



HM Government

Climate Change and Net Zero: Public Awareness and Perceptions

Research Paper No. 2021/034

April 2021

Acknowledgements

This research was carried out by researchers in BEIS/Defra and Dr Christina Demski (Cardiff University).

We are very grateful to Professor Wouter Poortinga (Cardiff University) and Professor Lorraine Whitmarsh (University of Bath) for peer review.



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Executive Summary

An online survey of 6,947 members of the UK public was carried out between September and October 2020 regarding climate change and the UK's target to reduce greenhouse gas emissions to net zero by 2050. The quota sample is broadly representative of the UK population due to the use of quotas based on age, gender, ethnicity and disability. However, whilst the sample is broadly representative, the results should only be taken to reflect the views of the participants rather than the general population (as per government social research guidelines on quota samples). Headline findings from this survey are described below. Data tables and the questionnaire used are published separately as Annexes alongside this report.

Climate change

Climate change was perceived to be affecting other countries more than respondents' local area within the UK although half of respondents (50%) felt that their local area had been affected to '*at least some extent*'.

- Eighty-three percent of participants reported that climate change was a concern.
- Fourteen percent of participants perceived climate change as affecting their local area by '*a great deal*' compared to 42% of UK participants perceiving climate change as affecting other countries by '*a great deal*'.
- Eighty-six percent of UK participants perceived other countries to be experiencing climate change effect to '*at least some extent*'.
- Around half (54%) of participants perceived their local area to be experiencing climate change effect to '*at least some extent*'.

Net zero

'*A fair amount*' of net zero knowledge was held by less than half of participants but after being given some information about net zero there was support from around 4 in 5 respondents.

- Around 2 in 5 (39%) participants stated they had '*a lot*' or '*a fair amount*' of knowledge of net zero, with 87% having heard of net zero.
- After providing information on net zero, around 4 in 5 (78%) of all participants said they strongly or somewhat supported the net-zero target.
- Participants perceive many co-benefits when imagining a future where carbon emissions are substantially reduced and net zero has been reached; 76% of participants believed there will be better health, 74% of participants believed there will be better well-being and 50% believed the economy will be better.

Perceptions towards different actions

A large proportion of participants identified that lifestyle changes are required to address climate change. Even though transport was perceived as contributing '*a great deal*' to

emissions (by 49% of participants), the most likely perceived change was energy efficiency measures.

- Around half (49%) of participants perceived transport as contributing '*a great deal*' to carbon emissions.
- Only 22% of participants perceived agriculture (such as crops, livestock, and farm machinery) as contributing '*a great deal*'.
- Energy efficiency measures were perceived to be the change most likely to generally occur across society with two thirds (66%) of participants perceiving this change as '*extremely likely*' or '*somewhat likely*' to occur in the next few decades.
- Half of participants (50%) stated that the UK should pursue an equal mix of technological and lifestyle changes to reduce UK carbon emissions.

Background

Introduction

In June 2019, the UK government set a target for reducing UK carbon emissions to ‘net zero’ by 2050¹. By achieving net zero greenhouse gas emissions, the UK will no longer directly contribute to climate change. This will likely involve significantly reducing emissions from many different activities, such as driving cars, how we heat our homes and the electricity we use. Any remaining carbon emissions would be balanced out by technologies and actions that reduce greenhouse gases in the atmosphere.

This research was commissioned to explore public awareness and perceptions of climate change and net zero. The current study sought to focus on the social and behavioural dimensions of net zero at both individual and societal levels, this provides a complementary quantitative analysis to the qualitative deliberative workshops described in the ‘Net Zero Public Dialogue’ report².

Methodology

Between September and October 2020, an online survey of 6,947 members of the UK public, aged 18 and over, was carried out in relation to climate change and net zero. The survey used a quota sampling approach with quotas set in line with UK proportions for age, gender, nation, ethnicity, and social grade. The 6,947 sample broadly reflects the demographics of the UK. The sample sizes in Scotland, Northern Ireland, and Wales were boosted by 1,019, 205 and 1,010 respectively. Data from the boosted nations have been down-weighted to ensure overall results proportionately represent the UK as a whole.

Results presented here are for the UK, rather than by individual nation (Northern Ireland, Scotland, Wales and England). The results reflect participants in the study rather than being representative of the overall UK population and provides valuable insight into the attitudes and perceptions of the participants³. This report highlights a few high-level findings; data tables are published separately alongside this report with more detailed results. This research supplements the Net Zero Public Dialogue that was published in March 2021⁴, which provided a deeper exploration of public attitudes and perceptions of climate change/net zero. Later in 2021, further sub-group analysis of this survey data will be published.

¹ UK Government Target to reduce UK carbon emission to net zero. Available from:

<https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law>

² Newgate Research & Cambridge Zero, HM Government, 2021, Net Zero Public Dialogue. Available from: <https://www.gov.uk/government/publications/net-zero-public-dialogue>

³ Figures are rounded up or down to the nearest whole percentage.

⁴ Newgate Research & Cambridge Zero, HM Government, 2021, Net Zero Public Dialogue. Available from: <https://www.gov.uk/government/publications/net-zero-public-dialogue>

Main report

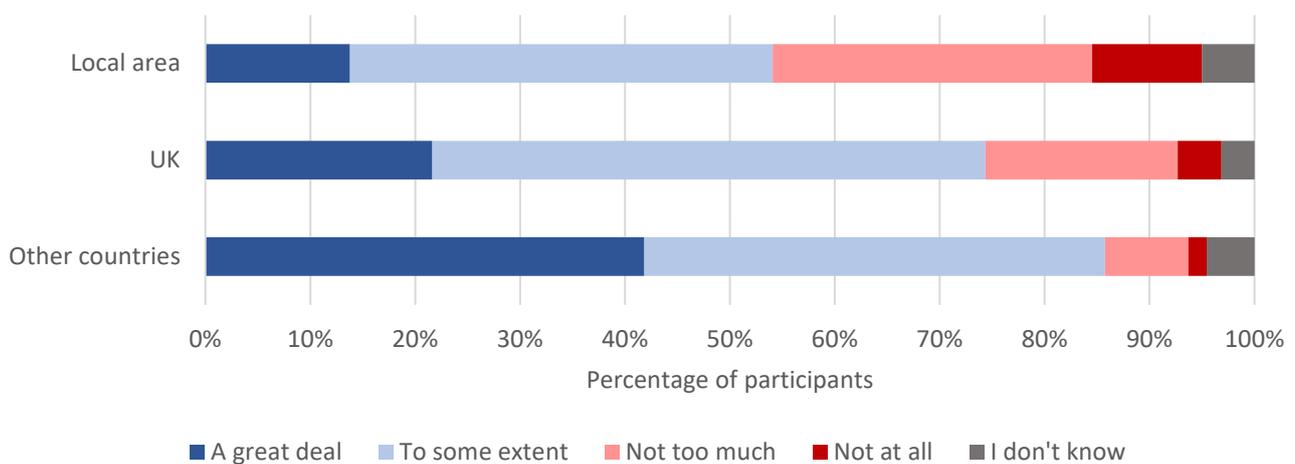
Climate Change Concern

The survey found that 83% of participants were concerned about climate change. The questions used in this survey regarding climate change concern were identical to the same questions used in BEIS' Public Attitudes Tracker⁵. The September 2020 (Wave 35, UK) of this Public Attitudes Tracker found that 82% of participants were concerned about climate change; this is reassuring in terms of supporting robustness of this survey's data.

Climate Change Perceptions

Participants perceived climate change as affecting other countries more than when asked about their local area (Figure 1). For example, 14% of participants perceived climate change as affecting their local area by 'a great deal' compared to 22% for the UK and 42% for other countries. Eight in ten (86%) participants perceived other countries to be experiencing a climate change effect 'a great deal' or 'to some extent'.

Figure 1: UK Participants' perception of climate change effects within one's local area, the UK, and other countries



How much, if at all, do you think climate change is currently affecting people in other countries, the UK or your local area?

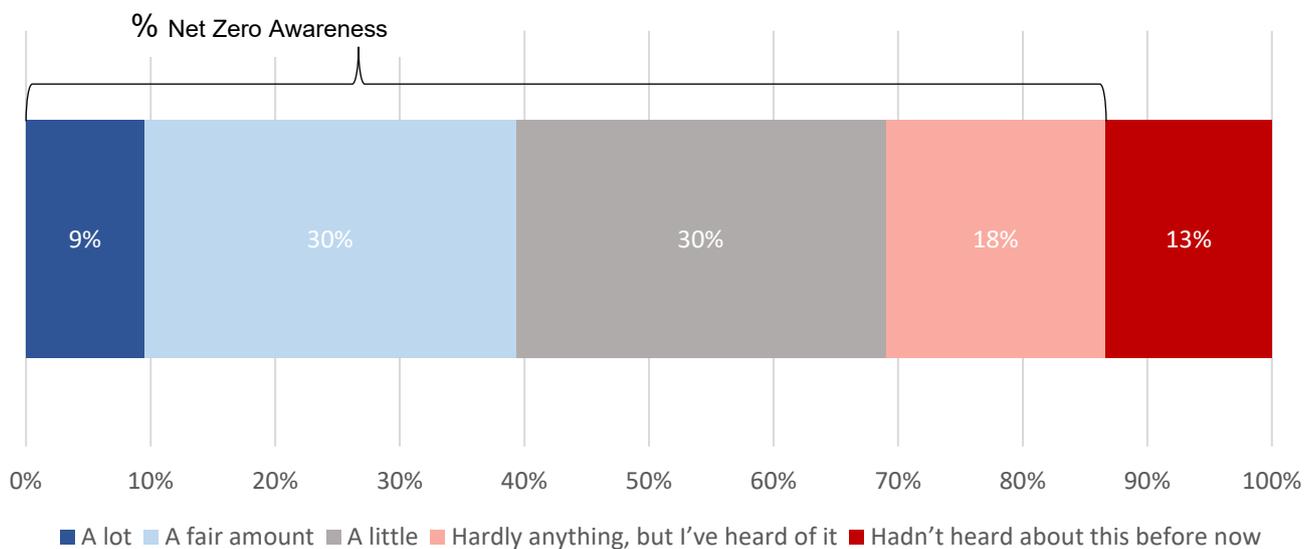
Bar chart showing that climate change is perceived by participants as affecting other countries greater than their own local area.

⁵ September 2020 (Wave 35, UK), Public Attitudes Tracker. Large, reputational survey. Available from: <https://www.gov.uk/government/statistics/beis-public-attitudes-tracker-wave-35>

Knowledge and support of net zero

The survey found that 87% of participants had heard of net zero, although only 9% of participants stated that they knew a lot about net zero⁶ (Figure 2). This is higher than reported in the Public Attitudes Tracker⁷ but provides further supporting evidence that public awareness of net zero has risen considerably over the past year as reported across Public Attitudes Trackers from the last year. There was no notable increased publicity around net zero or climate change at the time of the survey and this research was carried out prior to the ‘ten point plan for a green industrial revolution’⁸ announcement (which received significant media attention).

Figure 2: UK participants’ knowledge of net zero



Many governments and companies around the world, including the UK, are committing to achieving ‘net zero’. Before today, how much, if anything, did you know about this concept?

Bar chart showing that 87% of participants reported being aware of net zero.

The survey provided participants with a brief statement⁹ clarifying what net zero is and then sought their views on whether they supported or opposed the target. There was large support for the target: 78% of participants supported the target. Participants that responded ‘opposed’

⁶ See the Net Zero - Public Dialogue report for further qualitative evidence on public understanding.

⁷ BEIS Public Attitudes Tracker Wave 36

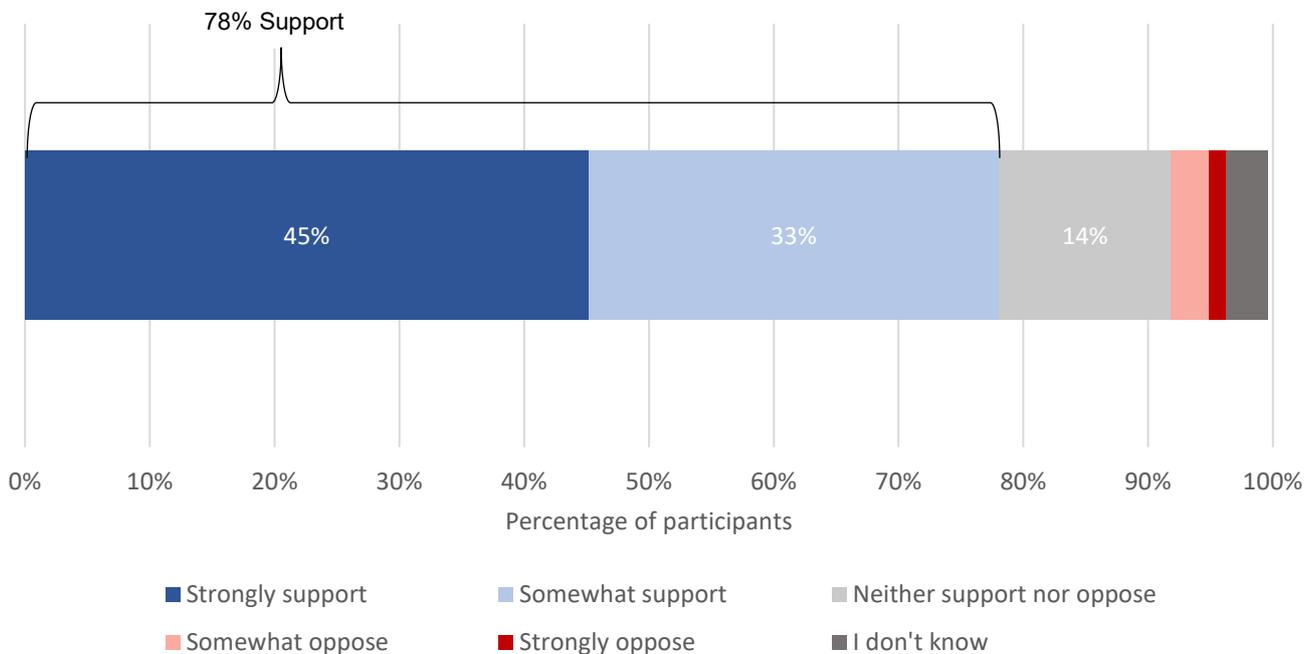
Available from: <https://www.gov.uk/government/statistics/beis-public-attitudes-tracker-wave-36>

⁸Ten point plan for a green industrial revolution. Available here: <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

⁹ The UK government has set a target for reducing UK carbon emissions to ‘net zero’ by 2050. By achieving ‘net zero’ emissions, the UK will no longer contribute to climate change. This will involve significantly reducing emissions from many different activities, such as driving cars, the food we eat, and the electricity we use. Any remaining carbon emissions would be balanced out by technologies and actions that reduce greenhouse gases in the atmosphere.

to this question were then asked to respond in free text about why they felt this way. The top three reasons given by those that opposed the target were: that climate change or net zero is not an important issue, that net zero is not possible to achieve, and that the target would be too damaging or costly.

Figure 3: UK Participants' support or opposition attitudes towards the net-zero target



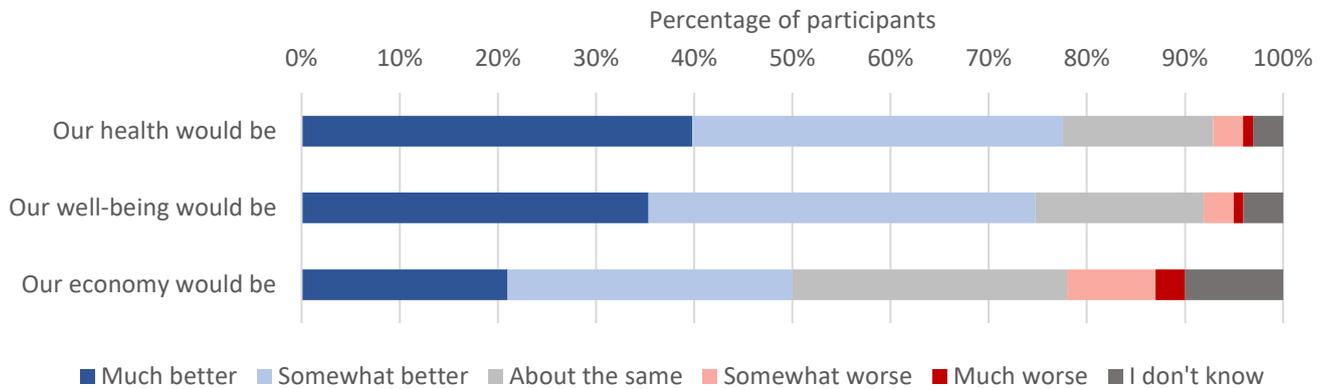
To what extent do you support or oppose the UK's net-zero target?

Bar chart showing that 78% of participants strongly or somewhat supported the net-zero target.

Perceptions of the future

Participants also perceived there to be many positive effects of achieving the target. Primarily, 76% of participants believed there will be better health in a future where net zero has been reached. Additionally, 74% of participants believed there will be better well-being and 50% believed the economy will be better.

Figure 4: UK Participants’ future perceptions when net zero is achieved and there are reduced carbon emissions



Seeing yourself in a future where we have substantially reduced carbon emissions and reached net zero, what do you think this would mean for people in general?

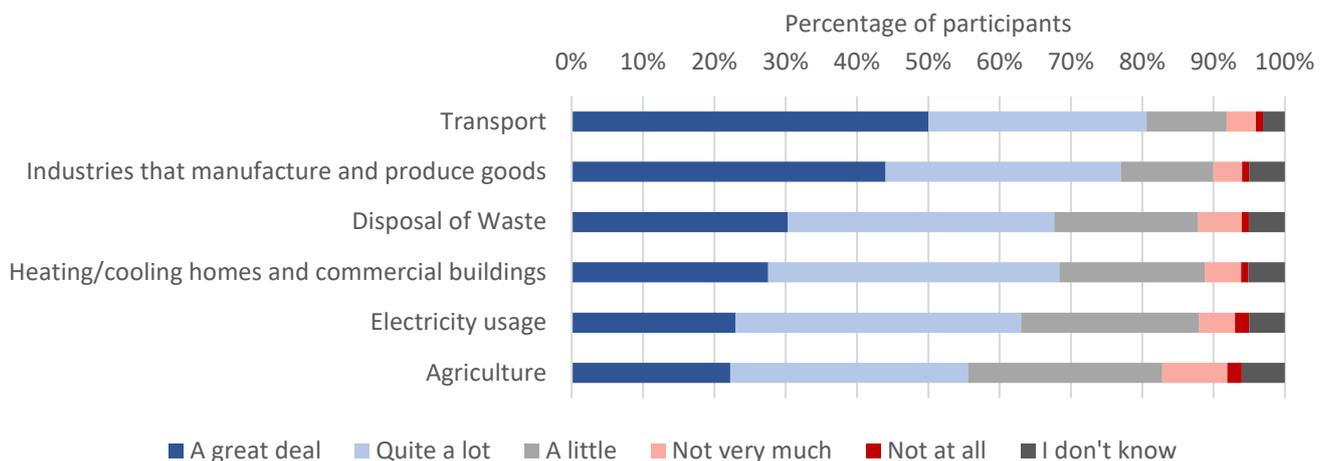
Bar chart showing that participants believed health will be much better in a future where the net zero target is achieved.

Perceptions of emission contributors and likelihood of changes

Participants’ perception of contributors to UK carbon emissions

On examining which sector is perceived to contribute the most to the UK carbon emissions, transport (such as cars, vans, trains, planes, and ships) was perceived as the largest contributor. When looking across the sectors, 49% of participants perceived transport as contributing ‘a great deal’ to carbon emissions, whilst only 22% of participants perceived agriculture (such as crops, livestock, and farm machinery) as contributing ‘a great deal’.

Figure 5: UK Participants’ perception of sector contributions to UK carbon emissions



In your view, how much do each of the following sectors contribute to UK carbon emissions?

Bar chart showing that participants perceived transport to be the largest contributor to UK carbon emissions.

Definitions

Transport: Transport (e.g. cars, vans, trains, planes, ships).

Industries that manufacture and produce goods: Industries that manufacture and produce goods.

Disposal of waste: Disposal of waste (e.g. food waste, commercial and household waste).

Heating/cooling homes and commercial buildings: Heating and cooling homes and commercial buildings.

Electricity usage: Electricity usage in homes and commercial buildings (e.g. lights).

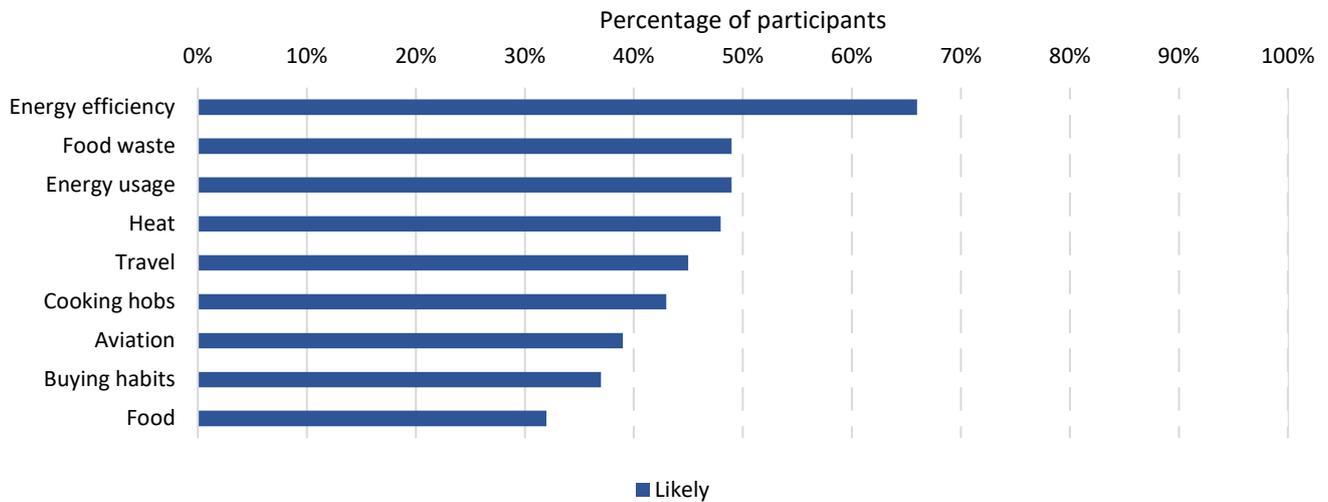
Agriculture: Agriculture (e.g. crops, livestock, farm machinery).

Participants' perceptions of the likelihood of changes occurring over the next few decades

Participants were asked how likely they thought a range of changes are to occur over the next few decades (Figure 6). There were mixed perceptions over whether it is likely or unlikely for many of the low carbon actions to happen over the next few decades.¹⁰ The change perceived to be most likely to occur was energy efficiency (for example, installing insulation in houses). Two-thirds of participants (66%) perceived this change as '*extremely likely*' or '*somewhat likely*' to occur in the next few decades. The consumption of half as much meat and dairy was perceived to be the least likely change to occur with 32% of participants perceiving the change as '*extremely likely*' or '*somewhat likely*'.

¹⁰ The Net Zero Public Dialogue provides some qualitative insight into this matter.

Figure 6: UK Participants’ perceived likelihood of change occurring within the next few decades



For each action, please select how likely or not you think these are to happen over the next few decades?

Bar chart showing that participants had mixed perceptions of the likelihood of change for various factors occurring in the next few decades.

Definitions

Energy efficiency: People make their homes more energy efficient (e.g. installing insulation in the loft, in walls, and under the floor).

Travel: People no longer use petrol or diesel cars.

Energy usage: People use a lot less energy in the home (e.g. using less heating, switching off appliances, using less hot water).

Heat: Almost all homes in the UK use low-carbon heating rather than gas or oil boilers.

Food waste: Every household has low levels of food waste (e.g. less than 5% of the food they buy).

Cooking hobs: People no longer use gas cooking hobs, and only use electric or induction hobs.

Aviation: People fly less than they did in 2019 (before the COVID-19 outbreak).

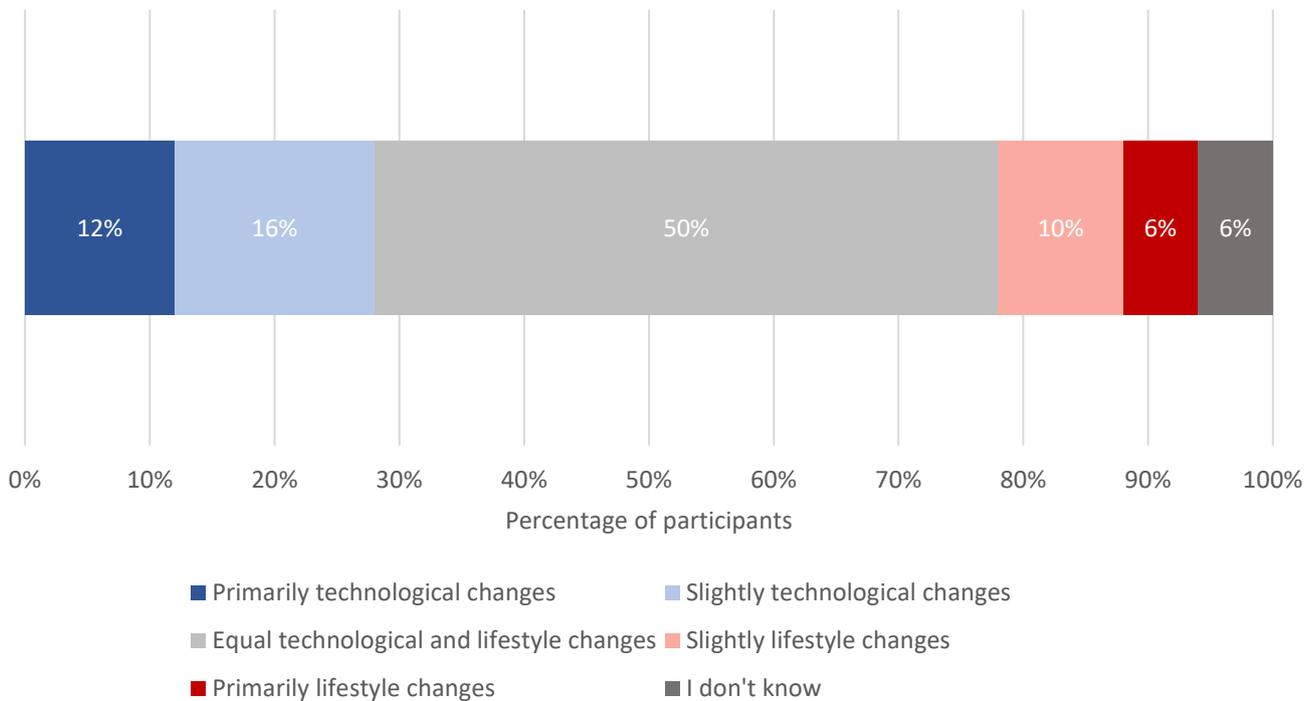
Buying habits: People buy fewer items (e.g. new clothes) and use these for longer, and will try to repair existing items before replacing them.

Food: Everyone eats half as much meat and dairy as they do today.

Perceptions of the future

Participants were asked their opinion on whether the UK should focus on lifestyle changes or technological changes to reduce carbon emissions. When looking at the balance between the two, 50% of participants believed the UK should pursue an equal mix of technological and lifestyle changes to reduce UK carbon emissions. The Net Zero Public Dialogue report also shows that there was an expectation from participants that a net zero society in 2050 would most likely have been achieved through a combination of changes to behaviour and accompanying technological innovations¹¹.

Figure 7: UK participants’ preferred lifestyle and/or technological changes to reduce UK carbon emissions



Please indicate your own opinion on whether the UK should focus on lifestyle changes or technological changes to reduce carbon emissions?

Bar chart showing that 50% of participants believed the UK should pursue an equal mix of technological and lifestyle changes to reduce UK carbon emissions.

¹¹ Newgate Research & Cambridge Zero, HM Government, 2021, Net Zero Public Dialogue. Available from: <https://www.gov.uk/government/publications/net-zero-public-dialogue>

Annex 1: Methodology

This research was conducted between September and October 2020. The survey was conducted online with UK adults aged 18 and over, using the survey platform provider Qualtrics. The survey was administered to a panel of people who had previously agreed to be contacted to take part in social research with Qualtrics. The panel of people are chosen from a pre-arranged pool of respondents who have agreed to be contacted by a market research service in order to respond to surveys. Whilst panel interviewing allows for speed when conducting research, there are also some potential biases. There is a possible self-selection bias due to participants actively choosing to join the panel which may produce differing responses from a random probability sample of the general population. However, the participants in this research were required not to have taken part in research for 6 months prior to the study, therefore repeated exposure to surveys and a bias to take part in multiple research projects is unlikely within the sample. This panel sample was not selected using random probability sampling and so the results cannot be generalised to the whole population but are indicative of differences between the groups who participated in this survey.

The sample of 6,947 participants broadly reflects UK demographics. Of the sample used, the sample sizes of Scotland, Northern Ireland, and Wales were boosted by 1,019, 205, and 1,010 participants respectively, and therefore results in these areas have been down-weighted to ensure the results proportionately represent the UK as a whole¹² (see Table 5 for the national weightings). This reduced the weighted sample size to 5,048. The survey used a quota sampling approach; quotas were set in line with UK proportions for age, gender, religion, ethnicity, and social grade. Quotas were set to ensure the sample reflects the wider socio-demographics of the general population and to compensate for any biases from online panels.

The results reflect participants in the study rather than the overall population due to the use of quota sampling. When comparing the quota sample to that of the average UK population the participant's demographics broadly reflect the demographics of the UK. The demographic characteristics of the participants are below.

The survey participant demographics were compared to the desired quotas established prior to the survey. The quota sample was achieved for several participant demographics (age, gender, ethnicity, household employment and social grade) and we purposefully oversampled for 'national' quotas. Sensitivity tests were calculated for all demographics (age, gender, ethnicity, social grade, disability, employment status and nation). To conduct the sensitivity tests, weightings were calculated, applied to the data and analysis conducted. Additionally, frequency checks were conducted before and after applying the weightings to ensure target population sizes. All the calculations and analysis were quality assured by an independent social researcher. The sensitivity tests found that applying weights made very little difference to the overall findings (none of the results changed by more than 0.6% points). Consequently

¹² National weightings for Scotland, Northern Ireland and Wales were applied to the data because the sample sizes in these areas had been purposefully boosted.

only 'national' weightings were applied during the analysis (to downweight the purposeful oversampling of Scotland, Northern Ireland and Wales).

Participant demographics (conducted with the weighted sample) and comparison UK percentages of socio-demographics¹³

Table 1: Age ranges of the participants

Age range	Frequency	UK percentage
18-24 years	12.0% (604)	12.0%
25-34 years	20.4% (1,030)	19.3%
35-44 years	18.8% (946)	18.1%
45-54 years	18.6% (937)	20.0%
55-64 years	17.0% (860)	16.5%
65+ years	13.1% (660)	14.1%
Prefer not to say	0.2% (10)	

Table 2: Ethnic group of the participants

Ethnic group	Frequency	UK percentage
Asian/Asian British	7.1% (359)	7.5%
Black/African/Caribbean British	3.1% (155)	3.3%
Mixed/Multiple Ethnic Groups	1.8% (90)	2.2%
Other Ethnic Groups	1.5% (78)	1.0%
White British	85.5% (4,316)	86.0%
Prefer not to say	1.0% (50)	

Table 3: Gender of the participants

Gender	Frequency	UK percentage
Female	54.0% (2,727)	51.2%
Male	45.6% (2,299)	48.8%
Other	0.2% (10)	

¹³ Labour Force Survey.

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/labourmarketstatusofdisabledpeoplea08>

Eurostat, Population on 1 January. https://ec.europa.eu/eurostat/en/web/products-datasets/-/DEMO_PJAN

ONS Ethnicity. <https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity>

Prefer not to say	0.2% (10)	
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Table 4: Any long-standing illness, disability, or infirmity that limits normal day-to-day activities of the participants

Any illness, disability, or infirmity	Frequency	UK percentage
Yes	27.7% (1,397)	24.4%
No	67.7% (3,416)	75.6%
I don't know	2.5% (124)	
Prefer not to say	2.2% (111)	

Table 5: National weightings (weights applied to reflect the desired sample)

Nation	Actual sample	Desired sample (national percentage)
England	61%	84.005%
Wales	16.5%	4.806%
Scotland	18.3%	8.429%
Northern Ireland	4.2%	2.761%

Discussion of methodology

The limitations of our sampling methodology are outlined below. Quota sampling is recognised as a valid approach for collecting data¹⁴ and this methodology provided an indication of people's attitudes and behaviours that we would anticipate seeing in the wider population. The methodology used (i.e. an online survey) brings benefits in terms of speed and cost-efficiency. However, there are also some associated risks:

- As is typical with most surveys, the methodology relies on participants self-reporting their intent to behave in a certain way and internal attitudes rather than observed behaviour. In this way social desirability bias may be a factor in a potential difference between self-reported intent and actual behaviour.
- The sample may also be biased towards respondents who have a high propensity to take part in research, these respondents might not reflect the wider population in their attitudes and behaviours. Individuals who do not have access to being online and those

¹⁴ Quota sampling Guidance. Available from: <https://gss.civilservice.gov.uk/policy-store/gsr-quota-sampling-guidance/>

with a low propensity to respond will be excluded. Individuals from lower socio-economic backgrounds or more rural areas are more likely to be excluded in this way due to limited or no internet access. Internet access was required to take part in the research as we used an online method of data collection. Consequently, the results from this report should not be applied or generalised to the wider population¹⁵.

¹⁵ Quota sampling guidance. Available from: <https://gss.civilservice.gov.uk/wp-content/uploads/2018/03/Quota-sampling-guidance-4.pdf>

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