renovation and decarbonisation.

The number is very low to draw any meaningful conclusions. However, there are some indirect opinions on the topic which are worth mentioning. Transport, AFOLU and energy have been identified once each.

Despite the low number of answers some noteworthy insights were communicated. According to several organisations (industry and consumer associations), scientific evidence and cost-benefit analysis is needed to accurately rank sectors based on their expected timeline for reaching climate neutrality. Several stakeholders identified transport as the sector with the most potential for further GHG emission reductions in the coming years, including through modal shift (e.g., rail). Two papers indicated the building sector. The key role of policy and enabling factors to drive cost-effective abatement, and notably the ETS for the energy sector, were underlined.

# 4.4. General stakeholder opinion on the role of policy instruments

### 4.4.1.Role of EU ETS post-2030

63 papers (53%) commented specifically on the role of the ETS post-2030. 25 business associations, representing a wide range of sectors (including energy, manufacturing industries, transport, LULUCF, finance or buildings), 10 public authorities, 8 companies, 8 NGOs, 4 environmental organisations notably expressed an opinion.

An overwhelming majority considered the EU ETS as an instrument playing a key role in the mitigation of EU emissions and that will continue to do so in the future. It contributed to set a price on carbon for European stakeholders, and in articulation with other policies, having a positive impact on the continuous decrease of European emissions. Nonetheless, a majority of stakeholders considered that an evolution of the tool in relation to the 2040 target is needed.

The most widely discussed topic was the sectoral coverage. Extension to all or to a restricted number of additional (economic) sectors was suggested in more than one third of the papers analysed, from all stakeholder groups. A better coverage of transport, including for aviation and maritime activities not covered in the current system was notably mentioned several times. Only one paper, from a business association, advised not to extend to other sectors. The integration of all activities in a single system was also discussed, with some stakeholders advising for keeping separate systems as this is currently the case (or even creating new systems for agriculture) and others suggesting merging the systems in a medium to long-term perspective. The articulation with other policies and instruments (e.g. ESR, LULUCF, CBAM) was also discussed in about 10 papers, with opinions expressed by business associations, public authorities and companies. Concerns were expressed about the risk of double-coverage, translatability of ETS-prices to CBAM-prices and scope coverage.

A second topic that was discussed in about a third of the papers was the articulation of the ETS with carbon removals, to ensure operability. Most stakeholders but two supported an integration of carbon removal in the ETS (a business association and an environmental organisation).

A third topic indicated in a significant number of papers concerned the international articulation of the ETS, and linkages to be established with systems in third countries/other regions. For aviation, the compatibility with CORSIA was notably underlined.

Other topics discussed in the papers concerned the importance of predictability and stability of the ETS, the overall cap (with several stakeholders calling for a more stringent cap), the issue of hard-to-abate sectors, the extension to non-CO2 GHG (with an issue of accounting), the relationship between the ETS and the fair transition, the use of the innovation fund to support industrial projects, the extension to all fossils-fuels or the avoidance of the application of the cross-sectoral-correction factor.

Finally, two papers called for the abolishment of the mechanism, and expressed doubts about the usefulness of market-based solutions to steer greenhouse gases emissions decrease compared to binding sectoral targets and ban of the most-emissive activities per capita (e.g. private jets). One also emphasized on transfer effects and the potential detrimental impacts on most vulnerable people.

#### 4.4.2. Role of CBAM

39 papers (33%) provided elements on the role of CBAM. 20 business associations, (covering either several sectors, manufacturing industries or energy), 5 public authorities, 5 companies, 4 NGOs, 1 environmental organisation, 1 consumer organisation and 1 academic/research institution notably expressed an opinion.

The most discussed topic was the role of CBAM, with 28 papers commenting the matter, from all stakeholder groups. Most of the papers supported the view that CBAM plays an essential role to avoid carbon leakage and to support carbon market internationalisation. However, more than a third were doubtful and considered that CBAM efficiency should be demonstrated, in light notably of its effects along the whole value or potential trade policy countermeasures. One stakeholder considered that CBAM is ineffective. It should be noted that opinions differed among stakeholder groups: for instance, 4 business associations considered that CBAM was essential, while 8 considered that its efficiency should be demonstrated.

The second most discussed topic concerned CBAM extension. Views expressed in 22 papers, from all stakeholder groups, were also differing. Almost two thirds of the papers considered that CBAM should be extended: to sector at most risk of carbon leakage, to cover the export part of the EU production, to integrate downstream sectors or cover all sectors covered by free allowances under the ETS. The last third considered that a CBAM extension should be carefully considered. It was not possible to draw conclusions at the stakeholder group level, as views differed among the same type of stakeholders.

The last topic discussed in the papers concerned the allocations, with 7 opinions stemming mostly from business associations and NGOs. Opinions are mixed, with about half considering that sectoral free allocations are needed, while the other half considering free allocations should be stopped. One stakeholder advocated for a reduction feeding the Innovation Fund.

### 4.4.3. Role of ESR

23 papers (19%) expressed an opinion on the role of ESR. 8 business associations covering various sectors, 5 public authorities, 4 companies, 3 NGOs, 2 environmental organisations and 1 academic/research institution notably expressed an opinion.

A bit less than half the papers, from all stakeholder groups, expressed the need to adjust the ESR, notably given the broadening scope of the ETS. Another suggestion expressed by 2 stakeholders is a target break down at sectoral level or per type of carbon removal. One fifth of the papers consider that ESR plays an important role, and that it should be strengthened, with national targets kept. One business association considers the ESR as currently ineffective. One public authority considered that the ESR should keep the same scope.

## 4.5. General stakeholder opinion on the land sector

## 4.5.1. Options to tackle agricultural emissions

Approximately 44 of the analysed papers (37% of the total) commented on options to tackle agricultural emissions. Out of these, business associations, public authorities and NGOs were the most common stakeholder groups. The most frequently mentioned options to tackle agricultural emissions were sustainable farming/carbon farming (9) followed by a focus on dietary changes (7) and the role of agriculture as a carbon removal (7). Other frequent options mentioned were some form of market incentives and to not include the agricultural sector in LULUCF.

However, there were different views on the options to tackle agricultural emissions depending on the kind of organisation. While a focus on carbon farming/sustainable farming was the most common option on an aggregated level for all organisations, this was only the case for the stakeholder groups "public authority" and "other". For academia/research institutions, the most common option mentioned was a change in diet. This was also the case for environmental organisations. For business associations this was market-based solutions such as market incentives and the EU ETS. For NGOs, the most common option mentioned was the role of agriculture as a carbon removal.

### 4.5.2. Stakeholders targeted by a carbon price on agricultural emissions

Only seven of the analysed papers (6% of the total) commented specifically on which stakeholders should be targeted by a price on agricultural emissions. Opinions originated from NGOs and environmental organisations (notably focusing on agricultural issues), other stakeholders and academic research institutions.

Out of these papers, all referred to companies as the main stakeholders to targeted by a carbon price, and 5 of them specifically mentioned large companies. Two papers additionally mentioned individual consumers and farmers. Several papers expressed concerns on carbon pricing about the unnecessary burden on (small) farmers, potential lock-in effects in intensive farming practices and impacts due to transfer-effects on low-income households. A more specific action mentioned against companies included the obligation to pay a CO<sub>2</sub>-equivalent tax for food sold. One paper stated that while a carbon price at the farm level may seem desirable, it raised concerns such as administrative burden and disproportionate impacts on small farms that are financially more vulnerable. The paper instead argued that the focus of a carbon price should be on large agricultural food actors.

# 4.6. General stakeholder opinion on the role of carbon removals

Approximately 73 papers (61% of the analysed papers) commented on the role of carbon removals to reach 2040 climate neutrality goals. Among those, the different stakeholder groups were represented in the following way: companies and business associations (34); public authorities (11); academia (10); NGOs (10); environmental organisations (7); others (5). Papers covered various aspects of the issue.

## 4.6.1. Nature-based vs technological removals

Most papers acknowledged carbon removals as an important means to reach climate neutrality goals, yet reservations and concerns were shared in 15 position papers, in several contexts. While most papers acknowledge the importance of carbon removals, they emphasised they should not be a substitute and offset for GHG emission reduction and should only be considered as a second best option. Further, several stakeholders underlined that current assumptions about future GHG removals are overall too optimistic, and the potential for technological removals to be economically scaled up still needs to be demonstrated. The papers originating from stakeholders with strong environmental focus have a strong preference for nature-based removals over technological ones, but 2 papers warn that nature-based removals are unstable and could not be relied upon in the long run. Inversely, a EU carbon technology platform points out that a stronger reliance on industrial removals is needed as the Land use, land-use change, and forestry (LULUCF) sink does not allow to achieve permanent removals.

### 4.6.2. Targets for carbon removals

5 papers, from various stakeholder groups, shared an opinion on the types of carbon removal targets to be introduced. Several papers point out that legally binding EU-wide targets should be set for increasing the EU's net sink. Papers disagree on the need to set up a common or separate target for nature-based and technological removals. A big industrial association believes that setting separate targets may provide further incentives to scale-up carbon removal technologies.

## 4.6.3. Role of different types of removals

Approximately 40 papers commented on the role of carbon removals to reach 2040 climate neutrality goals. Among those the different stakeholder groups were represented in the following way: 14 companies and business associations; 7 public authorities; 7 NGOs; 5 environmental organisations; 4 others; 3 academia.

Several forestry associations and a business association emphasised the importance of forests as a carbon sink, and that active forest management is important to achieve this. 3 stakeholders (a think-tank, an environmental industry of a coal producing country and a company) argued that carbon capture would play an important role, for energy-intensive industries to reduce hard-to-abate emissions or for achieving a net-zero aviation industry. Another think-thank considered that oceans play a major role in regulating the global climate by absorbing a large proportion (25–30%) of anthropogenic CO<sub>2</sub> emissions. According to an industrial association of wood industries, agricultural removals should not be treated the same as other nature-based removals as this could lead to a situation where the forest sector offsetting emissions from other sectors. Finally, according to a bioenergy industry association, large-scale applications of bioenergy solutions in district heating, biofuels production, and industry are necessary for cost-effective carbon dioxide removals through Bioenergy with Carbon Capture and Storage (BECCS).

# 4.7. General stakeholder opinion on carbon capture and storage/use

# 4.7.1. Role of different carbon capture and storage technologies

Out of the 120 papers reviewed, 34 papers (28%) commented specifically on the role of different carbon capture and storage technologies. Business associations (14), public authorities (4) and others (4) were the most common stakeholder group to comment. All other groups come right after, with very few papers mentioning CCUS, except for trade unions, which has no paper mentioning it.

15 papers, from business associations, academic institutions and public authorities encouraged the uptake of carbon capture and storage technologies, without assigning priority to one specific technology type.

Looking at specific technologies, 9 papers referred to CCS as a priority to reduce CO<sub>2</sub> emissions to low levels, with 4 discussing the role of BECCS in extending carbon storage facilities. 4 papers including a different range of stakeholders: (NGOs, Aviation associations and energy business) commented on CDR, and most specifically DAC, as having a high potential for reaching net-zero emissions, especially in the aviation sector.

In general, non-governmental institutions and other actors did not support carbon capture technologies, issuing concerns over its viability as a solution for achieving climate change targets and the potential for detracting from emission reduction efforts. One non-profit organisation argued for caution when relying on carbon offsets, as the approach provides no guarantees on "locking-in" carbon for the future. Three stakeholders considered carbon capture technologies would have limited effects on GHG emission reduction targets due to their large costs and energy requirements.

## 4.7.2. Challenges associated to CCUS

41 papers commented on specific barriers (34% of the total), with many among these mentioning multiple challenges. Business associations (13), NGOs (8), companies (7), and academia (4) are the stakeholder groups with most papers commenting on the topic. The most encountered barriers associated with the deployment of CCUS are economic, regulatory, technical and infrastructure.

Regulatory and legal barriers emerged as one of the main barriers encountered, with 16 papers referring to these challenges. Business, academic actors and NGOs argued the legal framework in place for carbon capture and storage technologies should be revised. A robust certification framework is required to establish high quality standards and ensure the integrity of carbon removal technologies. For the aviation sector, the integration with frameworks such as ICAO CORSIA or EU ETS would support the emergence of a carbon removal market. Moreover, regulatory gaps were mentioned in national frameworks, where the absence of a national legal basis to use CCUS or provisions supporting Net Zero Industry Act increased uptake barriers. Complex permitting procedures (e.g. CCUS on industrial scale is banned or limited in certain Member-States) and unclear rules applying to the accounting of captured emissions were additional hurdles highlighted by industry actors.

15 stakeholders commented on the economic barriers which prevent the large deployment of CCUS. A few papers mentioned that CCUS did not have an economic rationale now due to the large investments required and the restrictive price of the technologies. Moreover, the energy intensiveness rendered CCUS reasonable only for large scale application without more efficient alternatives (e.g. in the cement sector). Capture, transport, and storage costs were also mentioned as significant financial barriers.

12 papers mentioned concerns over the technical and infrastructure reliability of the technologies, as well as the varying degrees of efficiency. The progress for large scale application of CCUS has been slow. Papers mentioned there were controversies surrounding the capacity to transport and store gases underground without leakages, as well as the availability of resources, locations, and potential for long-term geological storage of CCUS. Focusing on sustainability, environmental organizations and business actors mentioned a large-scale deployment of CCUS technologies would require a significant number of resources (e.g. availability of affordable electricity) which may impact negatively the sectors producing them or relying on these resources.

Three papers dismissed CCUS as a relevant solution for meeting climate targets or considered moral issues surrounding the technology: framing carbon dioxide removals in a same manner as emission reduction detracted from achievement of global climate

objectives. Challenges remained also due to public acceptance and the scalability potential of CCUS.

## 4.8. General stakeholder opinion on energy technologies

### 4.8.1. Most relevant solutions for the energy transition

72 papers (60%) discussed the most relevant technologies for supporting the energy transition, as well as opportunities and barriers of their uptake. More than one fourth of the papers give an idea of the importance of renewable energy, energy efficiency and carbon capture technologies as the most viable solutions for the energy transition.

33 position papers argued for enhancing the utilization of renewable energies and increasing their share in energy consumption. Moreover, 15 papers supported applying energy efficiency principles and taking into consideration the beneficial interaction between renewables, increased energy efficiency and GHG targets. The expansion of electricity grid systems and electricity-related technologies, as well as the smart electrification of renewables, were suggested as the most viable solutions for the energy transition. Business stakeholders, one trade union and two NGOs supported carbon capture and storage as a measure to reduce hard to abate emissions.

22 papers did not assign a specific priority to the technologies mentioned or referred to several types of technologies, arguing for technology neutrality, as the choice between different technologies should remain market driven. For energy technologies, stakeholders identified renewable energy sources, energy efficiency and CCUS as the most relevant solutions for the energy transition.

Among all the stakeholder groups, business associations and public authorities were most receptive to a diversified mix of energy technologies solutions. Academic institutions were more inclined towards energy efficiency and renewable energy or preferring to not prioritize.

## 4.8.2. Opportunities associated with energy technologies

Out of the 120 position papers reviewed, 68 (57%) mentioned opportunities associated with energy technologies. Overall, the development of energy technology was most closely associated with increased opportunities for sustainability, economic development and innovation in the position papers reviewed.

32 stakeholders, among which business associations, companies, academia and NGOs were the most likely to mention sustainability opportunities. Breakthroughs in energy technologies could indeed allow energy-intensive industries to reduce hard to abate emissions. For instance, several technologies could play an important role in decarbonizing the aviation sector, from carbon removal to fossil free technologies. Similarly, hydrogen-based steel making, power to heat, chemical recycling and CCUS could facilitate the transition in the cement sector.

19 papers highlighted economic gains. The papers emphasized that investing in new energy technologies would create enhanced financial gains, lower costs for consumers and strengthen competitiveness for European businesses. New innovative energy solutions are essential for a steady European energy supply and to increase the emergence of competitive industrial start-ups. For instance, a national Energy Ministry expected investments in new energy technologies would result in the creation of 300,000 jobs in high potential industries, such as nuclear power, electromobility, grid infrastructure, digitalization, and thermal modernization of buildings.

11 stakeholders highlighted that the development of energy technologies would bring additional incentives for innovation and research, with positive spill overs in many industries. For instance, one paper mentioned the development of bioenergy would play an important role in decarbonizing several sectors, including transport, electricity, and heating and cooling.

Three business associations and one public authority argued for technology neutrality, mentioning all options including nuclear energy should be considered for a technology neutral approach to meet climate targets in a cost-efficient way. Other actors such as a national government mentioned social benefits related to the implementation of a plan meant to decarbonize the country's public transport sector, which would lead to frequent and broader transport coverage, as well as easing pressure of the housing market.

### 4.8.3. Challenges associated with energy technologies

52 papers (43%) discussed the different challenges in the development of energy technologies, with economic, infrastructure and regulatory as the most significant barriers. Companies, business associations and non-governmental associations were the most common stakeholder group to comment.

Economic barriers were mentioned by almost all stakeholders, highlighting several dimensions. The introduction of innovative technologies at an industrial scale would increases challenges for regional energy intensive industries, such as the metals industry facing competition from countries not applying a carbon price. Moreover, the development of new technologies requires large upfront costs and long investment cycles.

Infrastructure reliability (wind and solar power demand additional space) and compatibility with renewable energy (adaptation of power and gas grids, hydrogen and CO<sub>2</sub> transport and storage, expansion of grid sources, adapting multimodal interchange hubs) were among the key concerns of the position papers. Challenges remain for solar PVs and electric grid systems, including rigidity and lack of available grid connections.

Businesses associations, companies and NGOs were the most common stakeholder to face regulatory and legal barriers in the development of energy technologies. New legislative frameworks and regulatory predictability are needed to facilitate the development of new energy technologies and incentivize consumers and operators to invest in such technologies. Moreover, long and complex permitting procedures and public opposition are barriers to the accelerated development of Renewable Energy Storage (RES) projects.

In addition, companies and business associations raised concerns over limited availability of rare resources needed for energy technology development. A small number of papers also raised concerns on data privacy. Public authorities and non-governmental institutions, as well as one business association, highlighted that the deployment of new technologies should be implemented in sustainable way, accounting for environmental and social welfare.

# 4.9. General stakeholder opinion on other options to be considered

36 of the analysed position papers (30%) discussed alternative options to limit climate change. Among these, business associations (8) followed by individual companies (7) were the most common stakeholder groups to comment. The analysed papers argue for various alternative solutions, which are presented below.

### 4.9.1. Carbon sequestration

9 stakeholders brought up carbon sequestration as a feasible option. All stakeholder groups were represented among these organisations in an even way. The majority of the organisations discussed the possibilities of carbon storage through soil sequestration and forestry. One illustrative example is a business association arguing that the EU, to a higher degree, should promote wood-based carbon storage together with creating better conditions for sustainable forest management as means for limiting climate change. In addition, one company emphasised the role of carbon removal technologies for hard-to-abate emissions. Two significant technologies discussed in this regard are biochar carbon removal (BCR) and enhanced weathering (EW), which were stated to offer promising solutions for long-term carbon sequestration and sustainable climate mitigation.

Additionally, 2 papers emphasised the possibilities of ocean-based carbon sequestration. For instance, one research institution argued that future climate policy frameworks should incorporate and create better conditions for solutions such as the expansion of seagrass beds to capture carbon.

### 4.9.2. Waste-to-Energy

3 stakeholders (2 business associations and an organisation representing local governments in a Member State) argued that the concept of waste-to-energy should be incorporated into future policy frameworks.

One business associations emphasised the possibilities of leveraging the full potential of concrete recycling and using waste streams to lower the concrete sector's emissions. Another organisation stated that the Commission has a very negative view of waste-to-energy (WtE) even though there is currently an under-capacity in the EU, with waste still being landfilled or incinerated without energy recovery. The organisation furthermore argued that the Commission should create better conditions for more efficient WtE in the foreseeable future.

# 4.10.General stakeholder opinion on engagement and social impacts

57 analysed position papers (48% of the total) discussed the social impact of future climate change policies. Among these organisations, the most common stakeholder groups were business associations (10), individual companies (8) and research institutions (7).

The analysed papers discussed multiple aspects in relation to social impacts of climate change policies. However, several reoccurring themes among the comments could be identified.

### 4.10.1. Just transition

The most common comment related to the social impacts of future climate change policies was that coming policy frameworks need to ensure a just transition, where vulnerable groups, communities and Member States are protected from climate risks and poverty. 28 of the analysed papers made a comment on the need for a socially or economically just transition. The stakeholder groups that most often discussed the importance of a just transition were NGOs (6) and public authorities (6).

In general, the view from a majority of the NGOs (4) can be illustrated by one of the position papers stating that future legislative frameworks need to advance a green transition that is

socially and economically just, and that the EU needs to strengthen the protection of vulnerable groups and middle and low-income households against climate risks and poverty. Another NGO concludes that for a smooth transition to be realised and to achieve an efficient fight against climate change, social acceptability is key. It is, therefore, stated to be a necessity to ensure that local communities – particularly vulnerable communities – benefit equitably from the transition and the development of renewable energy technologies. Hence, the organisation calls for social policies, in addition to fiscal policies, to favour social inclusion.

Similar comments are made by public authorities. For example, a Member State emphasised that future policies need to ensure that the energy transition is conducted socially just and not leave any communities or individuals behind. It furthermore noted that regions most negatively affected by the transition, including coal-dependent regions, need to be provided with new development opportunities.

In addition, a representative paper from a research institute recommended the integration of marginalised groups in policy-making. Due to their knowledge and experiences to address issues of social justice in climate policies, the youth, the elderly, immigrants and the economically disadvantaged should be included in the process of formulating future EU climate policies.

Lastly, one trade union criticised previous EU climate policies for not having European workers in mind. The union, therefore, argued that austerity and deregulation create a risk of lowering labour standards and employment conditions, especially in Member States that rely on low labour costs to attract foreign investments. Future climate policies would thus need to consider all potential effects on European workers.

### 4.10.2. Impacts on citizens

Another common point brought up in the analysed papers is the various effects future climate policies will have on EU citizens. 14 papers discussed potential positive and negative impacts future climate policies could have on individual citizens. Organisations from all stakeholder groups discussed these issues, with individual companies (4) being the most common group.

In general, the companies argued that ambitious climate policies would have positive social and economic impacts on individual citizens in the EU. However, the EU should ensure that no citizens are left behind in the transition. Several companies argued that higher climate ambitions would help individuals to lower their energy and climate bills, and this would consequently reduce energy poverty and social inequalities and improve social cohesion. However, in relation to the transport sector, if GHG emissions from road transport were to be significantly and quickly reduced, it would affect the employment and income of workers in the transport and energy sectors.

Another positive effect of setting more ambitious climate targets and decreased emissions brought up in 2 papers is improved air quality, leading to better health for EU citizens, especially in more polluted areas of Europe. Lastly, several organisations underlined the importance of safeguarding individual freedom of citizens when new policies and future technologies are being implemented.

## 4.10.3. Upskilling

Finally, a few business associations discussed the need for upskilling and reskilling workers to reduce negative effects on certain groups. One organisation stated that the EU needs to invest in up-skilling and reskilling to support employment, income and social inclusion in the EU and help address current and future labour market needs in relation to a green transition

in Europe. Another business association emphasised that there is a need to reskill and upskill the workforce in the EU to meet the demands of a green and circular economy. However, the organisation argued that this is a matter of national competence and that it thus should be addressed by Member States.

# 5. Analysis of the call for evidence section

## 5.1. Background and methods

In addition to the public consultation, respondents were able to share feedback on the initiative to setting the EU climate target for 2040 through a call for evidence. The call for evidence was integrated as a separate section into the webpage of the public consultation. As part of the call for evidence, stakeholders were also given the opportunity to upload position papers. A total of 146 position papers were collected in the call for evidence which were considered together with the position papers received in the public consultation (see Chapter 4).

The responses in the call for evidence section varied more widely as they are not as directed to specific aspects of the target setting process. The open text comments were analysed to identify key themes by stakeholder group.

## 5.2. Overview of responses

In total, 579 submissions were received in the call for evidence section. Among the submissions, some duplicates could be identified. After the removal of 13 duplicate answers, 566 unique feedbacks remained.

The countries where most submissions in the call for evidence originated from include Slovakia (126, 22%), Germany (100, 18%), Belgium (60, 11%), and Finland (50, 9%). In addition, some other central and eastern European Member States were also well represented, such as Croatia (29, 5%) and Poland (28, 5%).

Of the 126 responses received from Slovakia, 122 were from private individuals. The vast majority of which expressed a critical attitude towards an ambitious EU climate policy. Unlike the campaign identified in the responses to the public consultation questionnaire, the text responses differed so much that it was not considered a campaign in the call for evidence section.

# 5.3. Key themes by stakeholder group

Out of the 566 unique feedbacks, 356 (63%) were received from **EU citizen**. Overall, opinions are divided in two clear groups. The majority of the opinions support stringent GHG emission reduction targets by 2040 acknowledging that climate change is a serious threat to the EU. More radical opinions insist on reaching climate neutrality by 2040. The second group of opinions come from climate sceptics insisting the climate change is not anthropogenic, that no action should be taken, and that climate action is a waste of resources. A majority of these opinions come from the group of Slovakian responses from private individuals.

A number of opinions insists that there should be stronger pressure to companies and citizens to reduce all GHG emissions which could be reduced through technical and behavioural means. Moreover, as a global trading partner, the EU has an important role to play in bringing all G20 countries and other trading partners on the same trajectory.

EU citizens in support of stringent targets and action suggest several concrete solutions including reduced use of plastics; improved circular economy; reduced meat consumption; car-free city centres; increased share of renewable energy; reduced chemical use; afforestation; increased recycling; enforcement of polluter pays principle; etc. EU and

national governments are expected to use fiscal and economic incentives to drive sustainable solutions within companies. Further efforts should be made to increase the lifetime of products. The need to stop biodiversity loss, depletion of resources and soil sealing has also been mentioned. Individual opinions single out nuclear as a wasted opportunity while other EU citizens are against the reliance on carbon removals.

It is noteworthy to mention that among the group of EU citizens who support ambitious targets and stronger measures, there exists a division. Some advocate for these actions to be taken without significant economic sacrifices, while others believe that society should be prepared to bear the associated costs.

Several opinions emphasise that setting ambitious targets is not enough, there is also a need to ensure adequate resources to achieve the objectives, e.g. by establishing an European Climate Fund. Moreover, climate targets and the need for decisive actions need to be clearly communicated to different stakeholder groups.

98 (17%) submissions were made by **business associations** (55, 10%) and **companies** (43, 8%). Overall, companies and business associations are in favour of setting ambitious yet realistic 2040 GHG emission reduction targets based on the best available science. Some opinions, that can be attributed to a sub-group of replies that argues for very ambitious targets, provide concrete figures and insist that the 2040 emission reduction target should be set at a minimum of 90% to 95%, compared to 1990 levels. Some opinions state that there should be no more than 8-10% of carbon removals in this target. By setting a high bar, the EU will inspire other regions and nations to follow suit.

While some opinions are in favour of a technology-neutral transition, business associations of different industries and technological sectors emphasise their importance for achieving the ambitious targets. For example, according to a renewable energy federation, targets can be achieved mainly through significantly higher shares of renewable energies and exploiting untapped potentials of energy efficiency improvements. It suggests a cautious approach to Carbon Dioxide Removal (CDR) technologies and a priority to nature-based solutions. According to a gas network in a MS, a rapid deployment of renewable gases, including biomethane and green hydrogen must take place in addition to, not instead of, increased renewable generation capacity and the associated continued electrification of large sections of the economy. An association of public and railway transport insists that public transport should be prioritised, and that the Connecting Europe Facility (CEF) envelope should be increased, and greater consideration should be given to urban nodes, and the increase in the Structural Funds' envelope by prioritising urban and rail public transport issues.

According to a chemical industry association, it is imperative that the ambitious climate targets are accompanied by measures to ensure that the wide range of chemical products can continue to be competitive in Europe, based on a high-quality and reliable basic raw material supply that ensures strategic autonomy. According to a bioenergy association, bioenergy must continue to play an important role in the transport sector and the electricity market. According to a coalition of European airlines and unions representing airline employees, the EU's environmental aspirations must consider the international and intercontinental nature of the industry. According to an association representing the interests of the European electricity industry, looking towards 2030, 2040 and 2050, decarbonisation speedways confirm the key role of clean electrification in accelerating European path to climate neutrality and underlines its potential in lowering households' energy bills. According to an ESCO associations, when working on a new 2040 climate target, the key guiding Energy Efficiency First principle should not be overlooked, as energy efficiency measures and renewables uptake go hand in hand.

Additional suggested measures include phasing out of fossil fuels and the reduction of emissions from the agricultural sector.

According to a biofuel organisation, sustainable advanced biofuels are a fast-track solution and they bring multiple benefits in terms of  $CO_2$  reduction, investments, increased revenues for farmers and forestry, and an increase in energy security. According to a hydrogen association, it is necessary to define a clear GHG reduction path beyond 2030 towards the 2050 climate neutrality objective. The energy sector will play a central role in this process as it represents more than 75% of total emissions, with clean hydrogen playing a major role in driving the decarbonisation of the European economy. According to a heating industry association, any proposal for a 2040 climate target, and any potential pathways to achieve it, should therefore take into due account the key contribution of efficient heating technologies for decarbonisation, and effectively promote their deployment across different sectors and applications, particularly in buildings.

According to a car industry association, there is a risk that wrong targets may overwhelm the performance of the EU's or individual Member States' economies. Only a transition towards climate neutrality, which preserves the industrial base and thus the prosperity of citizens, is a successful transition and has the chance to find counterfeiters around the world.

Overall, companies share the opinion that the private sector who will be key in making the huge investments in the green transition needs clear targets and public commitment to be able to decide the needed investments.

55 (10%) submissions were made by **civil society organizations**, including NGOs (43, 8%), environmental organizations (9, 2%), trade unions (2, 0.4%), and one consumer organization (0.2%). The key messages from this stakeholder group underscore the importance to meet the requirements set by the Paris Agreement, generally, advocating for a more ambitious "net zero" transition. The submissions stress that the target setting should be based on up-to-date scientific evidence provided by actors such as the European Scientific Advisory Board on Climate Change or the Intergovernmental Panel on Climate Change. In this context, special attention was given to the agricultural and land sector, highlighting the significance of preserving land and forests. Additionally, a commonly mentioned demand concerns a rapid and controlled phase-out of fossil energy, coupled with a stronger expansion of renewable energy sources. Overall, the messages from civil society organisations emphasize the necessity of taking a holistic approach towards achieving an ambitious transformation.

14 (3%) submissions were made by **academic and research institutions**. The key messages from these responses relate to the prevalent demand that the EU should integrate latest scientific evidence when formulating the emission targets for the 2030-2040 period. The submissions of academic/research institutions interconnect the EU's climate transition with multiple other research fields such as the impact on global health, the role of carbon removals, forest and wood products as well as the importance of independent research and high-quality education. Another important aspect for academic and research institutes seems to be the EU's historical responsibility when it comes to carbon emissions. Within this context, the EU is urged to allocate carbon space to countries in the global south to ensure a fair and equitable transition.

7 (1%) submissions were made by **public authorities**. The key messages from these responses related to need for investments concerning the green transition which encompasses aspects such as green technologies and interventions to re-skill. In this context, the submissions of public authorities highlight EU's crucial role as a supporting force that can facilitate the transition of other countries such as Turkey and thereby contribute to its global responsibility. Public authorities note that actions should be implemented now, without any delay of an ambitious transition.

A further 36 (6%) responses came from non-EU citizens (4, 0.7%) or from stakeholders who classified themselves as "Other" (32, 6%). The topics of these responses largely mirrored the

topics of the other stakeholder groups. Especially those stakeholder types that relate strongly to their respective type.

# 6. Key insights from the targeted stakeholder event

On 9 June 2023, an all-day targeted stakeholder event was held to gather further feedback and insights on the view of the EU's 2040 climate targets. It was attended in person by 34 stakeholder representatives, including ten from the energy sector, six from industry, six from think tanks, and six from NGOs, as well as representatives from transport, agriculture, SMEs, trade unions, and cities. In addition, a further 48 participants followed the meeting online.

The contents of the event are summarised in the following:

Climate impacts and cost of inaction: Stakeholders were convinced that natural hazards and biotic risks will impact the forestry, agriculture, and other land-use sectors, as well as renewables and waste management/recycling. They emphasised that cities and industries will be affected by employment and work-related risks. In this context, the communication of mitigation and adaptation measures should be linked with other environmental benefits to give a positive narrative, as well as to stress the costs of inaction.

**Fair transition, employment and social aspects:** Stakeholders highlighted the skills gap regarding the required technologies and demographic factors as aspects that should be considered. It was stressed that financial support will be needed for green infrastructure (especially for smaller cities), as well as targeted support for lower/middle income groups for the switch of technologies (e.g., upfront costs of heat pumps and electric vehicles).

**Energy – including storage, grids, and renewables:** Stakeholders believed that aspects such as energy efficiency and contributions to energy security are key in the energy transition. There was disagreement on the role of hydrogen and e-fuels.

**Carbon removals/storage:** Participants demanded a clear differentiation between emission reductions and carbon removals, suggesting separate targets. The focus should be on emission reductions, with carbon removals reserved only for residual hard-to-abate emissions. In addition, two targets are also needed within the context of carbon removals: one for nature-based removals, and one for technological removal/storage.

Economic effects, competitiveness, industry, and SMEs: Most stakeholders approved the positive effects of having long-term targets and a more stable and predictable legal and regulatory framework is required for investments. CBAM should not only protect domestic production from imports that are subject to less stringent climate regulations, but also support the export share so that the EU market does not become smaller. More support for industry, such as Carbon Contracts for Differences (CCfD) will be needed for the transition. Additional claims included that the EU industry needs capital investment and reliable/available renewables as well as breakthrough technologies for key industries and lead markets for green technologies.

Agriculture, food security and land sectors (LULUCF, forests, biodiversity, and biomass): Agriculture stakeholders called for intensified food production within GHG boundaries. Forestry stakeholders emphasised the important role of wood-based raw materials and products, whereas civil society organizations called for agriculture to avoid energy crops and questioned the role of wood-based products.

**International aspects, and non-EU climate action:** Stakeholders emphasised that the EU should align with the UNFCCC 5-year policy cycles, such as setting a 2035 target. Additional claims included: assessing the EU's carbon footprint and the global contribution of EU-based companies in terms of behaviour and policies outside of Europe, as well as embedding carbon in trade flows.

**Behavioural change and lifestyles:** Stakeholders proposed to frame the green transition as "our well-being and lifestyles will be damaged if we fail to limit global warming to 1.5°C". The focus should be on sufficiency principles, active mobility, new production models, and consumption-related emissions, as well as the green infrastructure and support for upfront costs that are needed to enable individual climate-friendly choices.

# **Appendix**

### Appendix A: Public consultation questionnaire (English version)

#### Public consultation on the EU climate target for 2040

#### Introduction

### I.I Background

Climate change remains the defining challenge of the coming decades. As an essential part of the European Green Deal, the European Climate Law enshrines the EU's commitment to becoming the first climate neutral continent by 2050 and its 2030 climate target of cutting net greenhouse gas (GHG) emissions by at least 55% compared to 1990 levels. It is now more important than ever for the EU to get and stay on track to climate neutrality and greater climate resilience. This will lead to long-term economic, societal, and environmental benefits for the people of Europe that leave no one behind while providing a positive example to galvanise global action.

The detrimental effects of global warming are becoming more frequent and evident, with devastating impacts all around the world. The urgent need for strong global action to tackle climate change comes at a time of high energy prices, a global food supply crisis, and geopolitical tensions, triggered by Russia's invasion of Ukraine. The energy crisis brought about by the war has reminded us of the risks of EU energy dependence and has made very clear the need to step up the transition to climate neutrality in the EU and globally, both for energy security and economic stability and to reduce climate-related disruptions and impacts.

The EU has developed a comprehensive set of climate, energy, environmental and related legislation and enabling policies that have allowed it to reduce GHG emissions and exceed its climate commitments. These policies and measures have led to a clear decoupling between economic activity and GHG emissions and have spurred the development of clean energy.

The EU's legally binding objective of climate neutrality by 2050 sets the direction of travel. The comprehensive policy framework to deliver on the increased climate target for 2030, the "Fit for 55" legislative package, was proposed by the Commission in 2021. Once it has been politically agreed by the European Parliament and the Council, Fit for 55 will accelerate the modernisation of our economy, the roll-out of renewable energy, the deployment of new technologies and will ensure a more efficient use of our natural resources. Improved low- and zero-carbon technologies and experience in implementing climate policies further expand the opportunities for transforming the EU economy and society beyond 2030.

Given the depth of the economic and societal transformations required, the short timeframe and the extent of policy and economic decisions as well as the importance of incentivising the right kind of investments and avoiding carbon lock-in effects, the EU needs a clear GHG reduction path beyond 2030 towards the 2050 climate neutrality objective. This will create a better understanding of the urgent need for transformation in the different sectors of the economy and inform the future preparation of a post-2030 climate and energy policy framework.

The European Climate Law calls on the Commission to propose an EU-wide climate target for 2040, taking into account an indicative GHG budget (defined as the cumulative net emissions over the period) for 2030 – 2050. The Commission's initiative for a climate target for 2040 will be accompanied by an impact assessment that will address the different types of impacts related to the target.

The replies to this questionnaire will contribute to the impact assessment and shape the upcoming initiative. This public consultation focuses on the overall level of ambition for 2040 and looks at the possible evolution and role of EU climate policy instruments in order to prepare the ground for future analysis of the policies the EU must implement after 2030.

### I.II Guidance on the questionnaire

This public consultation consists of a set of introductory questions related to your profile, followed by a questionnaire split into two sections: a general section and a section for experts. Please note that you are not obliged to respond to both parts, and you can choose to fill in only one of the two (either the general section or the section for experts). In addition, not all questions in the questionnaire have to be answered.

- About you: Since the public consultation is open both to organisations and individuals, the first block consists of **questions related to your profile**.
- General section: The second block consists of questions related to your opinion on the EU's overall climate ambition for 2040, associated opportunities and challenges, and related policy needs.
- Expert section: The third block is more technical, and consists of questions related to the role of policy instruments, carbon removals, technological options and adaptation to climate change.

At the end of the questionnaire you are invited to provide additional comments and to upload additional information, position papers or policy briefs that express in more detail your position or views or those of your organisation.

The results of the questionnaire will be published online, along with uploaded position papers and policy briefs.

Please read the specific privacy statement attached to this consultation with information on how personal data and contributions will be processed.

In the interest of transparency, if you are replying on behalf of an organisation, please register with the register of interest representatives [transparency register] if you have not already done so (you will need your organisation's transparency register number). If you do not wish to register, your contribution will be treated and published together with those received from individuals.

### **About you**

Fields marked with \* are mandatory. Green text is an internal instruction, which indicate the logic, how items/questions are filtered out. E.g. questions dedicated to organisations will not appear for citizens and vice versa. The green text will not appear to respondents in the questionnaire.

The section "about you" is a mandatory section specified by the BRG 2021 for public consultations and may not be changed in wording.

\*Language of my contribution

[drop down menu EU 23 languages]

*I am giving my contribution as		
	Academic/research institution	
	Business association	
	Company/business organisation	
	Consumer organisation	
	EU citizen	
	Environmental organisation	
	Non-EU citizen	
	Non-governmental organisation (NGO)	
	Public authority	
	Trade union	
	Other	
*First nar	me [free text]	
*0	4	
*Surname [free	text]	
Gender Ifree tex	xt] Only if EU-citizen or NON-EU-citizen was selected	
_	Male	
	Male Female	
	Other	
	n't be published) [free text]	
Linan (tins wo	in the published) [Index text]	
*Scope [c	drop down menu – Only when contribution as Public authority]	
	International	
	Local	
	National	
	Regional	
*Level of governance [drop down menu – Only if Scope Local was selected]		
	Local authority	
	Local agency	
	f governance [drop down menu – Only if Scope Regional / National was	
selected		
	- Parliament	
	Authority	
	Agency	
	fresidence – Where do you live? [drop down menu – Only if EU-citizen or NON-	
EU-citize	en was selected]	
	Predominantly urban (city with more than 100 000 inhabitants)	
	Suburban (city with 10 000 to 100 000 inhabitants)	
	Rural (city or village with less than 10 000 inhabitants)	
_	sation name [free text - Only when contribution as an organisation, institution,	
authority	y or other]	
	racter(s) maximum	
_	sation size [drop down menu - Only when contribution as an organisation,	
institutio	on, authority or other]	
	Micro (1 to 9 employees)	
	Small (10 to 49 employees)	
	Medium (50 to 249 employees)	
	Large (250 or more)	

Please indicate the economic sector you are active in [drop down menu Only when contribution as Business association, Company, Trade Union]
☐ Agriculture, hunting and forestry
☐ Fishing
☐ Mining and quarrying
<ul><li>☐ Manufacturing</li><li>☐ Electricity, gas and water supply</li></ul>
☐ Construction
☐ Wholesale and retail trade
☐ Hotels and restaurants
<ul><li>☐ Transport, storage and communications</li><li>☐ Financial intermediation</li></ul>
☐ Real estate, renting and business activities
☐ Public administration and defence
☐ Education☐ Health and social work
☐ Other community, social and personal services
☐ Activities of private households as employers
☐ Extraterritorial organisations and bodies
☐ Other  If other, please specify: [free text - Only when economic sector indicated as
other]
Transparency register number [free text – only numbers]
?: Check if your organisation is on the <u>transparency register</u> . It's a voluntary database for organisations seeking to influence EU decision-making.
55 character(s) maximum
*Country of origin [drop down EU27+NON-EU - Only when contribution as an
organisation, institution, authority or other] ? = Please add your country of origin, or that of your organisation.
This list does not represent the official position of the European institutions with regard to
the legal status or policy of the entities mentioned. It is a harmonisation of often divergent
lists and practices.
<b>Main area of focus or your area of competence</b> [FREE TEXT - Only when contribution as an NGO, consumer organisation, Academic or Research Institution]
Your Contribution
The Commission will publish all contributions to this public consultation. You can choose whether you would prefer to have your details published or to remain anonymous when your contribution is published. For the purpose of transparency, the type of respondent (for example, 'business association, 'consumer association', 'EU citizen') country of origin, organisation name and size, and its transparency register number, are always published. Your e-mail address will never be published. Opt in to select the privacy option that best suits you. Privacy options default
based on the type of respondent selected.  Note that, whatever option chosen, your answers may be subject to a request for
public access to documents under Regulation (EC) N°1049/2001

*Feedback publication privacy settings [single choice check boxes Only when
contribution as an organization, institution, authority or other]
The Commission will publish the responses to this public consultation. You can
choose whether you would like your details to be made public or to remain
anonymous.
☐ Anonymous
Only organisation details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published as received. Your name will not be published. Please do not include any personal data in the contribution itself if you want to remain anonymous.
☐ Public
Organisation details and respondent details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published. Your name will also be published.
*Feedback publication privacy settings [single choice check boxes Only when contribution as an individual]
The Commission will publish the responses to this public consultation. You can choose whether you would like your details to be made public or to remain anonymous.
☐ Anonymous
The type of respondent that you responded to this consultation as, your country of origin and your contribution will be published as received. Your name will not be published. Please do not include any personal data in the contribution itself.  □ Public
Your name, the type of respondent that you responded to this consultation as, your country of origin and your contribution will be published.
☐ I am aware of the <u>personal data protection provisions</u> [single choice check
box]
Which sections do you want to respond to? (multiple answers possible)
☐ General section (section 1)
☐ Expert section (section 2)

#### **General section**

This section addresses individuals and organisations alike. The questions aim to find out more about opinions on the EU's overall climate ambition for 2040, associated opportunities and challenges, and related policy needs.

## Overall opinion on the EU's climate ambition for 2040

The European Climate Law requires the EU to achieve climate neutrality by 2050. This is defined as a balance between any remaining emissions of the main greenhouse gases (carbon dioxide, nitrous oxide, methane and the fluorinated greenhouse gases) and removals of CO<sub>2</sub> from the atmosphere. It further sets a target for the EU to reduce net GHG gas emissions by at least 55% by 2030, compared to 1990 levels. The EU seeks to lead by example to promote ambitious climate action across the world.

In response to the energy crisis due to Russia's invasion of Ukraine the European Commission also proposed the <u>REPower EU plan</u>, to rapidly reduce dependence on Russian fossil fuels and fast-forward the green transition.

Q1: Er	nissions reduction ambition for 2030 – 2040										
•	the objective of achieving climate neutrality by 2050 and the current energy										
crisis, now s	nould the EU pursue the climate transition up to 2040?										
	☐ The EU should accelerate the transition to climate neutrality.										
	☐ The transition to climate neutrality should continue at the current pace.										
	— ···· p										
	The EU's ambition should depend on other countries' climate ambition.  I do not know.										
Ц	I do not know.										
00 511											
Q2: EU emi	ssion reduction target for 2040										
2030 and ai	committed to reduce its net GHG emissions by 55% compared to 1990 levels by ms to achieve climate neutrality by 2050 (-100%). In your opinion, what should mission reduction target for 2040 to put the EU on track to meeting the 2050 rality target?										
	up to -65% emission reduction (a very low ambition, barely increased compared										
	to the target for 2030).										
	between -65% and -75% emission reduction.										
	between -75% and -80% emission reduction (following the average trajectory between 2030 and climate neutrality in 2050).										
	between -80% and -90% emission reduction.										
	more than -90% emission reduction (a very high ambition, close to reaching										
П	climate neutrality already in 2040).  I do not know.										
Ц	T do not know.										
You	can also indicate a specific value here:										

### Q3: Role of carbon removals in the 2040 climate target

The opposite of CO<sub>2</sub> emissions are CO<sub>2</sub> removals, also called 'carbon removals'. Carbon removals are processes in which carbon dioxide is removed from the atmosphere and stored

in a durable way in geological, terrestrial or ocean reservoirs or in products. Carbon removal solutions can be nature-based, for example through improving soil, forest management, or by restoring ecosystems, or they can be industrial through the development of technologies to capture and store carbon from the atmosphere. Carbon removals are indispensable for achieving EU climate neutrality because it may not be possible (or would be very expensive) to mitigate all emissions. As a first, important step, the Commission has proposed a regulation establishing a framework for certifying carbon removals, to guarantee transparency, reliability, and environmental integrity.

The EU's 2030 climate target is expressed in 'net' emissions, which is the sum of GHG emissions and carbon removals. In your opinion, how should carbon removals be considered so that the EU achieves its 2040 climate target?

Carbon removals should be considered together with actual GHG emissions.
Hence, it is enough to have only a single 'net' emissions target for 2040 to set the
GHG trajectory towards climate neutrality by 2050 in a cost-effective way.
It is better to set a separate target for reducing GHG emissions and another target
for carbon removals.
It is better to have one target for reducing GHG emissions, a target for nature- based carbon removals and a target for industrial removals with permanent storage.
No opinion / I do not have enough information to make a judgment.

### Q4: Opportunities associated with higher climate ambition

What are the benefits of an ambitious climate target by 2040? Which opportunities would you consider as most relevant when implementing an ambitious climate target by 2040? (Multiple answers possible; if no opinion just skip this item.) (response options will be provided in random order)

	It will improve our well-being (by lowering pollution, improving health and creating more liveable cities) and help protect the planet's ecosystems.
	It will ensure that we do our part in protecting the planet and fulfilling our duty towards future generations.
	It will reinforce EU leadership and inspire action to combat climate change globally.
	It will help individuals and businesses lower their energy and climate bills.
	It will help mitigate costs to societies who are likely to suffer from climate change (e.g. from extreme weather events, droughts or loss of ecosystems).
	It will improve energy security, reduce the EU's dependency on imported fossil
_	fuels and reduce exposure to volatility in fossil fuel prices.
	, , , , , , , , , , , , , , , , , , ,
	It will give a clear signal that the EU economy will embrace sustainable
	production and consumption models (e.g. circular and sharing economy approach).
	It will improve the competitiveness of the European economy and give EU industry a first-mover advantage on global markets.
	to outsource outside the EU (e.g. maintenance of renewable energy
	installations, construction and renovation, bioeconomy).

## Q5: Challenges and enabling actions for the EU climate ambition to 2040 and beyond

There will be challenges on the path to climate neutrality by 2050. There will also be ways to overcome these challenges, while at the same time modernising our economy and ensuring a socially just transition.

How important do you consider the different challenges and associated enabling factors listed below for the EU to reach its climate ambition? Please rate them from 1 = very unimportant to 5 = very important. (response options will be provided in random order)

		Very = ve				I don't know
New technologies and solutions need to emerge and be deployed (e.g. clean fuels), which will require more research, development and innovation.	1	2	3	4	5	
Public support is critical for climate ambition, which will require behavioural and societal changes. This needs to be reflected in policies, for instance on reusing and recycling and a fair transition.	1	2	3	4	5	
Small and medium enterprises will need support to develop and adapt as part of the transition.	1	2	3	4	5	
A faster expansion of renewable energies is needed. This will be supported by more ambitious EU and Member State legislation to further cut GHG emissions.	1	2	3	4	5	
Further improvements in energy efficiency are necessary. The EU should promote the smarter and more efficient use of energy and resources.	1	2	3	4	5	
Capturing CO <sub>2</sub> from the atmosphere and storing through nature-based and industry-based solutions is vital for the EU's climate neutrality. It should be financially supported.	1	2	3	4	5	
The climate transition will require a shift in investment flows. It is very important to promote green financing to ensure that resources are appropriately allocated to climate-friendly economic activities.	1	2	3	4	5	
Vulnerable households (such as single parents) may struggle with increasing energy prices and face an unequal burden of climate change. A socially just transition is key and should be ensured through mechanisms to support middle- and lower-income households financially.	1	2	3	4	5	
There is a risk of new dependencies on resources and raw materials. Action should be taken to secure supply and ensure sustainable use of these resources.	1	2	3	4	5	

Older infrastructure may lock people into carbon-intensive consumption patterns. Promoting and deploying digital solutions such as smart meters or digital-enabled mobility solutions on a large scale can help reduce GHG emissions.	1	2	3	4	5	
Monitoring and reporting on the evolution of GHG emissions and climate impacts is crucial. EU space data and services should be further used to do this.	1	2	3	4	5	

## Q6: Gender aspects of climate policy

Climate policy and climate action can be seen from many different perspectives. In your view, should more consideration be given to gender aspects in the transition to climate neutrality and in climate and related policies?

No, I totally disagree (1)	1	2	3	4	5	Yes, I totally agree (5)
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If you believe this is an important topic, how should climate and related policies better address gender aspects?

### Contribution of individual sectors to the EU's climate ambition

### Q7: Which sector should do more to reduce GHG emissions?

The potential of different sectors to further reduce GHG emissions may vary. In your opinion, to which extent can the different sectors further reduce their GHG emissions?

		= can r = can r	I don't know			
Production of electricity and district heating	1	2	3	4	5	
Industrial processes & waste	1	2	3	4	5	
Buildings (residential and services)	1	2	3	4	5	
Road transport (passenger and freight transport)	1	2	3	4	5	
Aviation & maritime transport	1	2	3	4	5	
Agriculture, forestry and other land use	1	2	3	4	5	

## Q8: Sectors expected to reach climate neutrality first

It will be easier for some sectors to reach climate neutrality than for others. For example, different sectors could face different investment needs, conditions of technical feasibility or may require changes by consumers.

Please rank the following sectors in the order in which you expect them to reach climate neutrality in the coming three decades, where (1) is the first to become climate neutral and (6) is the last to reach climate neutrality If you do not know or you do not feel able to provide a ranking, please simply skip that question. (response options will be provided in random order)

Sector	Ranking (1 to 6)
Production of electricity and district heating	
Industrial processes & waste	
Buildings (residential and services)	
Road transport (passenger and freight transport)	
Aviation & maritime transport	
Agriculture, forestry, and other land use	

# Q9: Capacity to innovate

How do you assess the capacity to innovate and access financing of the sector or company you are working in?

Please rate them from 1 = totally disagree to 5 = totally agree.

	1 =		y disa ally ag	gree; : ree	5 =	I don't know
My sector or company has the capacity to carry out the necessary innovation (e.g. product innovation, technologies, technical skills, etc) to manage the transition to a net-zero emission economy.		2	3	4	5	
My sector or company has access to risk capital and financing.	1	2	3	4	5	
My sector or company has access to EU dedicated facilities for the green transition (e.g. InvestEU, Just Transition Fund, Modernisation Fund, etc.).	1	2	3	4	5	

## My personal contribution to protect the climate

## Q10: Awareness of climate change impact and climate action

The effects of climate change have been regularly described in the reports by scientists of the Inter-governmental Panel on Climate Change (IPCC). Their analyses are covered by the media.

How aware are you and how aware do you think society is of the reality of climate change and its impacts? Please indicate the extent to which you agree with the statements below, from totally disagree (1) to totally agree (5).

	1 =	totall tota	y disa ally ag		5 =	I do not know
I am aware of the reality of climate change and its expected impacts.	1	2	3	4	5	
I am ready to change my behaviour to reduce my carbon footprint (e.g. by using sustainable transport; using or producing renewable energy; reducing consumption, reusing and recycling products; consuming foods with a lower climate impact; reducing fashion consumption; or by choosing climate-friendly investment plans).	1	2	3	4	5	
I have felt or experienced the present-day impacts of climate change (e.g. hotter summers, dryer land, less snow) and I feel a need to adapt to these impacts.	1	2	3	4	5	
There are many factors preventing me from taking further action, for example insufficient information on products or services, lack of sustainable choices and infrastructure, or solutions that are too complicated.	1	2	3	4	5	
Society is aware of the reality of climate change and its expected future impacts.	1	2	3	4	5	
Society is ready to implement actions to reduce GHG emissions (e.g. by using sustainable transport; using or producing renewable energy; reducing, reusing and recycling products; consuming foods with a lower climate impact; reducing fashion consumption; or by choosing climate-friendly investment plans).	1	2	3	4	5	
Society feels the need to manage and adapt to climate change (e.g. different infrastructure in cities; preparedness for floods, droughts and heatwaves; greening spaces; improving health conditions).	1	2	3	4	5	

Q11: Most important changes expected for peoples' daily lives

	r climate neutrality by 2050. Where do you expect the greatest changes to r daily life? (Multiple answers possible.) (response options will be provided in
	lousing (e.g. energy consumption in buildings, living space)
	ransport used for short-distance trips
□ T	ransport used for long-distance trips
□F	ood (including food waste)
□ C	consumer goods and services (including reduce, reuse, repair & recycle)
□ M	ly current job
□ E	ducation and skills needed for future jobs
Please s	pecify any other expected changes:

The effort to reduce GHG emissions in the EU will progress further in the coming years in

## Q12: Willingness for action at individual level

Consumer choices and behavioural change can considerably impact our GHG emissions. Which of the following personal actions would you be willing to take to fight climate change? Please indicate your personal choice from (1) 'No, I would not be willing to implement this' to (3) 'Yes, I would be willing to implement this'.

Actions	(1) No, I w do this (2) I am no would (3) Yes, I this	Not applicable in my case		
Eat food with a lower climate impact, such as plant-based, local or sustainably produced food.	1	2	3	
Improve the energy performance of my building (insulation, triple glazing, more efficient heating, etc.).	1	2	3	
Invest in energy measures for my building that reduce its emissions (solar panels, thermal insulation, heat pumps).	1	2	3	
Accept infrastructure for renewable energy such as wind turbines, above-ground power lines or solar panels in your municipality.	1	2	3	
Buy products and services that are more climate-friendly (according to a trusted label or certificate), even if they come at a somewhat higher price.	1	2	3	
Consider how climate-friendly a product is when the information of its climate impact is	1	2	3	

provided (e.g. through a label).				
Have goods repaired or reuse them, rather than buying new ones.	1	2	3	
Reduce wasteful consumption, for instance buying and using long-lasting appliances, clothing, and other products.	1	2	3	
Use alternatives to the car for everyday journeys (e.g. walking, cycling, public transport), or reduce trips (e.g. by working from home).	1	2	3	
For long journeys, fly less and travel more by alternative modes (e.g. trains) or consider shorter distance trips.	1	2	3	
Switch to sharing-based business models to rent products rather than owning them, such as car-sharing.	1	2	3	
Compensate some of my emissions via reliable and certified carbon-offsetting programmes.	1	2	3	
Engage in active political support for increased climate ambition, regardless of political affiliation.	1	2	3	

## Q13: How to improve incentives for climate action

Climate policies and the trajectory to climate neutrality by 2050 will require us to change our consumption patterns, both for products and services. Which of the following proposals would help you to reduce your personal climate footprint? (response options will be provided in random order)

		I don't know				
Raise awareness of the climate impact of goods and services.	1	2	3	4	5	
Label the climate impact of goods and services so that consumers can better choose more climate-friendly options.	1	2	3	4	5	
Ensure the price of goods and services reflects their impact on climate change, making climate-friendly products with a lower climate impact more attractive.	1	2	3	4	5	
Ensure the price of goods and services reflects their impact on climate change, but treat first necessity/regular/ -luxury goods and services differently.	1	2	3	4	5	
Provide better information on how to invest in solutions that will help people reduce their GHG	1	2	3	4	5	

emissions or increase carbon removals, notably from buildings, food consumption or transport.						
Ease financing of investments in solutions that will						
lead to reductions in personal GHG emissions, notably from a person's house (e.g. installing heat pumps), transport means (e.g. electric cars or	1	2	3	4	5	
affordable public transport) or food consumption.						
Support sharing and leasing services to facilitate the access to technologies that reduce an individual's net GHG emissions (e.g. heat pump, photovoltaic panels or electric vehicles).	1	2	3	4	5	
Put in place measures to make sure that the most vulnerable in society have access to sustainable and climate-friendly products and services.	1	2	3	4	5	

If other, please specify:		

### The impacts of the climate crisis

Setting a 2040 climate target will confirm the importance for the EU of tackling climate change, which is already having an impact on our society and economy. Scientists have emphasised that, without a significant reduction of GHG emissions, climate change and the impacts it brings will accelerate in the coming years and decades, with possible tipping points reached and large-scale irreversible outcomes. The impacts from the changing climate are also likely to hamper efforts to reduce GHG emissions needed to reach a 2040 target and climate neutrality.

The following questions assess perceptions of risks and impacts, which will increase in the absence of ambitious global climate action.

### Q14: Possible effects of climate change for individuals

Which effects of climate change are of most concern for you? (Multiple answers possible; if no opinion, skip this item.) (response options will be provided in random order)

Loss of life due to natural hazards such as heatwaves, floods, droughts or wildfires.
A change of landscape and forests in areas I relate to or that I live in.
Loss of job or income due to changes in the sector in which I work.
Having to face changes in my private life or activities, e.g. facing water-scarcity not being able to do outdoor activities in summer; less opportunity for winter-related activities; paying more for energy, food and transport; fewer transport services that address my specific needs as a woman, person with disabilities or as a young or older person).
Spread of new diseases (e.g. malaria) and pandemics.
Damage from natural hazards (floods, wildfires, droughts, etc.) and rising sea levels.

In-depth Report on the Results of the Public Consultation on the EU Climate Target for 2040

#### Q17: Adapting to climate change where you live

The Intergovernmental Panel on Climate Change (IPCC), the intergovernmental scientific body of the United Nations responsible for advancing knowledge on human-induced climate change, warns in its latest report that the world is set to reach the 1.5°C temperature

increase level within the next two decades. While stressing that preventing mounting loss of life, biodiversity and infrastructure requires the most significant cuts in GHG emissions, the IPCC also calls for more action to adapt to climate change.

Buildings can be adapted to increase their resilience to climate change, for example by improving thermal insulation, using highly durable materials, retrofitting or by greening urban areas to fight the urban heat.

Considering your place of residence, your community, and the city or region you live in, how much do you agree with the following statements from totally disagree (1) to totally agree (5)? (response options will be provided in random order)

Statements	1 = totally disagree; 5 = totally agree					I don't know
The risks associated with climate change for my place of residence have been assessed and I can access this information.	1	2	3	4	5	
Plans to prepare for inevitable climate change events have been sufficiently developed and I am informed of them.	1	2	3	4	5	
Concrete actions to improve climate resilience in my place of residence have been carried out and I judge them sufficient.	1	2	3	4	5	
The local or national authorities should do more to prepare my city or region for climate change.	1	2	3	4	5	
I am aware which climate impacts are threatening the building I live in.	1	2	3	4	5	
Some physical measures have already been implemented to prepare my building for climate change impacts.	1	2	3	4	5	
I would be ready to invest to make my building more resilient to climate change.	1	2	3	4	5	
We need more adaptation policies that take gender-differentiated needs and the needs of disadvantaged groups into account.	1	2	3	4	5	

### **Expert section**

Appears only when expert section (section 2) was selected previously in the About you section

This section complements questions on the 2040 climate target by exploring how the EU's climate policies could evolve after 2030 to set the EU on track to meeting its climate neutrality target by 2050. It includes questions on the role of the EU Emissions Trading System (ETS), the Effort Sharing Regulation and sectoral targets, questions on GHG mitigation in the land sector, the role of carbon removals, technologies, and the role of EU policy on adaptation to climate change for buildings and energy infrastructure.

The section is addressed predominantly to people with expert knowledge. As an individual, you may also respond to it, but it is not mandatory.

## **General policy framework**

In addition to the European Climate Law, GHG emissions from the EU are currently covered by three policy instruments:

- the EU Emission Trading System (ETS) Directive, an EU-wide market-based instrument to reduce GHG emissions from specific sectors through a declining cap on emissions, a carbon price signal and trading of emission allowances;
- the Effort Sharing Regulation, which sets EU-wide and national targets on GHG emissions reduction from the other sectors (excluding land use, land use change and forestry (LULUCF));
- the LULUCF Regulation, which defines an EU-wide target of delivering 310 million tonnes of CO<sub>2</sub> equivalent (MtCO<sub>2</sub>e) removals from the LULUCF sector by 2030.

# Q18: Scope and role of EU-wide carbon pricing instruments

In the context of the Fit-for-55 package, the scope of the EU ETS is being extended to cover most of the CO<sub>2</sub> emissions from the use of fossil fuels and industrial processes.

How could emissions trading in the EU evolve in a post-2030 policy framework in terms of GHG coverage, sectoral coverage, and relations with non-EU emissions trading schemes? (response options will be provided in random order)

Options	1 = totally disagree; 5 = totally agree					l don't kno w
EU emissions trading should cover all fossil fuel uses, including those that are so far not or not entirely covered, e.g. in the non-road transport sector.	1	2	3	4	5	
EU emissions trading should also cover all non-CO <sub>2</sub> GHG emissions from the use of fossil fuels and industrial processes, not only CO <sub>2</sub> emissions.	1	2	3	4	5	
EU emissions trading should also cover GHG emissions from other sectors (e.g. extractive industries or the land sector).	1	2	3	4	5	
EU emissions trading maintains the obligation to surrender allowances for emissions that are captured and utilised (Carbon Capture Utilisation, 'CCU') in non-permanent products. This aspect of emissions trading should be adapted for sectors	1	2	3	4	5	

with hard to abate, residual emissions and for sectors that require a carbon feedstock (e.g. chemicals, pulp and paper) in order to promote carbon circularity.						
Options to link the EU ETS with other compliance carbon markets should be pursued, provided that the environmental integrity, potential cost-efficiency gains and more options for emissions abatement are carefully assessed.	1	2	3	4	5	

## Q19: Future role of the carbon border adjustment mechanism (CBAM)

In October 2023, the European Commission will introduce the carbon border adjustment mechanism, which, for the goods and sectors under its scope, will replace the existing mechanisms to prevent the risk of carbon leakage under the EU ETS. Instead, the CBAM will ensure equivalent carbon pricing for imports and domestic products. Under the (provisional) CBAM agreement, the Commission is mandated to assess the possibility of including all sectors identified as at risk of carbon leakage in the ETS Directive (Directive 2003/87/EC) at the latest by 2030.

	1 =	l don't know				
Any extension of CBAM to all ETS products, which will replace free allocation, should be done progressively and prioritise certain sectors.	1	2	3	4	5	
Priority should be given to sectors where absolute emissions are the highest.	1	2	3	4	5	
Priority should be given to sectors where the emission reduction efforts are the lowest.	1	2	3	4	5	

If the scope of CBAM were extended to additional sectors, which sectors would be the priority?

## Q20: Future role of the Effort Sharing Regulation (ESR) and links with the ETS

With the 'Fit for 55' package, some emissions currently falling under the ESR (and the associated national targets) will also be covered under an EU ETS (notably CO<sub>2</sub> emissions from road transport and buildings).

How should the scope of emissions under the ESR and the associated national targets evolve in the EU's post-2030 climate policies?

	1 = totally disagree; 5 = totally agree					l don't know
The ESR and associated national targets should cover only GHG emissions that are not subject to the EU ETS.	1	2	3	4	5	
The ESR and associated national targets should keep the same GHG scope as currently, covering both emissions that are not under the EU ETS (e.g. agriculture methane and nitrous oxide emissions) and emissions from fuels used in road transport and buildings (subject to the new ETS).	1	2	3	4	5	
There should be national targets covering all GHG emissions from all sectors (including those covered by the EU ETS).	1	2	3	4	5	
National targets should be replaced by EU-wide sectoral legislation.	1	2	3	4	5	

# Mitigation of GHG emissions from the land sector (agriculture, forestry and other land use) and policy options

# Q21: The role of carbon pricing and non-carbon pricing instruments for agricultural emissions and land-based removals

Agriculture is responsible for almost 12% of EU emissions. One possible way for climate policies to tackle this problem is to set a carbon price on agricultural emissions. But there are also other options, such as national targets, sectoral standards, or better information and support.

Please indicate your preference for the different options by rating the statements from totally disagree (1) to totally agree (5). (response options will be provided in random order)

	1	I don't know				
A carbon price on agricultural emissions, coupled with payments for carbon removals, will provide farm-level incentives to move to sustainable farming practices.	1	2	3	4	5	
Emission reductions and carbon removals in the agricultural sector should be covered by national targets and achieved through, inter alia, the EU common agricultural policy (CAP).	1	2	3	4	5	
Unsustainable farming practices should be ruled out by ambitious sectoral standards that make sustainable farming practices the new standard.	1	2	3	4	5	

### Q22: Agricultural emissions and climate policies

If a carbon price was set on agricultural emissions, for which actor should it be set? Please rate the following options from totally disagree (1) to totally agree (5).

	1	1 = totally disagree; 5 = totally agree				
<b>Farmers:</b> A carbon price or stricter standards at the farm level would steer the decisions of the actors who are more directly in control of agricultural emissions.	1	2	3	4	5	
<b>Food companies:</b> Making food producers liable for the climate footprint of a product along the entire value chain would drive the transition towards more sustainable food systems.	1	2	3	4	5	
<b>Producers of fertilisers:</b> Fertilisers generate greenhouse gases when applied on the land. Asking producers to pay the corresponding carbon price would promote the most sustainable and efficient fertilising solutions.	1	2	3	4	5	
<b>Consumers:</b> A carbon price linked to the emissions of the most GHG-intensive food products (e.g. animal-based) would incentivise a shift towards more climate-friendly diets.	1	2	3	4	5	

#### The role of carbon removals

The objectives of the Paris Agreement are challenging, and scientific evidence presented by the IPCC indicates that it will be necessary at a certain point to remove a significant amount of  $CO_2$  from the atmosphere in order to stay below  $2^{\circ}C$ , and even more so in order to limit the temperature increase to  $1.5^{\circ}C$ . Carbon removals are processes in which carbon dioxide gas is removed from the atmosphere and durably stored in geological, terrestrial or ocean reservoirs or in products. While some nature-based solutions like growing forests and storing carbon in biomass have already existed for a long time, industrial solutions that capture atmospheric carbon and then store it underground (directly with direct air capture and indirectly through carbon capture associated with bioenergy) are so far only used on a small scale or are still being developed.

### Q23: General role of carbon removals

Carbon removals can decrease the overall level of CO<sub>2</sub> in the atmosphere or cover for remaining GHG emissions from the economy.

What should be the role of carbon removals to meet the EU climate neutrality target by 2050? ☐ A very limited role. All GHG emissions can be brought down close to zero by 2050, including in sectors that are currently considered as difficult to fully abate (like agriculture, aviation or some industrial processes). ☐ An important role. Carbon removals compensate remaining unabated GHG emissions in different sectors, including agriculture, industrial processes, while driving the growth of the EU clean industry and providing co-benefits for other environmental objectives. ☐ No opinion. Q24: Relative contribution of nature-based removals and industrial removals If the EU were to rely to a certain extent on carbon removals to meet its targets in 2040, what should be the relative contribution of nature-based removals in the land sector ("LULUCF") and industrial removals (direct air capture or carbon capture and storage associated with bioenergy)? ☐ A stronger reliance on the LULUCF sink, since the large-scale deployment of industrial removals is uncertain. ☐ A balance between the LULUCF sink and industrial removals. ☐ A stronger reliance on industrial removals, since the evolution of the LULUCF sink is uncertain. ☐ No opinion.

### **Technologies**

### Q25: Barriers to carbon capture and storage technologies

What are the main hurdles to deploying carbon capture and storage technologies?

		1 = mi	I don't know			
Public acceptance	1	2	3	4	5	
Regulatory framework	1	2	3	4	5	
Technology maturity	1	2	3	4	5	
Cost of CO <sub>2</sub> capture technology	1	2	3	4	5	
CO <sub>2</sub> storage availability	1	2	3	4	5	
Economic signals (e.g. the price of carbon)	1	2	3	4	5	

## Q26: Carbon capture and use or storage

Which deployment of carbon capture and storage and carbon capture and use should be prioritised?

	1 =	= lower	I don't know			
Capture of CO <sub>2</sub> from the combustion of fossil-fuel.	1	2	3	4	5	
Capture of CO <sub>2</sub> from non-energy related industrial processes CO <sub>2</sub> emissions.	1	2	3	4	5	
Capture of CO <sub>2</sub> from the combustion of biomass.	1	2	3	4	5	
Capture of CO <sub>2</sub> directly from the air (direct air capture).	1	2	3	4	5	
Permanent storage of captured CO <sub>2</sub> in underground geological formations to avoid emissions (fossil CCS) or generate negative emissions (BECCS/DACCS).	1	2	3	4	5	
The use of captured CO <sub>2</sub> in fuels and products to replace virgin fossil carbon.	1	2	3	4	5	
The co-production of clean gas and biochar through the treatment of biomass in an approach combining the use and storage of biogenic carbon.	1	2	3	4	5	

## Q27: Energy technologies

The energy system today is responsible for around 75% of the EU's GHG emissions and is currently undergoing a rapid transformation. Accelerating this change will play a central role in the transition towards a carbon-neutral economy.

The following table lists different energy technologies. Which are the most relevant solutions for the energy transition towards carbon neutrality? Please rate the options from not important (1) to very important (5). (response options will be provided in random order)

	1 =	1 = very irrelevant; 5 = very relevant				I don't know
Energy efficiency first principle: prioritise further reducing the need to produce and consume energy.	1	2	3	4	5	
Renewable energy from wind (onshore, offshore and floating), solar (including rooftop and decentralised installations) or hydro.	1	2	3	4	5	
Bioenergy from advanced biofuels or solid biomass.	1	2	3	4	5	
Other forms of renewable energy, like geothermal (including heat pumps), wave or tidal.	1	2	3	4	5	
Nuclear energy (existing nuclear fission).	1	2	3	4	5	

Fossil fuels with carbon capture and storage.	1	2	3	4	5	
Solid biomass for heat and electricity production.	1	2	3	4	5	
Advanced liquid biofuels.	1	2	3	4	5	
Biogas from agricultural and domestic waste.	1	2	3	4	5	
Electricity storage, long duration storage and heat storage (electricity system integration).	1	2	3	4	5	
Hydrogen and its derivatives (produced in a carbon-neutral manner).	1	2	3	4	5	
Demand management, demand response and greater digitisation of energy systems.	1	2	3	4	5	

Please specify any different options below:

# Q28: Opportunities and challenges with regard to energy technologies and their development

What are the biggest opportunities in the energy sector and in the sectors of the economy consuming energy (residential, industry, transport), including for the wider economy and security of supply? What are the biggest challenges related to the future development of a low-carbon energy sector, including as regards to public acceptance or the availability of land and natural resources?

# Q29: Other options to fight climate change to be considered

Please rate the options below to indicate the most relevant solutions for limiting climate change: (response options will be provided in random order)

	1 = very irrelevant; 5 = very relevant					I don't know
Afforestation, reforestation and forest restoration.	1	2	3	4	5	
Peatland restoration (rewetting, revegetating, and paludiculture on peatlands).	1	2	3	4	5	
Agroforestry and other agricultural soil management practices.	1	2	3	4	5	

	1		1	1	1	, ,
Soil carbon sequestration.	1	2	3	4	5	
Bio-energy carbon capture & storage (BECCS).	1	2	3	4	5	
Direct air carbon capture and storage (DACCS).	1	2	3	4	5	
Innovative mobility technologies (wireless charging, multimodal urban platforms, autonomous shared vehicles).	1	2	3	4	5	
Biochar (carbon sequestration by heating biomass in low oxygen environment).	1	2	3	4	5	
Enhanced weathering (that allows CO <sub>2</sub> to be removed from the atmosphere through storing into silicate rocks spread onto surfaces).	1	2	3	4	5	
Coastal blue carbon (carbon sequestration by restoring and managing coastal wetlands like mangroves, saltmarshes, sea grasses).	1	2	3	4	5	
Ocean-based carbon storage (ocean fertilisation, ocean alkalinity enhancement, artificial upwelling).	1	2	3	4	5	
Nuclear fusion (energy generation through the fusion of atoms).	1	2	3	4	5	
Solar radiation modification (temporary measure to limit climate change through aerosol injection to reflect more sunlight into outer space).	1	2	3	4	5	
Production of plant-based meat substitutes or 'in vitro' meat.	1	2	3	4	5	
Innovative technologies improving digitalisation in different sectors (digital energy systems, precision farming, connected mobility, etc.) that reduce GHG emissions.	1	2	3	4	5	

# Q30: Open question on the future role of other innovative options

Which other innovative technologies could be used to reduce emissions, in particular in hard-to-abate industrial sectors or to compensate for hard-to-capture emissions?

## **Engagement and social impacts**

# Q31: Local and regional implementation of the European Green Deal

Local and regional authorities such as cities, regions and local communities, as well as other actors such as civil society and the private sector, can play an important role

in achieving the energy transformation, reducing GHG emissions and adapting to climate change. Many regions, cities, companies and citizens' organisations are implementing projects covering energy, transport, food and waste management, and thereby helping to foster the green transition. Importantly, they often achieve local cobenefits related to economic and social development, health and well-being, while contributing to a low carbon economy and the energy transition. In your view...

	1 = No, absolutely not; 5 = Yes, absolutely				I don't know	
are local, regional, and private sector actors sufficiently involved in supporting the green transition?	1	2	3	4	5	
are national energy and climate plans (NECP) a good source to inform the 2040 policy framework?	1	2	3	4	5	

## Q32: Social impacts of climate change policies

While achieving climate neutrality will lead to long-term economic, societal and environmental benefits for the people of Europe, the increase in the price for fossil fuels will have significant social and distributional impacts that can disproportionally affect regions, sectors and vulnerable people in our society.

In view of ensuring a just transition, please rate the following statements from totally disagree (1) to totally agree (5).

	1 = Totally disagree; 5 = Totally agree				I don't know	
After 2030, there will be a greater need to support vulnerable individuals who must cope with the costs associated with the green transition.	1	2	3	4	5	
Strengthening carbon pricing to spur climate-friendly activities, services and goods may affect the cost of living. It should be accompanied by adapted fiscal policies to mitigate the impacts on citizens.	1	2	3	4	5	
Vulnerable households (such as single parents) may struggle with increasing energy prices and face an unequal burden of climate change. A socially just transition is key and should be ensured through mechanisms to support middle- and lower-income households financially.	1	2	3	4	5	
It is important to ensure inter-generational fairness: ambitious action is needed now to limit future adverse impacts of climate change on young people and future generations.	1	2	3	4	5	

## Q33: Sectoral impacts of the transition

The green transition will create new opportunities but also lead to a decline in employment in certain sectors (such as coal, peat, oil shale, petroleum) and increase the need for transformation in others (GHG intensive industry such as non-metallic minerals, basic metals, chemicals, cement, fertilisers, and oil refining). In addition, some small and medium sized enterprises may be impacted by changes necessary for decarbonising operations and manufacturing less energy-intensive products.

Please rate the following statements from totally disagree (1) to totally agree (5).

	1 = Totally disagree; 5 = Totally agree				I don't know	
The green transition represents an opportunity for small and medium sized enterprises (SMEs).	1	2	3	4	5	
After 2030, there will be a greater need to support SMEs to cope with the adaptation and costs associated with the green transition.	1	2	3	4	5	
The impact on competitiveness of micro-companies is likely to differ from the impact on small and medium-sized ones.	1	2	3	4	5	
The EU transition to a net-zero economy impacts differently on the competitiveness of SMEs from those of large companies.	1	2	3	4	5	
The most affected sectors by the green transition will significantly change after 2030.	1	2	3	4	5	
The likely structural shift and changing skill requirements in the economy towards a green and circular economy will require EU action to reskill and upskill the workforce.	1	2	3	4	5	

### Q34: Open Question on affected sectors after 2030

If you believe the sectors affected by the green transition will change after 2030, which sectors do you believe will be affected by then and how? Please describe briefly in the text field.

### Adapting to climate change

Climate change is already causing observable effects on the environment. Towards 2040 it will increasingly impact the achievement of our climate targets through its effect on sectors such as energy, transport and land-use. Some of these observable effects include more

extreme temperatures, higher wind speeds, heavier rainfall, droughts and wildfires all of which negatively impact climate mitigation efforts.

# Q35: EU policy ambition on climate resilience of mitigation efforts

Assets instrumental in delivering our climate mitigation targets will be exposed to the effects of a growing number of extreme weather events. This includes energy infrastructure, (from generation and transmission to distribution and the final customer), transport infrastructure (from bicycle roads to the high-speed train network) and land use (both in terms of sectoral carbon emissions and carbon removal).

What do you believe would be the right scope for regulating these sectors from the point of view of climate adaptation and resilience? (One option possible.)

Current EU regulations and policy are sufficient to guarantee the security of the mitigation efforts in face of climate impacts.
The EU should do more to promote the climate resilience of mitigation efforts using soft measures (guidance, training, etc.)
The EU should provide specific provisions related to climate risks in the existing EU legislative framework
The EU should draft new legislation to improve the climate resilience of mitigation efforts.
I do not know.

[Option to submit position papers]

# Appendix B: Overview of the main characteristics of the selected position papers

 Table 4
 Stakeholder groups distribution for the selection position papers

Stakeholder group	Count
Academic/research institution	12
Business association	42
Company/business	13
Consumer organisation	1
Environmental organisation	8
Non-governmental organisation (NGO)	16
Other	9
Public authority	17
Trade union	2
Total	120

 Table 5
 Distribution of geographical origin of selection position papers

Country	Count
Austria	4
Belgium	53
Denmark	4
Estonia	1
Finland	7
France	4
Germany	19
Ireland	1
Italy	2
Netherlands	7
Poland	2
Romania	2
Slovenia	1
Spain	2
Sweden	4
Switzerland	3

United Kingdom	2
United States	2
Total	120

Table 6 Length of the selected position papers

Paper length	Count
1-5	61
6-10	23
11-20	10
20-50	13
>50	13
Total	120

 Table 7
 Language of the selected position papers

Paper language	Count
DE	4
EN	112
ES	1
IT	1
PL	1
SE	1
Total	120

# Appendix C: Abstracts of the selected position papers

120 position papers submitted by stakeholders have been analysed to carry out the thematic analysis presented in this report. An abstract of those position papers is available in the table below.

Stakeholder Group	Organisation name	Country of origin	Economic sector	Main theme(-s) covered:	Brief summary
Academic/research institution	Centre for European Policy Studies (CEPS)	Belgium	All sectors	Climate, Economic, Policy, Crisis, European, Emissions, Recovery	Policy briefing by CEPS on aligning the EU post-pandemic economic recovery and the Paris decarbonization objectives. The policy briefing contains recommendations for the short and long term. In relation to the covid crisis and climate change, the paper mentions that the crisis will require the EU to think big and that this provides an opportunity to go beyond the incrementalism that has characterised climate policy to date. Possible areas for transformational approaches are the creation of low-carbon lead markets (as for example outlined in the European Commission's New Industrial Strategy for Europe), the kick-start of the hydrogen economy or a focus on the basic material value chain, which is responsible for half of global GHG emissions. CEPS also state that it may be wise to postpone an increase in the emissions reductions target for 2030 to 50-55% as the implications of the pandemic are yet uncertain. However the paper was written in 2020.
Academic/research institution	COP21 Ripples	Spain	Various sectors	EU, Climate, Policy, Energy, European, Emissions	The EU 2040 emissions reduction ambition is not the specific focus of the paper. The paper makes the case for an adequacy assessment framework and its application within the EU with the aim to assess the implementation of the Paris Agreement at the national level and how to reach the set target of 1.5C, as well as GHG emission reduction by 2030 and 2050 respectively. COP21 Ripples project makes the case that the focus for change should not be solely on emissions, but also on other dimensions such as international economic and social governance, and interrelationships of global markets.
Academic/research institution	Wood Circus	Finland	Buildings	Woodworking, European, Industries, Circular, Sustainable	The paper analyses the importance of the wood industry for the green transition. For example, woodworking industries provide options for more sustainable buildings, link to renovation wave and new Bauhaus. The paper states that wood and wood-base products will help achieving the carbon neutrality goals set by the European Green Deal. This is due to high production efficiency, and high potential of recovery, reusing and recycling, creating a more sustainable economy.
Academic/research institution	INHERIT	Germany	Various sectors	Income, Scenario, Participants, Energy	The paper brings insights into citizen's perceptions of four future scenarios for healthier, more equitable and sustainable European societies in 2040. The scenarios are based on perceptions from citizens of five European Countries. Participants in the study were especially positive towards development of new smart

Stakeholder Group	Organisation name	Country of origin	Economic sector	Main theme(-s) covered:	Brief summary
					homes to increase levels of energy-efficient housing. For example, discussions in the UK highlighted that smart meters could increase personal capabilities to understand specific devices' energy consumption.
Academic/research institution	Potsdam Institute for Climate Impact Research	Germany	All sectors	Scenario, Energy, Emissions, Life, Change, Behaviour	The paper evaluates how behavioural and technological changes' have contributed to decarbonisation. It concludes that changes in lifestyles are crucial and could contribute to achieving climate targets before 2050 and that the combination of both behavioural and technology changes can lead the EU to reach net zero emissions by 2040.
Academic/research institution	European Scientific Advisory Board on Climate Change	Denmark	All sectors	Climate, EU, Emissions, Global, Scenarios	In this position paper, the European Scientific Advisory Board on Climate Change gives input to the determination of an EU-wide 2040 climate target and projected indicative greenhouse gas budget for 2030-2050. Their key recommendation is that the European Commission should follow an approach that is systematic, transparent and guided by EU values. This will help to demonstrate that the proposal incorporates the full range of scientific, legal, technical and ethical issues that it is required to consider under the European Climate Law. Moreover, providing integrated scenarios will guide the setting of scientifically sound intermediate 2040 targets and a 2030–2050 greenhouse gas budget for the EU, which is the main focus and argument of this position paper.
Academic/research institution	German Institute for International and Security Affairs	Germany	Various sectors	Ocean, Carbon, Climate, Marine, Storage, Policy	The paper looks into the role of the ocean in carbon removal and EU climate policy. It mentions that the oceans may become the new "blue" frontier for carbon removal as the challenges of land-based removal approaches are increasingly recognised. As there is a tension between the rights of states to use ocean resources within their exclusive economic zones and the international obligation to protect the ocean as a global common, the paper state that the EU need to clarify the balance between the protection and use paradigms in ocean governance when considering using the ocean as an enhanced carbon sink or storage site.
Academic/research institution	Agora Energiewende	Germany	Energy	Climate neutrality, Emissions, Climate, Transition.	The report presents a structural transition pathway away from fossil gas use by 2050 based on detailed sectoral modelling of the energy, buildings, and industry sectors. It concludes that by 2040, EU greenhouse gas emissions could decline by 89% relative to 1990 levels, with a
					projected remaining Union greenhouse gas budget for the 2030–2050 period of 14.3 Gt.

Stakeholder Group	Organisation name	Country of origin	Economic sector	Main theme(-s) covered:	Brief summary
Academic/research institution	Eurac Research - Institute for Comparative Federalism	Italy	Various sectors	Local policies, Best practices, Transport, Energy, Water, Spatial planning.	The document presents a collection of best practices, i.e., a non-exhaustive list of examples concerning how the subnational governments analysed, the two Autonomous Provinces of Trento and Bolzano and the two Austrian  Länder of Vorarlberg and Tyrol, have successfully managed to mainstream climate change considerations in subnational and local policies, plans, and initiatives.
Academic/research institution	NAVIGATE consortium	Germany	All sectors	Targets, Emissions, Navigate, Decarbonisation	The document discusses the EU 2040 target in relation to insights from the NAVIGATE project. More specifically, it discusses this in the areas of industry, buildings and transport, but also the EU's efforts to achieve the global methane pledge. It also discusses economic and fairness implications of the transition to net zero. The paper mentions that the 2040 target should be chosen in a manner that allows the completion of the final act of replacing or compensating the residual emissions in hard to abate sectors e.g., heavy industry, and aviation in the remaining 10 years after 2040
Academic/research institution	CDRterra	Germany	Various sectors	Climate, carbon	In the paper, CDRterra emphasises that the EU needs to strengthen the emission reduction targets, to focus on the integration of carbon removals and strengthen EU ambitions and international collaborations. That implementing an ambitious climate target by 2040 brings multiple opportunities, including mitigating climate change impacts, driving clean energy transition and innovation, improving public health, enhancing economic resilience, conserving the environment, and promoting social justice.
Academic/research institution	European Roundtable on Climate Change and Sustainable Transition (ERCST)	Belgium	All sectors	Climate, target, carbon	The document is ERCST's rationale accompanying the answers for the 2040 targets questionnaire. Among other statements, the organisation argues that the transition to climate neutrality should continue at the current pace and that the EU's ambition should depend on other countries' climate ambition.
Business association	Glass Alliance Europe	Belgium	Manufacturing industry	Glass, EU, ETS, industry, Emissions	In the paper the Glass Alliance Europe state that they fully supports the decarbonisation objectives set out in the Climate Law to address climate change and its harmful consequences on our planet, and in the paper share their view on the ongoing reform of the EU ETS. The glass industry recommend that the EU should maintain the ETS cap decrease as proposed by the Commission and without rebasing to avoid further increasing the pressure on European industry with no effect on the overall reduction target. The alliance also recommends the EU to introduce measures to avoid the application of the cross-sectoral-correction factor (CSCF) and more.

Stakeholder Group	Organisation name	Country of origin	Economic sector	Main theme(-s) covered:	Brief summary
Business association	International Emissions Trading Organisation (IETA)	Switzerland	Various sectors	EU, ETS, Emissions, Carbon, Climate, IETA, International	Position paper on the development of the EU ETS to 2050, highlighting the importance of a strong cap and extension to other sectors. IETA for example suggest providing stand-alone ETS systems for sectors already covered by the EU ETS (e.g., Road Transport and Buildings) to provide a strong price signal for sectors that would otherwise not receive one through EU ETS inclusion. IETA also support placing the intra-EU maritime sector in the EU ETS as long as the rigorous MRV requirements are met.
Business association	European Community Shipowners Associations (ECSA)	Belgium	Transport	Shipping, Industry, IMO, EU, Maritime, Fuels	The ECSA position paper centres around the implications of the target of carbon neutrality in the shipping industry and discusses the options on how the EU can support the green transition in the shipping industry. However, the ECSA also state that as a global industry, regulations to address GHG from shipping must be set at the global level via the UN IMO. Regional regulation carries the risk of being suboptimal, resulting in carbon leakage and the distortion of the level playing field, as well as undermining the good progress made by the IMO.
Business association	EUROPEAN HYDROGEN BACKBONE	Netherlands	Energy	Hydrogen, Infrastructure, Energy, European, Network	Proposal of a European Hydrogen Backbone for 2040 which offers cost-effective, long-distance hydrogen transport. Based on the increased hydrogen targets set by the REPowerEU of a 20.6 Mt renewable and low carbon hydrogen market in Europe by 2030, the EHB proposes a plan for rapid increase in the hydrogen infrastructure network, establishing, deploying key transport corridors by 2030, and expanding it to a backbone for a pan-European network by 2040, which will comprise of 53,000 kilometers consisting 60% of repurposed infrastructure, and 40% of new infrastructure
Business association	European Banking Federation (EBF)	Germany	Finance	EU, Taxonomy, Banks, Transition, Activities, Green, Companies, Finance	The European Banking Federation (EBF) addresses in this position paper the role of the financial sector in encouraging the green transition in line with the EU Commission's Action Plan on Sustainable Finance. The EBF believes that the EU Taxonomy should be enhanced by the creation of mechanisms that will incentivize investors and companies in the transition to a sustainable and low-carbon economy. Mechanisms must acknowledge the transition needs, capacity, and willingness of companies at different stages across sectors/geographies as well as support gradual improvements in companies climate metrics.
Business association	European Automobile Manufacturers Association (ACEA), Potsdam Institute for Climate Impact Research (PIK)	Belgium	Transport	Transport, Vehicles, Truck, Zero emissions, Road, Policy	The position paper centres around the transition to zero emissions in the road freight transport. The paper emphasizes that to achieve the carbon-neturality goal in 2050, all new commercial vehicles sold must be fossil-free by 2040. Furthermore, the paper reiterates that it is not enough to set goals, but there must also be set a path to achieve those goals.

Stakeholder Group	Organisation name	Country of origin	Economic sector	Main theme(-s) covered:	Brief summary
					The paper argues that a sound CO2 emission pricing will be the single most effective policy to push the transition towards a carbon-neutral transport sector.
Business association	Concawe	Belgium	Energy	Carbon, Fuels, Energy	The report is a theoretical assessment of different potential trajectories for the EU refining industry to contribute to EU climate targets for 2050. With a wide focus on road, aviation and maritime sectors, three potential demand scenarios show the total volume of low carbon fuels that could be required to contribute to climate neutrality in EU transport by 2050 as well as the number of plants and level of investment required (Volumes ranging from ~70 up to ~160 Mtoe/y with a cumulative ~190-660 B€/y investment at the end of the period).
Business association	Eurometaux	Belgium	Manufacturing industry	Energy, Supply, Recycling	The document discusses metals and clean energy. More specifically, how Europe can fulfil its goal of "achieving resource security" and "reducing strategic dependencies" for its energy transition metals, through a demand, supply, and sustainability assessment of the EU Green Deal and its resource needs. The demand pull for global metals is expected to soften beyond 2030 and then again after 2040 as the deployment of clean energy technologies slows down, and more metals become available from secondary supply. Europe will be impacted by global supply constraints due to its import reliance for several ores and metals. Europe has the potential to change this picture through recycling, but only after 2040.
Business association	European cement association	Belgium	Manufacturing industry	Storage, Transport, CCUS	The position paper discusses a framework for carbon capture investments. The European Cement Association more specifically discuss CCUS deployment in the cement sector, and that EU and national regulatory frameworks should be strengthened with regards to innovation funding, clear regulations for CO2 infrastructure, both storage and transportation networks and more. Regarding EU 2040 targets the Association express the need for industrial CO2 VS alternatives (BECCS, Direct Air Capture) and that these should be clearly assessed and documented as part of the EU 2040 target plan.
Company/business	European Energy Exchange AG	Germany	Energy	Climate, emissions, energy	In the paper, EEX emphasises that a clear 2040 climate target will be key not only for European climate efforts but also for further global cooperation to reduce emissions. EEX furthermore state that energy markets will remain a key instrument in delivering these ambitions.
Business association	The Austrian Forest Owners' Cooperative ("Waldverband Österreich")	Austria	Land-Use, Land- Use Change and Forestry	Forestry, carbon, carbon credits	This position paper discusses carbon management in the forest. More specifically principles for selling carbon credits. According to the Austrian Forest Owners' Cooperative, the main opportunities lie in holding the agriculture and forestry sector accountable for their emissions as a whole. The organisation

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					state that carbon management in agriculture will increasingly remove CO2 from the atmosphere and will have to store it in the biomass over the long term. The Cooperative further argues that the EU needs to foster stronger market incentives for companies to become climate neutral.
Business association	Finnish Forest Industries Federation (Metsäteollisuus ry)	Finland	Land-Use, Land- Use Change and Forestry	Climate, forest, carbon	In the position paper, the Finnish Forest Industries present the climate solutions provided by the sector. The organisation argue that the 2040 climate policies need to promote active geopolitics, strategic autonomy, green growth and future green transition.
Business association	SMEunited	Belgium	All sectors	Climate, energy, transition	In the position paper, SME United argue that the climate and energy goals for 2040 must be feasible, clear transition pathways must be established, and guidance and support for SMEs in the energy transition must be in place. SME United underline the importance of future European climate targets being feasible and realistic that form clear transition pathways for SMEs towards net zero emissions.
Business association	ENTSO-E, European Network of Transmission System Operators for electricity	Belgium	Energy	Climate, energy, transition	ENTSO-E shares and supports the European Commission's commitment to accelerate the green energy transition to achieve climate neutrality by 2050. ENTSO-E state that the sustainable transition will require a massive deployment of large-scale renewable sources, innovative low-carbon technologies, deeper electrification, digitalisation and smart system integration. ENTSO-E state that the power system of the future will be based on three key elements, all essential for a sustainable, resilient and affordable power system: carbon neutral energy sources, system flexibility resources and an adequate development of the power grid.
Business association	SGI Europe	Belgium	Various sectors	Climate, emissions, decarbonisation	In its position paper, SGI Europe calls for a climate 2040 target of a minimum of 80% of emissions reduction and that the EU should accelerate its decarbonisation efforts in each sector where economically and socially feasible. SGI Europe also underlines the importance that European legislations should be technology neutral to enable more industries to contribute to the climate objective.
Business association	Eurometaux (European non-ferrous metals association)	Belgium	Manufacturing industry	Climate, transition	In this position paper, Eurometeaux recommend that the 2040 climate targets should enable conditions for the European industry, be based on science-based impact assessments, create a business case for decarbonisation and ensure global competitiveness of European Industry.
Business association	EuroACE - Energy Efficient Buildings	Belgium	Buildings	Climate, buildings	EuroACE recommend the Commission to adopt a 2040 target in line with its 2050 objectives and frontload action in the buildings sector. EuroACE furthermore considers the 90% GHG scenario as feasible although it will require the EU to slightly increase the pace of decarbonisation after 2030 compared to the trajectory

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					target, allowing time and resources to address the emissions of hard-to-abate sectors post-2040.
Business association	EHI - European Heating Industry	Belgium	Energy	Decarbonisation, buildings	This report by EHI describe the decarbonisation pathways for the European building sector. The report looks at the targets until 2030 and 2050, especially comparing it to REPowerEU and Fit for 55 packages. The report compared two pathways for the decarbonisation of the building sector. Pathway A focusses on very high electrification with little space for other technologies or energy carriers. Pathway B considers a high electrification which relies on an optimisation through more available solutions. The report concludes that Pathway B is the most cost-efficient choice.
Business association	Eurochambres	Belgium	All sectors	Climate, business	In the paper, Eurochambres emphasises the need for pioneering energy technologies to unlock new business opportunities; key innovations, like CCS/CCU for achieving climate goals and streamlining permitting procedures and to foster knowledge transfer between businesses and academia. Streamlining permitting procedures and fostering knowledge transfer between businesses and academia are therefore essential. Eurochambres mentions that concerns arise regarding the CBAM's impact on international competition and carbon leakage protection. The chamber network also warns about financial challenges faced by SMEs in securing sustainability financing due to overburdening regulations. However, despite the challenges, increased climate protection can offer business opportunities under favourable conditions.
Business association	Euromines	Belgium	Various sectors	Climate, mining, emissions	In their position paper, Euromines argue that a new target should be implemented with appropriate enabling framework conditions for a competitive and decarbonized industry; that there is a need for a business case for decarbonisation and that targets and policies require a sound scientific base. Euromines further urges the EU not to increase the number of sectors covered by the ETS as this will drive costs up higher without bringing about better technology and to not include further greenhouse gas emissions within the ETS as this will lead to an unsustainable race for remaining certificates.
Business association	SolarPower Europe	Belgium	Energy	Solar, renewables	In the position paper, Solar Power Europe state that the technologies that we need to reach a fossil-free climate neutrality are already in our hands. That solar PV is, among all decarbonisation technologies, the most efficient and the most affordable to decarbonise our energy system and that it should be prioritsed in coming policy frameworks.

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Business association	eFuel Alliance e.V.	Germany	Various sectors	Fuel, climate	I the paper, the eFuel Alliance state that they strongly support the coming EU climate targets. The organisation present five key recommendations in their position paper: 1. We need ambitious action across sectors and the promotion of all relevant climate-friendly solutions to accelerate the transition towards carbon neutrality. 2. A targeted import strategy for eFuels will support emerging economies and developing countries in their transition to a more sustainable, low-carbon future, while at the same time ensuring that the volumes of CO2-neutral fuels needed for Europe's decarbonisation and energy security strategy are made available. 3. Pre qualifications schemes for eFuels production facilities and a clear planning horizon until 2050 in the Renewable Energy Directive and other relevant legislation must be set to provide the investment security needed for the industrial scale-up of eFuels. 4. Regulatory support for the deployment of Direct Air Capture technology is required to achieve negative emissions and create closed carbon cycles. 5. We need to establish a legislative framework that enables climate-friendly technologies to be deployed at a large scale.
Business association	Community of European Railway and Infrastructure Companies (CER)	Belgium	Transport	Climate, emissions	In their position paper, CER underlines that European railways are a key to tackle EU decarbonisation challenge in the next two decades. CER are calling the EU policy makers to facilitate a regulatory framework by cost-effectively reducing emissions in transport. The paper states that CER and member companies are ready to support the Commission impact assessment with technical inputs and further expertise.
Business association	Confederation for Danish Industry	Denmark	All sectors	Climate, transition	DI supports an 80 – 90% 2040 EU climate target and thus also a further acceleration of EU's effort to become climate neutral. Noting the EU's Climate Advisory Board recommendation of a 90-95% ambition, they urge the EU-Commission to include the international perspective – and possibilities to ensure international cooperation in the assessments to come. DI also call for a well-balanced regulation to meet EU's objectives, and state that regulation must assist the EU to also meet energy security objectives and competitive objectives.
Business association	Association of Big Industrial Energy Consumers Romania	Romania	Energy	Industry, climate	In this position paper, among other points, ABIEC highlight the importance of ensuring enabling conditions for European industries, a proper business case for decarbonisation and to ensure global competitiveness of European industries, when formulating the 2040 climate targets.
Business association	European Chemical Industry Council (Cefic)	Belgium	Manufacturing industry	Climate, regulations	In the position paper, Cefic highlights the chemical sector's long investments cycles and the need for a supporting and coherent regulatory framework to secure necessary investments to deploy and scale up disruptive technologies.

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Business association	Svenskt Näringsliv/Confederation of Swedish Enterprise	Sweden	All sectors	Climate, emissions	The document consists of additional comments to the public consultation questionnaire from The Confederation of Swedish Enterprise. The Confederation of Swedish Enterprise state their main principles to take into consideration when realizing the 2040 climate target. These include an energy and climate framework 2040 and supplementary measures to reach its objective to be technology neutral, cost-effective and market based. They also emphasise that it is essential to promote competitiveness of European businesses and continuously assess the established policies to that end.
Business association	Confederation of European Paper Industries	Belgium	Manufacturing industry	Climate, industry	In this position paper CEPI makes several recommendations.  Among other things that we should prioritise the reduction of fossil emissions without resorting to compensation, that we should recognise and favour biogenic carbon and distinguish it from recycled fossil carbon and that we should secure the EU strategic autonomy by facilitating access to fossil-free energy for the industrial users and efficient use of forest biomass.
Business association	Eurelectric	Belgium	Energy	Climate, emissions	In their position paper Eurelectric state that they fully support the efforts to meet the objectives of the European Climate Law, in line with the 1.5 °C ambition set by the Paris Agreement. They also state that electrification is the most direct, efficient, and effective way to achieve the decarbonisation goal, as it reduces emissions in three ways: switching to carbon-neutral power generation, reducing total energy demand, and replacing fossil-based inputs to industrial processes. If properly implemented, a forward-looking energy transition based on ambitious intermediary targets on the way to climate-neutrality by 2050, driven by a market-based climate policy, will lower energy bills and bring economic benefits to the society at large. Eurelectric also believes that carbon removals will play an indispensable part in reaching the EU's climate neutrality goal for 2050. Hence it is urgent that carbon removals are incorporated in the formulation of the EU 2040 climate target and fully supported by the policy framework that will be developed in the next step. Eurelectric moreover encourages policymakers to remain technology open to enable cost-efficient emissions reduction in the energy sector leading to full economy-wide carbon-neutrality by 2050 while ensuring security of supply, competitive energy prices and social acceptance.
Business association	European Cement Association (CEMBUREAU)	Belgium	Manufacturing industry	Cement, emissions	CEMBUREAU welcomes the Commission initiative to set an EU 2040 target but does not have a strong view on the desirable level. They state that a realistic pathway and supportive measures will be critical to decarbonise energy-intensive sectors like cement. From that perspective CEMBUREAU consider that the prolongation of the current ambition level is adequate and

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					correct and will deliver the carbon neutral society in 2050.
Business association	International Association of Oil and Gas Producers Europe (IOGP Europe)	Belgium	Energy	Climate, emissions	In the position paper, IOGP emphasises regulatory simplification, technology inclusiveness and security of supply and domestic production as areas to consider when formulation the 2040 climate targets. IOGP Europe also call on the EU to take a much broader approach to the applications of low-carbon solutions, such as carbon management and carbon removal technologies, rather than envisaging their potential only for residual emissions.
Business association	Confederation of Finnish Industries EK	Finland	All sectors	Climate, industry	In their position paper, the Confederation of Finnish Industries state that the climate framework for 2040 should rely on technology neutrality, cost-efficiency, market-based approaches like the emission trading schemes, flexibility in measures, and at the same time it should take care of coherency, competitiveness, sustainability and security (energy, food etc). European industry should furthermore be raised in the significant role as a solution provider globally. They also emphasise the need for research and innovation finance.
Business association	The Danish Chamber of Commerce (Dansk Erhverv)	Denmark	All sectors	Climate, emissions	In the position paper, the Danish Chamber of Commerce argue that future EU climate policy should be developed around the following pillars: foster a market-based transition where price signals should be the driving force for the climate transition; Encourage innovation by making future EU climate policies technology neutral and broad enough to also encompass technologies and solutions that are not used today; Enable a cost-effective transition and ensure that policies must be simple and transparent.
Business association	Eurogas	Belgium	Energy	Emissions, gas	Eurogas argue that the evolution of the EU Emissions Trading System (EU ETS) should be done with a comprehensive and forward-thinking policy framework. By expanding coverage to all fossil fuel uses, exploring cross-border linkages and compliance with other carbon markets (e.g. UK, Japan, US), including non-CO2 GHG emissions, and tailoring approaches for sectors with residual emissions, the EU can drive deep carbon cuts, foster carbon circularity, and advance the global fight against climate change. Moreover, Eurogas state that industrial based removals have a greater role to play than nature-based removals. They mention several obstacles, however. These include public acceptance, regulatory framework, technological maturity, CO2 storage availability and economic signals.

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Business association	Bioenergy Europe	Belgium	Energy	Bioenergy, electricity	Int the position paper, Bioenergy Europe underline that the EU must ban subsidies of fossil fuels. Moreover, they state that bioenergy provides clear benefits to all energy needs of the EU (heating and cooling, transport, and electricity).
Business association	Aerospace, Security and Defence Industries Association of Europe (ASD)	Belgium	Various sectors	Climate, aviation	In this position paper, ASD argue that the development of several legislative frameworks on a European level will be critical to address some of the main challenges faced by the aviation sector in relation to the green transition. They also state that accelerating the take-up of renewables over the next decade is key to enable the transition towards a carbon-neutral economy. The organisation furthermore state carbon removal's role for the aviation sector, both nature- and technology based. That the integration of carbon removals into ICAO CORSIA and the EU ETS will be key to support the emergence and the development of this market for aviation.
Business association	Central Union of Agricultural Producers and Forest Owners (MTK)	Finland	Land-Use, Land- Use Change and Forestry	Climate, forestry	In the paper, MTK urges the European Commission to focus the 2040 climate targets on reducing fossil emissions and that the role of carbon sinks must be balanced. The importance of active, sustainable forest management should be seen as a solution to climate change mitigation and adaptation through carbon Sequestration, Storage and Substitution.
Business association	European Steel Association (EUROFER)	Belgium	Manufacturing industry	Climate, carbon, transition	In the position paper, EUROFER argues that the 2040 climate targets need to be set on the basis of a thorough impact assessment that takes into account multiple aspects and perspectives. The organisation furthermore states that all sectors of the economy need to contribute fairly to the transition and that sectors under EU ETS 1 have reduced their emissions at a much higher pace than others. EURUFER furthermore state that while some sectors such as construction and renewable energy will benefit from the transition, the impact on the energy intensive industries exposed to global competition such as steel will depend on the ability to create the right enabling conditions for implementing investments in Europe and to avoid carbon as well as investment leakage. If the priority of the decade until 2030 is to implement the first breakthrough technologies at industrial scale, the '30s will be crucial for the further market uptake and deployment of such technologies. This will require even higher access to competitive low carbon energy in order to increase the market penetration of breakthrough technologies.
Business association	FuelsEurope	Belgium	Energy	Climate, carbon	In their position paper, FuelsEurope argue that it is especially important to develop an enabling policy framework for the deployment of CO2 neutral fuels and stable price signals and for the EC to ensure coherence of any new, or revised legislation. FuelsEurope also emphasise the need for EU-wide legislation for

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					targets, rather than leaving it at the member state level when it comes to energy efficiency.
Business association	COGEN Europe	Belgium	Energy	Climate, carbon	In the position paper, COGEN Europe highlights five principles to be considered when setting new climate objectives for 2040. 1) Consider both net-zero and the carbon budget, 2) Assess costefficient pathways to decarbonisation, 3) Take a whole-economy approach to decarbonisation, 4) Consider all cost-effective decarbonisation solutions and 5) Accelerate green finance.
Business association	European Alliance to Save Energy (EU-ASE)	Belgium	Energy	Climate, energy	EU-ASE argue that in order to achieve climate neutrality by 2050, the European Union should adopt a comprehensive and ambitious set of climate and energy targets. The synergy between energy efficiency, renewable energy sources and GHG emissions targets are furthermore stated to be crucial to strengthen EU's climate resilience and accelerate the energy transition.
Business association	Confederation of European Forest Owners	Belgium	Land-Use, Land- Use Change and Forestry	Climate, carbon	In the position paper, CEPF highlights the importance of forest owners in Europe in relation to the 2040 climate targets. The organisation emphasises that forest-based climate actions are based on long-term processes, which means that forest owners should be encouraged to continue managing their forests with a long-term perspective, to keep their forest resilient and ensure multiple societal benefits now and in the future.
Business association	International Federation of Industrial Energy Consumers (IFIEC- Europe)	Belgium	Energy	Climate, industry, energy	In the position paper, IFIEC argues that a successful industrial transformation towards climate neutrality requires the following framework conditions: a realistic time plan, improved energy security conditions and a stable economic environment as well as support for companies to invest in long-term green projects. It is furthermore stated to be important for energy-intensive companies to have access to affordable and cost-competitive prices for low-carbon energy; carbon leakage protection instruments should be improved and prolonged to ensure the competitiveness of European companies in the global market.
Company/business	Deloitte	United Kingdom	Various sectors	Aircraft, Travel, Hydrogen, Aviation, Zero Emission, Zero Carbon, Emissions	The report provides an analysis of the developments in aviation technology and the options for zero-carbon and zero-emissions aircraft in the intra-European passenger travel market in 2040. It explores the projected roadmap of aviation technology and its expected performance for short-haul flights. The roadmap projects that, until 2040, intra-European flights can achieve zero-carbon aviation, while from 2040 an onwards technology will eventually permit zero emission flights. Level of emission reductions, however, will depend on flight distances. Once the main low/zero emission technologies become available by 2040,

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					it is expected that the sustainable fuels will cover circa 89% of intra-EU flights and will lead to a 59% decrease in climate impact.
Company/business	Suomen Yrittäjät (Federation of Finnish Enterprises)	Finland	All sectors	Emissions, Climate neutrality, Industry, Energy transition, Carbon removal	In their position paper, the Federation of Finnish Enterprises welcomes the EU wide climate targets for 2040. They say that the EU should accelerate the transition to climate neutrality. That a higher emission reduction target for 2040 would send a strong signal to other countries and regions to raise their climate ambition and join the global effort to limit the global temperature increase. They more specifically think there should be between 80%-90% emission reduction. The Federation moreover state that a higher climate ambition will improve the competitiveness of the European economy and give EU industry a first mover advantage on global markets, will improve energy security, reduce the EU's dependency on imported fossil fuels and reduce exposure to volatility in fossil fuel prices and will create green and high added-value jobs, including those that are difficult to outsource.
Company/business	PepsiCo	Belgium	Various sectors	Climate, agriculture, energy	In the position paper, PepsiCo recommends the European Commission to focus investments and create conditions for regenerative agriculture, renewable energy and GHG accounting.
Company/business	Climeworks AG	Switzerland	Various sectors	Carbon removal, emissions reductions	Climeworks AG state that carbon removal actors are calling for a clear distinction between emissions reductions and carbon removals and that these distinctions should be incorporated in future climate targets. The company emphasise that CDR will enable the world to maintain net zero emissions.
Company/business	Heidelberg Materials	Germany	Manufacturing industry	Emissions, climate	In the position paper Heidelberg Materials discuss the importance of an EU target signalling a consistent trajectory based on current ambition levels and leading towards climate neutrality by 2050. They furthermore state that the target needs to consider fair effort-sharing between the different sectors of the EU economy. The company moreover state that a strong political will is needed to support the transformation of process industries like cement production, which are investing in decarbonisation but face practical challenges like permitting and access to funding.
Company/business	Carbonfuture	Germany	All sectors	Emissions, climate	In the position paper, Carbonfuture expresses its support for a more than -90% emission reduction target by 2040. The company argues that the target will require high-quality carbon removal and the technologies biochar carbon removal (BCR) and enhanced weathering (EW) are described as especially promising.

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Company/business	French National Railway Company (SNCF Group)	France	Transport	Climate, carbon	SNCF urges the EU to develop a policy and financial framework favouring modal shift; fully implement the Fit for 55 package; to implement an ambition that comes with resources and take into account the avoided GHG emissions thanks to rail. SNCF state that through shifting to rail, a lot of the emissions could be reduce and that the EU should form policies in favour of such a shift. SNCF also argues that the transport sector should be prioritised, especially regarding rail.
Company/business	Neste	Finland	Transport	Climate, fuel	In the position paper, Neste urges the Commission to remain committed to stable technology and neutral regulatory frameworks to de-risk the massive long-term investments required from the industry. The company state that the EU furthermore should set the rules and the direction while letting the companies create the solutions. Neste state that a key challenge is the decarbonisation of the transport sector. While electrification will continue to reduce the number of new ICE vehicles on the road, the majority of both light-duty and heavy-duty vehicles will operate on liquid fuels well into the 2040s. Successful implementation of EU's net-zero climate commitments will require their transposition into consistent policy signals the industry needs to ramp-up the production of renewable fuels throughout the 2030s, regardless of the parallel policies of electrification and improved energy efficiency.
Company/business	OMV Aktiengesellschaft	Austria	Manufacturing industry	Climate, industry	In the paper, OMV emphasises the importance of making policies such as EU ETS, CO2 reduction and renewable targets as well as energy efficiency suitable, economically feasible and at the lowest cost for society. OMV also stresses its concerns about the lack of a national regulatory framework aiming at supporting the provisions of the proposed Net Zero Industry Act, such as the obligation of oil and gas producing companies to store CO2 and the associated financial and temporal feasibility.
Company/business	ENGIE	France	Energy	Energy, climate	In this position paper ENGIE emphasises the importance of electric renewable energies in the EU decarbonisation pathway; the reduction of energy consumption across all sectors; the uptake of other energy vectors such as renewable and recovery heat, and decarbonised gases. Furthermore, ENGIE calls on the Commission to continue the transition towards climate neutrality at the current pace, which should be understood as the RePowerEU pace which is more ambitious and faster than the pace achieved by implementing the Fit for 55 package alone. A corresponding 2040 target for EU emissions reductions should be set between -75% and -80% compared to 1990 levels, with the right enablers activated.

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Company/business	ALRO S.A.	Romania	Manufacturing industry	Climate, industry	ALRO S.A. presents several recommendations for the 2040 climate targets, including: setting up the appropriate enabling conditions for a thriving European industry; creating a business case for decarbonisation; ensure global competitiveness of European industry; globally competitive electricity prices; ensure adequate carbon leakage protection.
Company/business	Holding Slovenske elektrarne d.o.o.	Slovenia	Energy	Energy, climate	In the paper, HSE emphasises the importance of investments in RES (wind, hydro, solar, geothermal), hydrogen, flexibility, and storage solutions (including pumped hydro), while going through the process of coal phase-out and restructuring of coal regions when formulating the 2040 climate targets.
Consumer organisation	VIK Verband der Industriellen Energie- und Kraftwirtschaft e.V.; German Association of Industrial Energy Consumers.	Germany	Energy	Energy, climate, technology	In the paper, VIK Verband, the German Association of Industrial Energy Consumers, argues that further efforts need to be undertaken by European climate diplomacy on the global level and that there is an urgent need for a new system that will harmonise climate change mitigation.
Environmental organisation	WWF	Belgium	Various sectors	EU, Climate, Emissions, WWF, Global	In this paper, WWF calls for net zero emissions in the EU by 2040. The organisation furthermore argue that the new EU long-term strategy should set out what needs to happen to meet such goal and recommend for the alignment of the EU's long-term climate strategy with this target.
Environmental organisation	Climate Litigation Network (Urgenda Foundation)	Netherlands	Various sectors	Climate, mitigation	In the paper, the CLN urges the EU to pursue a fair and equitable approach to climate mitigation action and promptly accelerate the transition towards climate neutrality in Europe.
Environmental organisation	Ecologistas en Acción	Spain	Various sectors	Climate, emissions	In the paper, Ecologistas en Acción underline that the EU must recognise that the only objective to consider in the definition of the measures is guaranteeing a reduction in emissions compatible with limiting the increase of the global temperature by1.5 C.
Environmental organisation	Climate Action Network (CAN) Europe	Belgium	All sectors	Climate, emissions	In this report CAN Europe presents their position on EU climate targets and an equitable GHG emissions budget for the EU. CAN Europe state that the process around setting a 2040 EU climate target needs to spur increased action in the near term and alignment to achieve EU-wide net zero emissions by 2040 at the latest.
Environmental organisation	Umweltdachverband	Austria	Various sectors	Climate, target	In their position paper, Umweltdachverband welcomes the EU to set an interim target for greenhouse gas emissions in 2040 - as long as they are not misused to implement the 2030 targets in a less ambitious way.

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Environmental organisation	European Environmental Bureau	Belgium	All sectors	Climate, ESR	In the paper, EEB discuss several areas to consider when formulating the 2040 targets, including the future role of ES with the ETS, labelling, ETS and IED and the role of carbon pricing. It is also noted that the current approach to climate protection e.g. the EU emergency regulation to accelerate renewable energy and the attack on nature conservation law such as the Habitats Directive, could be a potential threat to biodiversity. They call for the climate crises to be solved together with biodiversity.
Environmental organisation	Cititzens' Climate Europe	Netherlands	All sectors	Climate, emissions	CCE advocate for three pillars which support each other: a steadily rising price on all greenhouse gas emissions; recycling of revenues to citizens; and a carbon border adjustment mechanism. The organisation furthermore emphasises that given the humanitarian and financial cost of climate change, the EU should aim for negative emissions by 2040.
Environmental organisation	Strategic Perspectives	France	Various sectors	Climate change, Targets, Strategic	The document discusses the organisation Strategic Perspectives' view on the 2040 targets. They discuss this within five sectors: buildings, transport, industry, energy supply and AFOLU. Strategic Perspectives considers the -90% scenario a feasible pathway that provides a strong effort of the European Union in the global effort to fight climate change. They however mention that this would require the EU to slightly increase the pace of decarbonisation after 2030 compared to the trajectory to reach the 2030 target.
Non-governmental organisation (NGO)	Agora Energie wende	Germany	Energy	Target, industry, renewable, regulation, directive, transport	In the paper, AEW presents recommendations for a successful Fit for 55 package, including aspects of distributional justice, ambitious sectoral policies and carbon pricing. The Energy Union Governance Regulation must be adjusted to reflect the higher 2030 targets and the new intermediate climate target for 2040.
Non-governmental organisation (NGO)	Institute for European Environmental Policy (IEEP)	Belgium	All sectors	Emissions, Target, Climate, EU, Policy	In the paper, IEEP discuss factors to be considered when setting an emissions reduction target in the EU. This paper lays out several opportunities for higher climate ambition. It suggests that the EU has a significant role in leading the world in making the most ambitious climate targets. It also states that through innovation & stimulus that the green transition should be seen as an opportunity.
Non-governmental organisation (NGO)	International Council on Clean Transportation (ICCT)	United States	Transport	Trucks, Bus, Europe, Market, Buses, Battery	ICCT's paper comprise an analysis of manufacturers' market readiness to develop and deploy zero-emission commercial trucks and buses to meet the long-term target of a 100% phase-out of internal combustion engine medium- and heavy-duty trucks.

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Non-governmental organisation (NGO)	Climate Analytics	Germany	All sectors	Climate, Transformative change, Energy	The report develops and applies a new framework for assessing and classifying low-carbon energy and emissions pathways in the EU. They quantify and classify pathways based on the level of transformation observed in the four cross-cutting core challenges at the heart of the long-term transformation effort, the 4i's. These are: fostering innovation, mobilising investment and finance, rolling out infrastructure, and enabling greater integration across sectors.
Non-governmental organisation (NGO)	Climate Action Network Europe (CAN Europe)	Belgium	All sectors	Climate, Action, Targets	In the paper, CAN Europe presents their input on climate action under the 'Fit For 55' Package. Among other points, the organisation recommends the EU to make use of every measure possible to further decrease emissions before 2030 in order to achieve at least -65% emissions cuts no later than 2040.
Non-governmental organisation (NGO)	Bureau Européen des Unions de Consommateurs (BEUC)	Belgium	All sectors	Consumer costs, Heat, Decarbonisation	The report analyses the consumer costs of low-carbon heating options in the year 2040 in four European countries. In the report, BEUC does not take a stance on the EU 2040 targets. However, in their model they assume that the electricity grid in each of the studied countries has been significantly decarbonised by 2040, in line with the EU goals, indicating a support for an ambitious target.
Non-governmental organisation (NGO)	Österreichischer Forstverein	Austria	Land-Use, Land- Use Change and Forestry	Forestry, climate neutrality	The theme of the document is the contribution of forestry to climate neutrality in 2050. In relation to this, the document discusses biodiversity, climate policy, forest management, carbon management, greenwashing and more. ÖF points out that the climate crisis is leading to increased tree mortality and thinning worldwide forests, the age, tree species and reserve structures in Austrian forests indicate a decrease in storage capacity in the medium term and greenwashing, which the Austrian forest association wants to ban.
Non-governmental organisation (NGO)	Tapp Coalition	Netherlands	Land-Use, Land- Use Change and Forestry	Climate goals, food, consumption.	The position paper by the TAPP coalition discusses the EU 2040 climate goals, mainly in relation to the food sector. For example, they emphasise that the EU 2040 goals should target the way Europeans consume, especially how they eat.
Non-governmental organisation (NGO)	Carbon Market Watch	Belgium	All sectors	Carbon, emissions	In the paper, CMW presents their response to the European Commission's public consultation on the EU climate target for 2040. CMW argue that the EU needs to raise its ambition now.
Non-governmental organisation (NGO)	Carbon Gap	United Kingdom	All sectors	Climate, carbon	Among other points, Carbon Gap recommends the Commission to aim to achieve 95% net GHG emission reductions by 2040 compared to 1990 levels; separately quantify the role of gross emission reductions; divide emission reduction and removal targets into biogenic and geological components.
Non-governmental organisation (NGO)	Climate Bonds Initiative	Belgium	Finance	Climate, transition, finance	In this position paper, Climate Bonds encourages the Commission to set ambitious 2040 climate targets, to avoid

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					countries experiencing a rising cost of capital and stunted growth.
Non-governmental organisation (NGO)	Transport&Environment	Belgium	Transport	Climate, transport	In the paper, Transport&Environment state that an EU target for 2040 is fundamental to accelerate and deepen the process started with the EGD and provide long term planning and investment certainty for people and business. Concerning the approach to take on target setting, T&E suggests future emission reduction targets in the EU should: 1. be set every 5-years 2. be kept separate from carbon removals targets 3. include non-CO2 greenhouse gas emissions, in particular aviation contrails 4. include all emissions with the absolute minimum of exceptions 5. include system efficiency targets for transport 6. keep a global carbon budget as guiding action. T&E's Road to Zero scenarios shows that the transport sector can cut its emissions by around 70% by 2040 compared to the 1990 baseline.
Non-governmental organisation (NGO)	The Nature Conservancy	Germany	Various sectors	Climate, carbon	In its position paper, The Nature Conservancy urges the EU to aim for climate neutrality as soon as possible and by 2040 at the latest. The organisation argues that a high ambition for 2040 also would send the right signal to the industry and redirect private investment towards green sectors, giving the EU a strong competitive advantage for green growth.
Non-governmental organisation (NGO)	ISO - International Organization for Standardization	Switzerland	All sectors	Climate, standard	ISO agrees with the Commission that without a 2040 climate target, the EU remains at risk of missing its domestic climate objective for 2050 and possibly undermines its capacity to spur further climate action internationally.
Non-governmental organisation (NGO)	Environmental Defense Fund Europe	Netherlands		Climate, energy	The document is an addition to the organisation's responses to the standard questionnaire. The paper discusses the areas of energy, agriculture, transport and sustainable finances regarding future climate targets.
Non-governmental organisation (NGO)	Greenpeace EU Unit	Belgium	Various sectors	Climate, technology	In their paper, GP EU Unit underline that The EU's targets for 2030 were inadequate to begin with, as we should have been aiming for -65% greenhouse gas emissions by 2030 and climate neutrality by 2040, to stand a chance to meet the promise made in Paris to limit global heating to 1.5 degrees. Greenpeace also emphasise that to reach the target we cannot rely on technology alone. The organisation furthermore state that nature-based solutions for carbon capture are better than industrial based and that it is essential to tackle greenwashing.
Other	Alliance of liberals and democrats for Europe	Belgium	All sectors	Emissions, carbon, economy, climate, energy	The documents comprise a resolution by Alde to expand EU ETS to reach net zero in 2050. The party call on others to use market forces and include more sectors in ETS.

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Other	European People's Party	Belgium	All sectors	Climate, EU, Sustainable, Emissions, Energy, EPP	Resolution by the EPP acknowledging the 2030 target and the long-term carbon neutrality objective. Among other points, EPP acknowledges that the green transition will require a paradigm shift across the whole economy, which requires a dynamic state but not one seeking to regulate every part of the process. Another challenge highlighted is to not load the whole burden related to the transition on the younger generation. The extra costs should be shared, and we need to design policy tools to fund elements which have a long social payback.
Other	The Left	Belgium	All sectors	Climate, Energy, Action, Policies, EU, Global, Justice	The paper consists of a Statement on EU climate policy, including a discussion of different options for action and a call for carbon neutrality by 2040. In relation to the green transition the GUE/NGL mentions that our only chance lies in a sustainable, decentralised and accessible energy supply, which provides jobs and guarantees our energy sovereignty.
Other	S&D	Belgium	All sectors	European, Industrial, Climate, Sustainable, Economy, Digital, Social	In the paper S&D calls for an EU long-term industrial strategy that should be aligned with the EU climate targets for 2030, 2040 and 2050. The party furthermore calls for the establishment of clear and ambitious targets for 2030 and 2040.
Other	Renew Europe	Belgium	All sectors	Energy, Nuclear, Electricity, Climate, Renewable, Costs	The document consists of an analysis of the costs and spatial demand of renewable and nuclear energy to achieve climate neutrality in 2050 in the EU. Discussion of the effectiveness of EU climate neutrality. Renew Europe furthermore give recommendations for a "nuclear renaissance" in Europe.
Other	European United Left/ Nordic Green Left	Belgium	All sectors	Climate, Green, Energy, Deal, Transition, Emissions, Public, Tax, Social	In the paper, the party presents a proposal for a green and social new deal for Europe. The paper particularly focuses on 2030 targets, but also mentions long-term carbon neutrality target.
Other	The Coalition for Energy Savings	Belgium	Energy	Energy, climate	The Coalition for Energy Savings want to include a pathway that maximises the role of energy savings by aligning with the latest data on the EU's cost-effective energy savings potential, i.e., the energy savings that the EU can achieve by implementing measures that are economically viable and by deploying existing energy efficiency technologies. Furthermore, the Coalition wants to lower the discount rate used to model future cost and return on investment of energy efficiency improvements. Moreover, they argue that that the EU should fully consider and prioritise energy savings and energy efficiency as resources for the energy system and enablers for an affordable energy transition as they i) ensure a smaller, and more flexible, energy system with fewer stranded assets and ii) reduce the cost of energy for each kWh for businesses and consumers by shaving peak demand.

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Other	Bavarian State Parliament	Germany	All sectors	Climate, carbon	The Bavarian State Parliament supports the setting of a target for the reduction of greenhouse gas emissions (GHG emissions) of the EU by 2040. The closer a European climate protection target 2040 would be to the state of climate neutrality set for 2050, the more this would also contribute to the implementation of the Bavarian climate protection targets.
Other	Swedish Association of Local Authorities and Regions, SALAR	Sweden	All sectors	Climate, emissions	SALAR state that the organisation endorses that the EU Commission develops a proposal for a 2040 climate target, assessing scenarios and investigating consequences in several areas of society. It is furthermore stated that clear objectives and supportive regulatory frameworks are fundamental to local and regional government's own politically decided objectives and measures. It is therefore important that the EU avoids detailed regulation and mainly adopts a technology-neutral approach. SALAR moreover state that in several EU Member States, the lack of lending opportunities and project support for energy efficiency, renewable energy production and other societal infrastructure are important limiting factors that EU institutions and programmes can help address.
Other	Association of Finnish Local and Regional Authorities	Finland	All sectors	Climate, municipalities	AFLRA emphasises that investments in green transition depend on coherent policies and a predictable regulatory environment, and the Association of Finnish Local and Regional Authorities supports setting a high ambition level in climate targets for 2040. AFLRA moreover, argue for legislation that leaves room for local decision-making regarding the practical implementation and measures, with location-sensitive target setting to ensure that municipalities with different demographics, location economic structure and human and financial resources have realistic targets.
Public authority	Environmental Protection Agency (Ireland)	Ireland	All sectors	Emissions, Measures, Scenario, Projections, Gas, Energy	The report provides an analysis of Ireland's emissions reduction ambitions and an evaluation of different scenarios for 2021-2040. The Environmental Protection Agency in Ireland projects that its national emissions will decrease from 62 357 kt to 49 198 kt from 2021 to 2040 with existing measures. With additional measures, this figure is 61 906 to 35 643. With regards to EU targets, they say: Ireland can meet its non-ETS EU targets of a 30 per cent emission reduction by 2030 (compared to 2005) assuming the implementation of planned policies and measures and the use of the flexibilities available. These include land use flexibility using the Climate Action Plan 2021 afforestation rate of 8,000 hectares per annum.
Public authority	Umweltbundesamt (German Environment Agency)	Germany	All sectors	Climate, EU, Policy, National, Neutrality,	The position paper emphasises the need to update EU ETS and establish a process for this in the EU's climate governance landscape, as the information is needed to guide policymakers

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				Governance, Commission	and the review of the existing targets, including the setting of the 2040 goals. The issue highlighted is the lack of proper governance at the EU level, such as an adequate measuring of progress towards climate neutrality. Monitoring progress towards climate neutrality will require new indicators that can track structural changes inside and across sectors. A new EU-level methodology must be developed, according to Umweltbundesamt. Moreover, they argue for more dialogue with member states and the benefits of increased inclusion of citizen engagement activities, such as Climate assemblies.
Public authority	Polish Ministry of Climate and Environment	Poland	All sectors	Energy, Development, Gas, Power, Market, System, Electicyt	The energy policy of Poland sets the framework for the energy transition in Poland until 2040, including the strategic decisions regarding the selection of technologies for a low-emission energy system. It contains three pillars: just transition, zero-emission, good air quality. The paper furthermore mentions that the current regulations do not cover the operation of offshore wind energy. For this reason, a new legal framework for offshore wind farms needs to be put in place.
Public authority	Dutch Ministry of Infrastructure and Water Management	Netherlands	Various sectors	Transport, Public, Network, Development, Future, Government, Regional	The report outlines a series of action points and intentions from the Dutch government to face an increasing challenge of usage growth in the country's public transport, in some places already nearing overload. With an expectancy of 30-40% organic growth between 2030 and 2040, while at the same time there is a strong push for CO2 reduction, the government devised a set of plans and commitments to ensure that, by 2040, transport in the country will be fast, safe, sustainable, reliable and affordable. In terms of specific commitments, the paper indicates that, by 2030, (1) the sector will be emission free, especially due to the rapid adoption of electric buses, (2) transport operators will have adopted the principle of circularity, having halved the used of primary resources by 2030, and becoming fully circular by 2050, and (3) will take into account climate change when developing and re-modelling infrastructure.
Public authority	Autonomous province Bolzano	Italy	All sectors	Measures, Climate, Emissions, Plan, Energy, Transportation	The paper mentions that the EU targets for 2030 and 2040 are no longer sufficient. It is also mentioned that for the Alto Adige region which the document is about it will be difficult to achieve the goal by 2030, but the goal of net climate neutrality is expected to be achieved by 2040. The paper also mention that a faster implementation of the climate transition generates a long-term advantage for the area. However, a challenge mentioned is the time aspect of certain climate policies. For example, measures aimed at changing behaviour.

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Public authority	European Central Bank	Germany	Finance	Climate, Transition, Risk, Capital, Energy, Financial, Scenarios	The report provides an assessment of climate physical and transition risks for the euro area for different transition scenarios. The paper states that an orderly transition achieves important cobenefits already in the mid-term with respect to CO2 emissions' abatement, banks' financial stability and distributive effects. In contrast, a late and disorderly transition fosters banks' financial instability.
Public authority	Bavarian State Ministry of the Environment and Consumer Protection	Germany	All sectors	Energy, Smart combinations	The paper states that the focus should be on development of new technologies and intelligent combinations of sustainable energy production technologies. Moreover, that the EU should focus on defending the existing structure of climate bonds.
Public authority	Zero Emissions Platform	Belgium	All sectors	Carbon, CCS, CCU	In the position paper, ZEP gives its response to the public consultation on the EU climate target for 2040. ZEP argue that a strong political and legislative direction is needed to support the development and scale up of technologies as CCS and CCU. ZEP argues that the target needs to be in line with the climate urgency and recognise that early and strong action is needed. However, they also state that the target for 2040 should be set at a level appropriate for industry, allowing it to invest and adjust, and it must be backed by clear conducive policies and funding programmes to enable industry to take action. All in all, ZEP mentions that they support a target of -80%.
Public authority	City of Amsterdam	Netherlands	All sectors	Carbon, emissions	In the paper, the City of Amsterdam argues that the EU needs to continue to develop the policy framework to accelerate the energy transition and to strengthen the eco-design rules and CBAM. They believe the most effective policy that the EU could implement to foster a greener and more sustainable economy is to establish total environmental cost targets per sector for 2040 and support corresponding policies. This approach aligns with the EU's current initiatives, such as the Critical Raw Materials Act, the New European Bauhaus initiative, the Renovation Wave, the Do No Harm principle, the Fit for 55% package, and the Farm to Fork strategy.
Public authority	Government of Flanders	Belgium	Various sectors	Climate, emissions	The Flemish Region supports the objective endorsed by the European Council of 12 December 2019 to achieve a climateneutral EU by 2050. The 2040 target is the next step to achieve this target and with it the EU's contribution to achieving the goals of the Paris Agreement. The Flemish government supports the principle to leave no one behind. A socially just and inclusive transition is required to achieve climate neutrality. Member States are best placed to ensure a socially just transition through national measures. The fight against climate change can only be won if global action is successful and if other trading blocs take responsibility.

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Public authority	Polish Ministry of Climate and Environment	Poland	Various sectors	Climate, emissions	The Polish Ministry of Climate and Environment argues that starting a substantive discussion on the reduction target for 2040 is premature at the moment, because there are no grounds to reliably determine its size in environmental, social and economic terms, and even more so to determine effective tools for its implementation. They argue that this requires an assessment ex post, the effectiveness of the currently implemented solutions for the implementation of the 2030 target. The final decision, due to its importance, should be taken at the level of the European Council.
Public authority	City of Gothenburg	Sweden		Removals, emissions	The city of Gothenburg argue that the Effort Sharing Regulation and associated national targets should maintain the same scope of greenhouse gases as today, and should cover both emissions not covered by the EU ETS (e.g. methane and nitrous oxide emissions from agriculture) and emissions from fuels used for road transport and buildings (covered by the new emissions trading system). They also believe that carbon removals should have a limited role in reaching climate neutrality by 2050.
Public authority	Eesti Vabariigi Keskkonnaministeerium / Ministry of Environment of the Republic of Estonia	Estonia	All sectors	Climate, transition	In the document, the Estonian Ministry of Environment presents the country's progress in climate-related issues during the past years. The ministry furthermore presents a set of recommendation for the EU when formulating the 2040 climate targets. In the context of the 2040 target, Estonia emphasises the importance of the European Commission conducting comprehensive impact analyses on the planned goals at the global, EU, regional and member state levels, that a just transition must be ensured, that from a global perspective and considering the interests of society and the economy, the impact analyses should focus on the necessity of the goals for the climate and the environment, highlighting the importance of utilizing the best available technology and energy carriers for the green transition and that biodiversity goals must not be undermined when planning measures to meet climate goals.
Public authority		Denmark	All sectors	Climate	The Danish Ministry of Climate, Energy and Utilities presents the main priorities of Denmark for the 2040 climate target. It notably advocates to support a target aligned with the long-term goal of 1,5°C, with an intermediate target for 2035. The EU Climate architecture should be based on three pillars: an ETS system covering all emissions from energy consumption and emissions, an agricultural pillar, and a forestry pillar. It supports the implementation of an ambitious and coherent climate and energy framework that enables sectoral standards and strengthened carbon leakage protection.

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Public authority	United Nations	United States	All sectors	Climate, global	The United Nations argue that the EU's level of ambition on such intermediary targets on the road to 2050 would be decisive in setting a new global standard, thereby helping to leverage similar (and necessary) additional engagements from other Parties. The UN recommends the EU to integrate the following: a global goal on adaptation, focusing on the adaptation gaps highlighted in the Adaptation Gap Report and the GST, inter alia, including the financing gap. The global goal should be able to both enhance the adaptation ambition and the ability to monitor the progress in achieving it. Loss and damage funding arrangements and fund, including opportunities for capitalizing these arrangements and providing resources that will provide significant support to vulnerable developing countries in responding to loss and damage due to extreme and slow onset events. The GST outcomes, and ways in which progress can be scaled, gaps can be plugged, and opportunities are maximized. The UN argues that it is crucial that the EU, as the world's third-largest economy, keeps this position to reach net zero and to showcase that human wellbeing and economic development is possible while phasing out fossil fuels.
Public authority	The Swedish Ministry of Climate and Enterprise	Sweden	All sectors	Climate, target	Sweden welcomes setting an intermediary climate target for 2040 based on the best available science that can provide predictability for political choices and investment decisions as well as strengthen the EU's competitiveness and productivity, paving the way for a climate-neutral EU by 2050 at the latest. The Swedish Ministry of Climate and Enterprise believe that each Member State has a responsibility to reach net-zero emissions and that the 2040 target should be based on increased convergence of Member States commitments to strengthen the EU's path to climate neutrality.
Trade union	IndustriAll European Trade Union	Belgium	Manufacturing industry	Transition, climate	In the position paper, IndustriAll Europe calls for stronger and more comprehensive industrial policy tools to support Europe and its different regions in implementing the 2040 target while preserving the competitiveness of our industrial base and achieving the Green Deal Industrial Plan's target to increase Europe's independence in clean technology manufacturing.
Trade union	Federation of Private Foresters of France (FRANSYLVA)	France	Land-Use, Land- Use Change and Forestry	Climate, forestry	In the position paper, Fransylva discuss the importance of sustainable forestry in the pathway towards climate neutrality. Fransylva points out that forest-based climate actions are based on long-term processes, which means that forest owners should be encouraged to continue to manage their forests with a long-term perspective, to preserve the resilience of their forests and to ensure multiple societal benefits now and in the future.

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