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Climate change perceptions and actions survey: wave 4 comparison report

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Climate change perceptions and actions survey: wave 4 comparison report

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Views expressed in this report are those of the researcher and not necessarily those of the Welsh Government

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1. Introduction

- 1.1 This report details the outputs from the first 4 of 6 waves of the Climate Change Perceptions and Actions quantitative survey of households in Wales. The survey was commissioned by the Welsh Government to understand attitudes and behaviours related to reducing carbon emissions. This research will contribute to the Welsh Government's approach to behavioural and societal change and will inform future policy development and decisions in relation to decarbonisation.
- 1.2 The aims of the research are to be met through primary research with members of the public in Wales over 6 biannual waves, with a target of 1,000 responses per wave.
- 1.3 The [Wave 1 Survey Outputs Report](#) provides more detail on the background to the survey.

Questionnaire design

- 1.4 The questionnaire was developed by WSP, Accent and the Welsh Government and is available to read as an [annex](#).
- 1.5 The questionnaire was designed to allow for tracking of attitudes and behaviours in future waves and was structured to cover the following six areas:
- Household characteristics
 - Perceptions and attitudes
 - Home energy
 - Food
 - Daily life
 - Travel.

Fieldwork

- 1.6 The fieldwork for each wave took place on the following dates:
- Wave 1 – August and September 2023
 - Wave 2 – February and March 2024
 - Wave 3 – August and September 2024
 - Wave 4 – February and March 2025

1.7 The number of surveys completed in each wave ranged from 939 (wave 3) to 1,001 (wave 4).

Sample characteristics

1.8 Demographic characteristics of the sample were compared to national data sets for Wales, e.g. [2021 Census](#), to ensure the sample was representative of the wider population. Demographic questions covered age, gender, ethnicity, location, work status, occupation, household income, property type, and tenure.

1.9 Comparisons indicate that the sample is broadly representative of the population of Wales.

1.10 The [Wave 3 & 4 Methodology Report](#) provides further detail on survey design, including comparison of the survey sample demographic characteristics against Census 2021 data and national data sets.

Report structure

1.11 This report presents tracker style outputs between the four waves for responses to perceptions and attitudes and sustainable actions.

1.12 The report is structured as follows.

- Section 2 – Comparison between all waves, from wave 1 to wave 4
- Section 3 – Conclusion

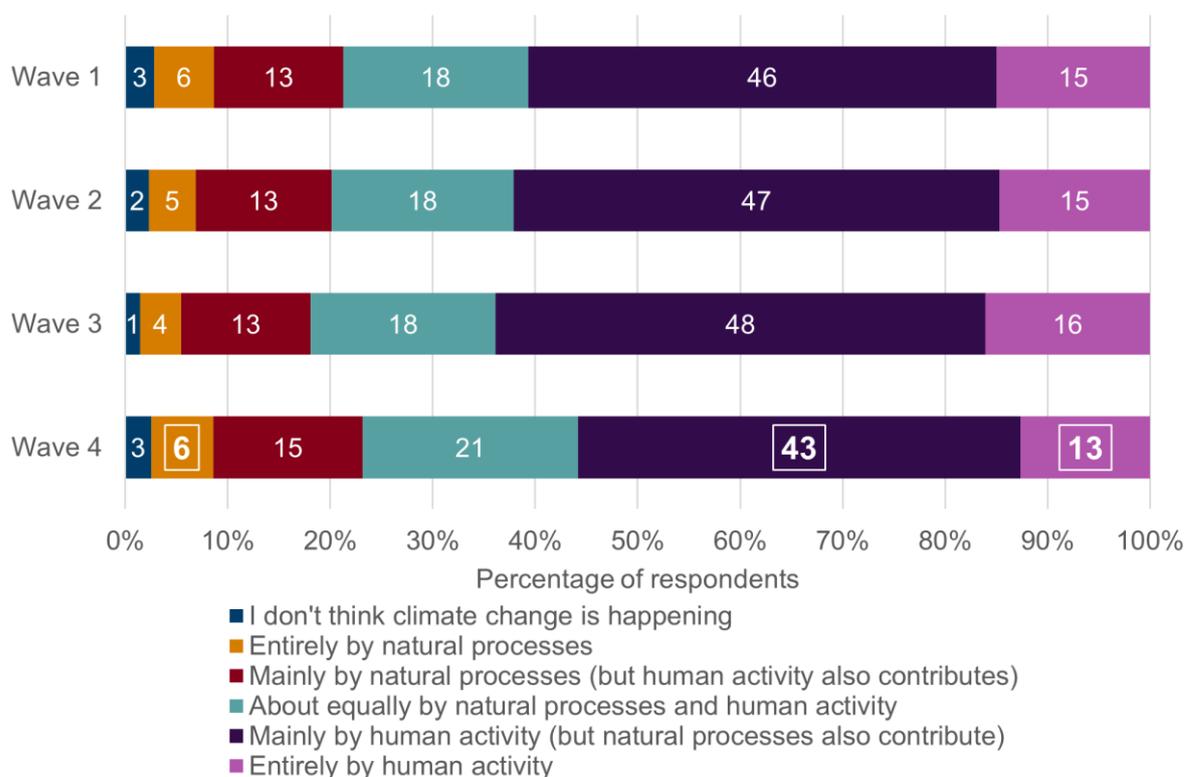
2. Comparison across waves 1 to 4

- 2.1 This section provides a tracker style comparison between the four waves for responses to perceptions and attitudes and sustainable actions.
- 2.2 Significance testing for differences between waves of data was undertaken using a two-tailed test, based on the proportion of respondents to each category in each wave. Each wave is tested against the previous wave, i.e. wave 2 vs wave 1, wave 3 vs wave 2, wave 4 vs wave 3. The significance testing was conducted at 95% confidence level. The base size and rounded percentages of each category response were used as the input values for the cross-wave significance testing.
- 2.3 Where a result is significantly different from the previous wave the data label on the chart will be marked in bold text with a border.

What is climate change caused by?

- 2.4 Respondents were asked what they thought was the cause of climate change. In wave 4 56% of respondents said climate change was caused mainly or entirely by human activities, compared to 64% in wave 3, 62% in wave 2 and 61% in wave 1 (Figure 2.1).

Figure 2.1 – Response to - ‘What do you think climate change is caused by?’



Description of Figure 2.1: a stacked bar chart showing what respondents believed was causing climate change.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. 'Don't know' and 'Prefer not to say' excluded. Base W4 = 958, W3 = 902, W2 = 905, W1 = 916

Statistically significant changes from previous wave marked in bold text with a border.

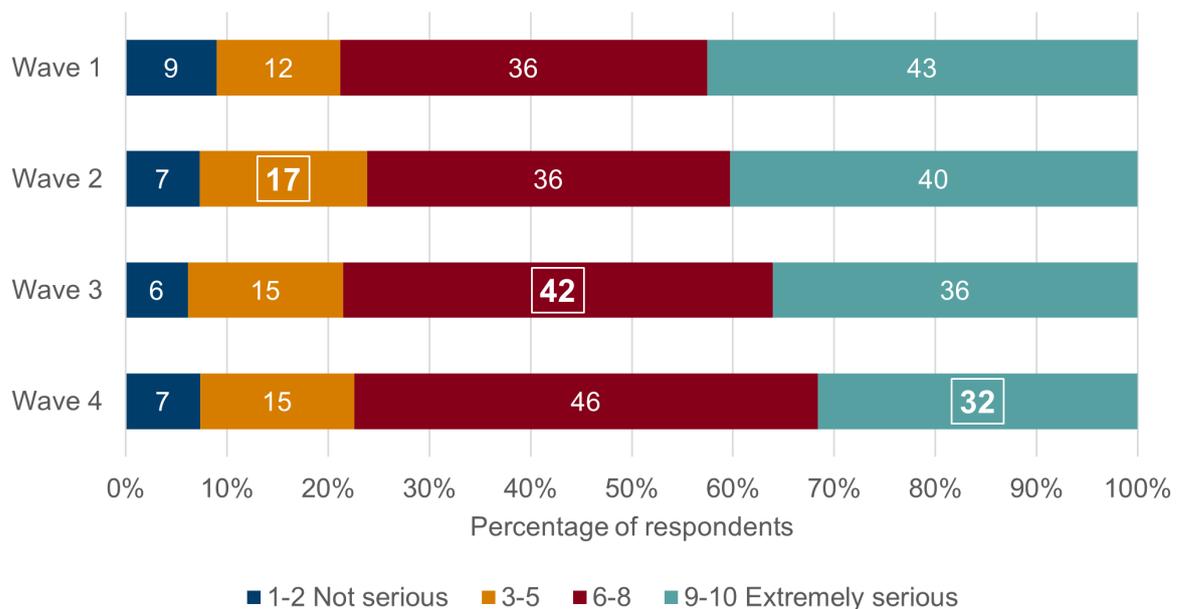
Between waves 3 and 4 several statistically significant changes are highlighted in the chart:

- A 2 percentage point (pp) increase was reported in respondents who answered 'Entirely by natural processes' (Wave 3: 4%, wave 4: 6%).
- A 5pp decrease in those who answered 'Mainly by human activity (but natural processes also contribute)' (Wave 3: 48%, wave 4: 43%)
- A 3pp decrease in those who answered 'Entirely by human activity' (Wave 3: 16%, wave 4: 13%).

Is climate change a problem at this moment?

2.5 Respondents were asked to what extent they thought climate change was a problem at the moment, with responses ranging from 1 'not at all a serious problem' to 10 'an extremely serious problem'. The proportion of respondents who said climate change was an extremely serious problem was lower in wave 4 than in other waves. In wave 4 32% of respondents said climate change was an extremely serious problem, compared to 36% in wave 3, 40% in wave 2 and 43% in wave 1 (Figure 2.2). However, responses greater than 5, were similar across all waves, wave 4 78%, wave 3 78%, wave 2 76% and wave 79%.

Figure 2.2 – Response to - 'To what extent do you think climate change is a problem at the moment?'



Description of Figure 2.2: a stacked bar chart showing what to what extent respondents thought climate change was a problem in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. 'Don't know' and 'Prefer not to say' excluded. Base W4 = 965, W3 = 912, W2 = 918, W1 = 921

Statistically significant changes from previous wave marked in bold text with border.

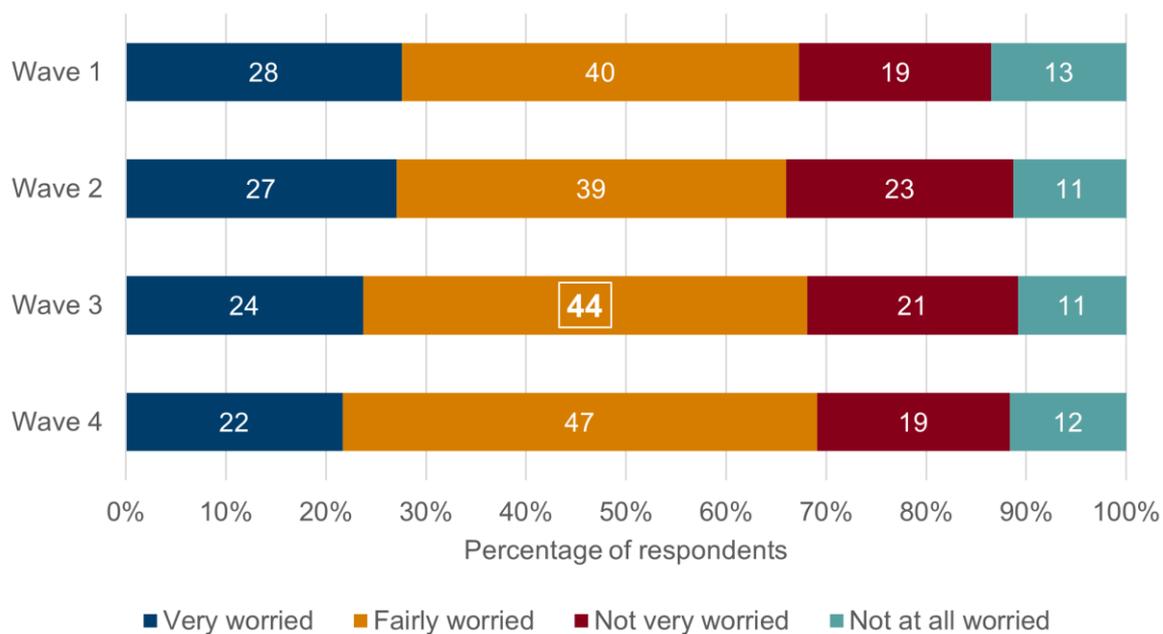
Statistically significant changes highlighted in the chart are:

- A 5 percentage point (pp) increase in respondents who answered 3-5 was reported between wave 1 (12%) and wave 2 (17%).
- A 6pp increase in respondents who answered 6-8 was reported between wave 2 (36%) and wave 3 (42%).
- A 4pp decrease in respondents who answered 9-10 was reported between wave 3 (36%) and wave 4 (32%).

Worry about climate change

2.6 Respondents were asked how worried they were personally about climate change, with responses ranging from ‘not at all worried’ to ‘very worried’. The proportion of respondents who said they were very worried about climate change was lower in wave 4 than the other waves. In wave 4, 22% of respondents said they were very worried about climate change, compared to 24% in wave 3, 27% in wave 2 and 28% in wave 1 (Figure 2.3).

Figure 2.3 – Response to - ‘How worried are you personally about climate change?’



Description of Figure 2.3: a stacked bar chart showing how worried respondents were about climate change in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 954, W3 = 915, W2 = 906, W1 = 927

Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

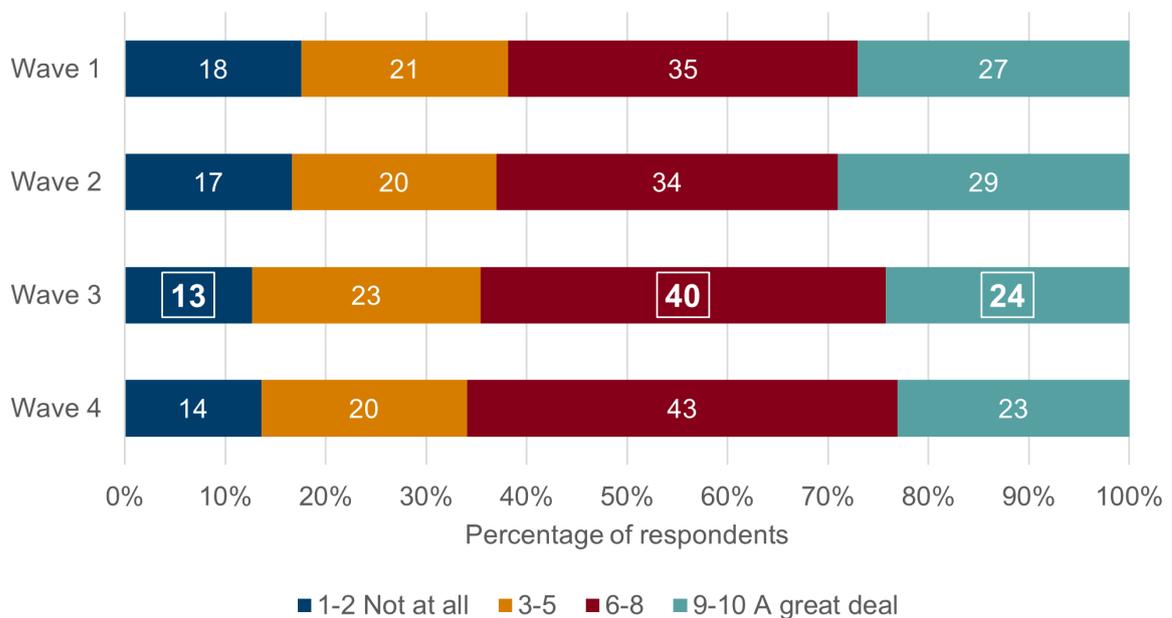
- A 5 percentage point (pp) increase in respondents who answered, 'Fairly worried' between wave 2 (39%) and wave 3 (44%).

Personal responsibility to prevent climate change worsening

2.7 Respondents were asked to what extent they felt a personal responsibility to prevent climate change from worsening, with responses ranging from 1 'not at all' to 10 'a great deal'.

2.8 The responses were similar between waves 1 and 2, and similar between waves 3 and 4. Between waves 2 and 3 there were significant changes in respondents who answered 1 to 2 (from 17% to 13%), 6 to 8 (from 34% to 40%), and 9 to 10 (from 29% to 24%).

Figure 2.4 – Response to - 'To what extent do you feel a personal responsibility to try to prevent climate change from worsening?'



Description of Figure 2.4: a stacked bar chart showing what to what extent respondents thought they had a personal responsibility to prevent climate change from worsening in each wave

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. 'Don't know' and 'Prefer not to say' excluded. Base W4 = 972, W3 = 915, W2 = 914, W1 = 922

Statistically significant change from previous wave marked in bold text with border.

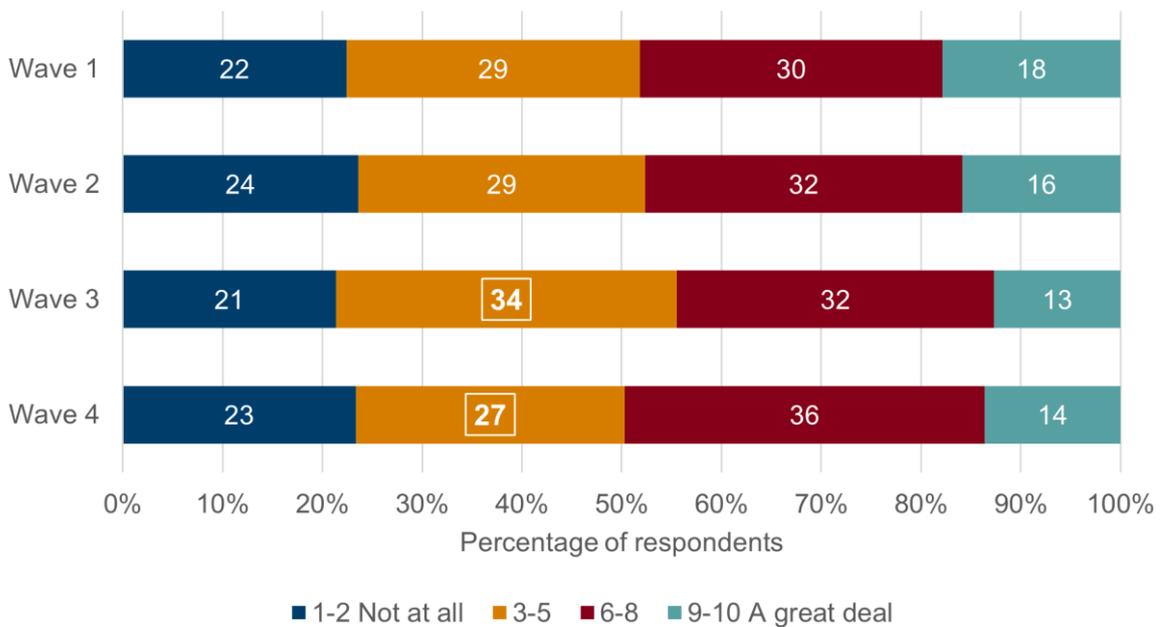
The chart highlights the following statistically significant changes between waves 2 and 3:

- A 4 percentage point (pp) decrease in respondents who answered 1-2 (Wave 2 17%, wave 3 13%)
- A 6pp increase in respondents who answered 6-8 (Wave 2 34%, wave 3 40%)
- A 5pp decrease in respondents who answered 9-10 (Wave 2 29%, wave 3 24%)

Personal actions to prevent climate change worsening

- 2.9 Respondents were asked to what extent they felt their personal actions could prevent climate change from worsening, with responses ranging from 1 'not at all' to 10 'a great deal'. The responses were similar across all waves, though wave 4 had the largest proportion of responses greater than 5 (reporting their personal actions could prevent climate change from worsening) at 50%, compared to 48% in wave 1 and 2, and 45% in wave 3 (Figure 2.5).
- 2.10 Across all waves there was a discrepancy between the extent to which people felt a personal responsibility to try to prevent climate change from worsening, and the extent to which people felt their own personal actions could help prevent climate change from worsening.

Figure 2.5 – Response to - 'To what extent do you feel that your own personal actions can help prevent climate change from worsening?'



Description of Personal actions to prevent climate change worsening

- 2.11 Respondents were asked to what extent they felt their personal actions could prevent climate change from worsening, with responses ranging from 1 'not at all' to 10 'a great deal'. The responses were similar across all waves, though wave 4 had the largest proportion of responses greater than 5 (reporting their personal actions could prevent climate change from worsening) at 50%, compared to 48% in wave 1 and 2, and 45% in wave 3 (Figure 2.5).
- 2.12 Across all waves there was a discrepancy between the extent to which people felt a personal responsibility to try to prevent climate change from worsening, and the

extent to which people felt their own personal actions could help prevent climate change from worsening.

Figure 2.5: a stacked bar chart showing what to what extent respondents thought that their own personal actions could help prevent climate change from worsening in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. 'Don't know' and 'Prefer not to say' excluded. Base W4 = 968, W3 = 908, W2 = 907, W1 = 924

Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

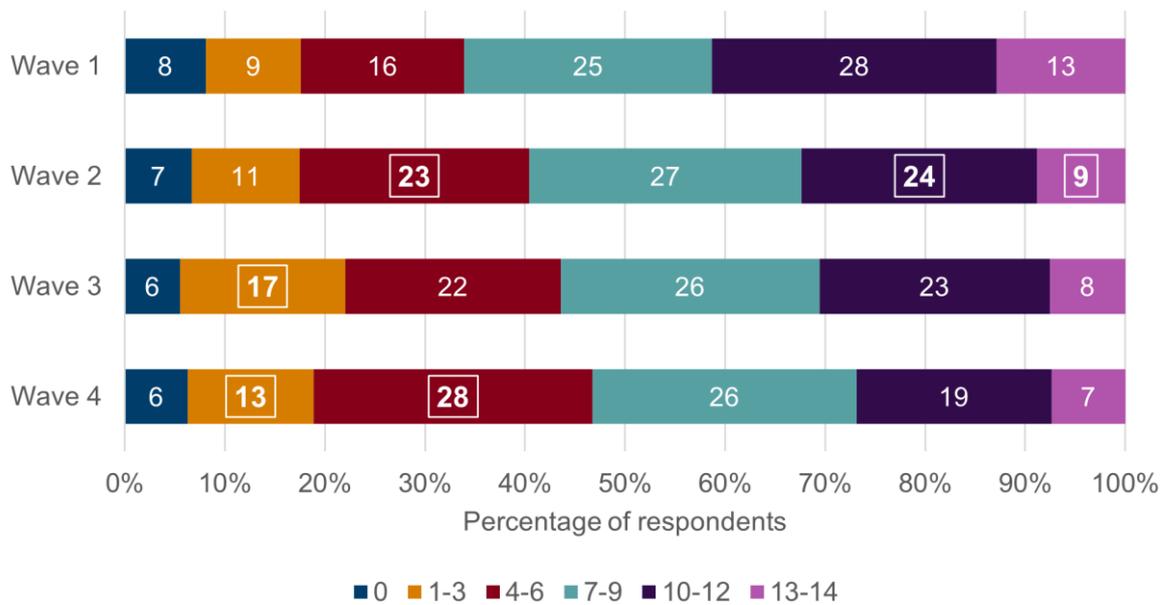
- A 5 percentage point (pp) increase in respondents who answered 3-5 between wave 2 (29%) and wave 3 (34%)
- A 7pp decrease in respondents who answered 3-5 between wave 3 (34%) and wave 4 (27%)

Reducing energy use in the home

2.13 Respondents were asked whether they had taken a number of steps to reduce their household energy use. In total there were 14 steps:

- Lowered thermostat (i.e. temperature to which the house is heated on cold days)
- Wear warmer clothing
- Reduced boiler flow temperature
- Lowered radiator settings
- Turned down hot water temperature
- Turned preheat option off on combi boiler
- Dry clothes outside or on an airer
- Ventilate or shade home in warmer weather (e.g. close curtains and blinds to block direct sunlight, open windows at night to let cooler air in)
- Keep radiators clear to allow heat to spread more quickly (e.g. by not drying clothes on the radiator)
- Open curtains to allow sunlight to warm the house
- Turn off lights when not in use
- Unplug appliances when not in use
- Use less hot water (e.g. by taking shorter showers)
- Waited until later in the year to turn on the heating

Figure 2.6 – Response to – ‘Have you taken any of the following steps to reduce your energy use?’



Description of Figure 2.6: a stacked bar chart showing the number of steps respondents undertook to reduce energy use in the home in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

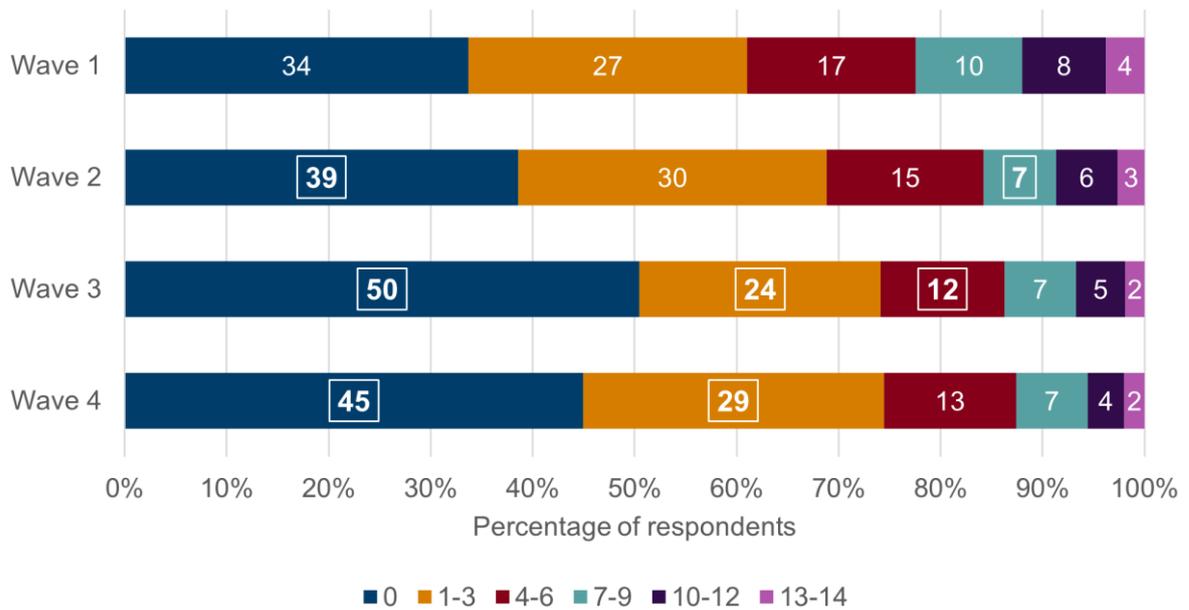
Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 6 percentage point (pp) increase in respondents who answered 1-3 between wave 2 (11%) and wave 3 (17%) and a 4% decrease between wave 3 (17%) and wave 4 (13%)
- A 7pp increase in respondents who answered 4-6 between wave 1 (16%) and wave 2 (23%) and a 6% increase between wave 3 (22%) and wave 4 (28%)
- A 4pp decrease in respondents who answered 10-12 between wave 1 (28%) and wave 2 (24%)
- A 4pp decrease in respondents who answered 13-14 between wave 1 (13%) and wave 2 (9%)

2.14 Of the steps that they said they were taking, respondents were asked to indicate which of these they had started doing in the last 12 months. The number of respondents starting at least one step in the last 12 months was 66% in wave 1, 61% in wave 2, 50% in wave 3, and 55% in wave 4 (Figure 2.7). In wave 1 each respondent had started an average of 3.6 steps in the last 12 months. This was lower in wave 2 (average 2.9), wave 3 (average 2.3) and wave 4 (average 2.4).

Figure 2.7 – Response to – ‘Which, if any, of the following (number of steps taken to reduce energy use in the home) did you start doing in the last 12 months?’



Description of Figure 2.7: a stacked bar chart showing the number of steps respondents started in the last 12 months to reduce energy use in the home in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 5 percentage point (pp) increase in respondents who answered 0 between wave 1 (34%) and wave 2 (39%), an 11% increase between wave 2 and wave 3 (50%) and a 5% decrease between wave 3 and wave 4 (45%)
- A 6pp decrease in respondents who answered 1-3 between wave 2 (30%) and wave 3 (24%) and a 5% increase between wave 3 and wave 4 (29%).
- A 3pp decrease in respondents who answered 4-6 between wave 2 (15%) and wave 3 (12%)
- A 3pp decrease in respondents who answered 7-9 between wave 1 (10%) and wave 2 (7%)

2.15 The number of steps each respondent said they were doing was compared across the waves. The number of respondents undertaking 10 or more steps was 41% in wave 1, 33% in wave 2, 31% in wave 3 and 26% in wave 4 (Figure 2.6). In wave 1 each respondent was doing an average of 7.9 steps to reduce their household energy use (Figure 2.7). This was lower in wave 2 (average 7.3), wave 3 (average 7.0), and wave 4 (average 6.9).

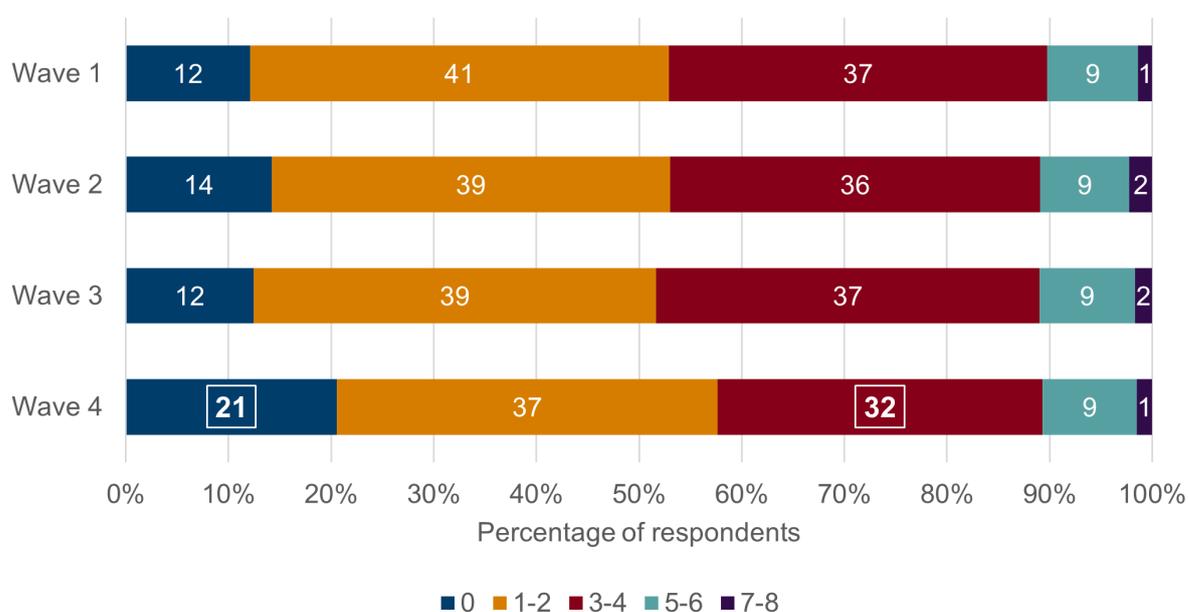
Energy efficiency to keep your home warm

2.16 Respondents were asked if they had any of the 8 energy efficiency measures in place to keep their home warm. These were:

- Cavity wall insulation
- Double or triple glazing
- Loft or roof insulation
- Draught proofing
- Floor insulation
- External wall insulation
- Insulated hot water pipes
- Solar panels

2.17 The responses for waves 1 to 3 were very similar. Wave 4 had a greater proportion of respondents with zero measures (21%) and a lower proportion with 3 to 4 measures (32%) than the other waves. (Figure 2.8).

Figure 2.8 – Response to – ‘Does your home have any of the following energy efficiency measures to help keep your home warm?’



Description of Figure 2.8: a stacked bar chart showing the number of energy efficient measures respondents undertook to reduce energy use in the home in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

Statistically significant change from previous wave marked in bold text with border.

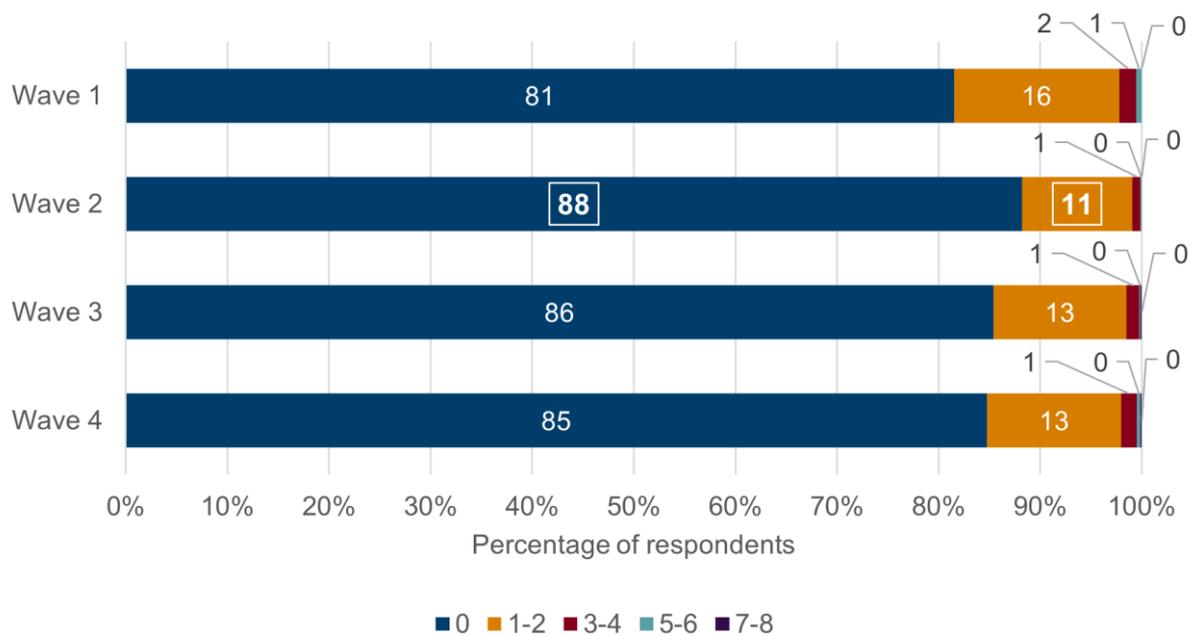
Statistically significant changes highlighted in the chart are:

- A 9 percentage point (pp) increase in respondents who answered 0 between wave 3 (12%) and wave 4 (21%)

- A 5pp decrease in respondents who answered 3-4 between wave 3 (37%) and wave 4 (32%)

2.18 Of the energy efficient measures that they said they were using, respondents were asked to indicate which of these had been installed in the last 12 months. In all waves over 80% of respondents had not installed an energy efficient measure in the last 12 months (Figure 2.9).

Figure 2.9 – Response to – ‘Which, if any, of these (energy efficiency measures) to keep your home warm were first installed or fitted in the last 12 months?’



Description of Figure 2.9: a stacked bar chart showing the number of energy efficient measures installed in the last 12 months to reduce energy use in the home in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 7 percentage point (pp) increase in respondents who answered 0 between wave 1 (81%) and wave 2 (88%)
- A 5pp decrease in respondents who answered 1-2 between wave 1 (16%) and wave 2 (11%)

Energy efficiency measures

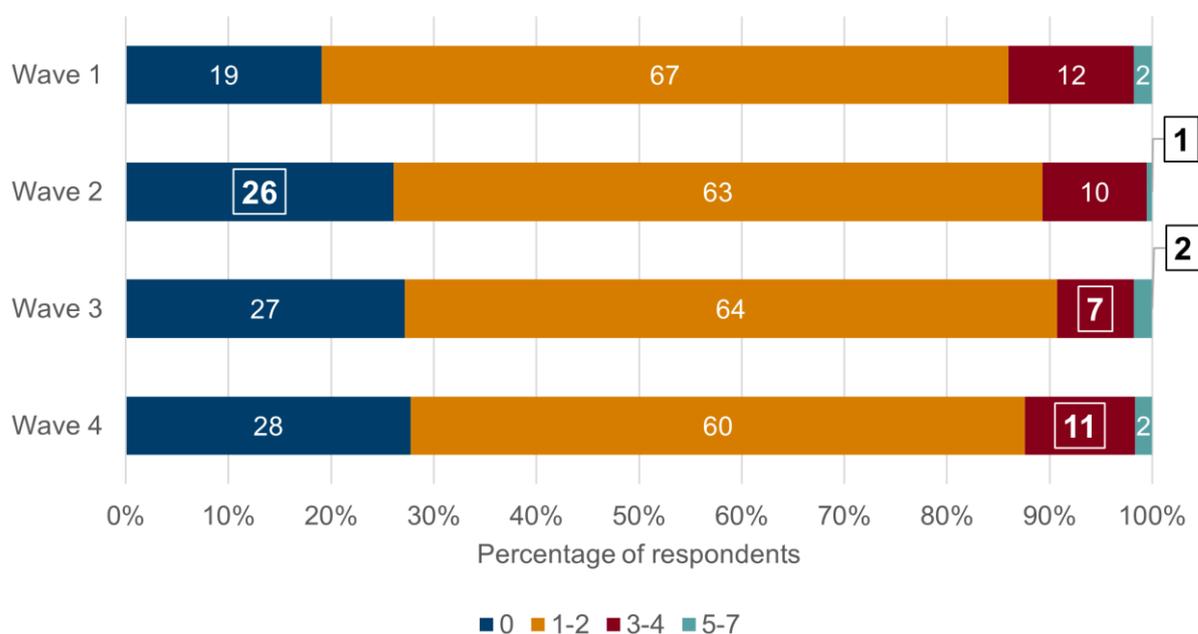
2.19 Respondents were asked if they had any of a list of 7 other energy efficiency measures in their home. These were:

- Timer switches on lights

- Smart lighting (controlled by an app)
- Smart heating (controlled by an app)
- Energy saving lightbulbs (such as LED)
- Water efficient shower head to reduce flow
- Solar or heat window films to keep heat in
- Motion sensors on lights

2.20 timer switches on lights, energy saving lightbulbs and water efficient shower heads. Respondents to wave 1 had marginally more measures than the other waves. The proportion of respondents adopting more than 1 measure was 81% in wave 1, 74% in wave 2, 73% in wave 3 and 72% in wave 4 (Figure 2.10).

Figure 2.10 – Response to – ‘Which, if any, (other energy efficiency measures) do you have in your home?’



Description of Figure 2.10: a stacked bar chart showing the number of energy efficient measures respondents had in the home in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, & 3 2023 to 2024. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W3 = 939, W2 = 943, W1 = 949

Statistically significant change from previous wave marked in bold text with border.

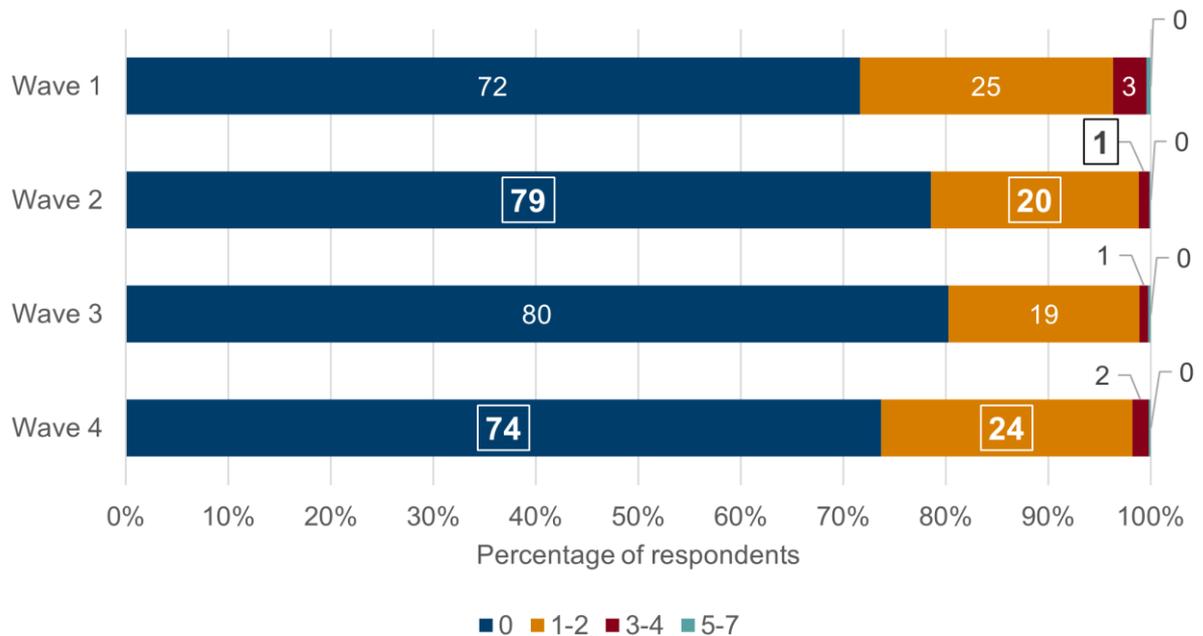
Statistically significant changes highlighted in the chart are:

- A 7 percentage point (pp) increase in respondents who answered 0 between wave 1 (19%) and wave 2 (26%).
- A 3pp decrease in respondents who answered 3-4 between wave 2 (10%) and wave 3 (7%), and a 4% increase between wave 3 and wave 4 (11%)
- A 1pp decrease in those who answered 5-7 between wave 1 (2%) and wave 2 (1%), and a 1pp increase between wave 2 and wave 3 (2%)

2.21 Of the other energy efficient measures that they said they were using, respondents were asked to indicate which of these had been installed in the last 12 months. The

proportion of respondents who had installed at least 1 measure in the last 12 months was higher in wave 1 (28%) than wave 2 (21%), wave 3 (20%) and wave 4 (26%). The majority of respondents (72% to 80%) did not report installing any measures in the last 12 months across the 4 waves (Figure 2.11).

Figure 2.11 – Response to – ‘Which, if any, of these (other energy efficiency measures) were first installed or fitted in the last 12 months?’



Description of Figure 2.11: a stacked bar chart showing the number of energy efficient measures respondents installed in the last 12 months in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 7 percentage point (pp) increase in respondents who answered 0 between wave 1 (72%) and wave 2 (79%), and a decrease of 6pp between wave 3 (80%) and wave 4 (74%)
- A 5pp decrease in respondents who answered 1-2 between wave 1 (25%) and wave 2 (20%), and a 5pp increase between wave 3 (19%) and wave 4 (24%)
- A 2pp decrease in respondents who answered 3-4 between wave 1 (3%) and wave 2 (1%)

Changes to diet

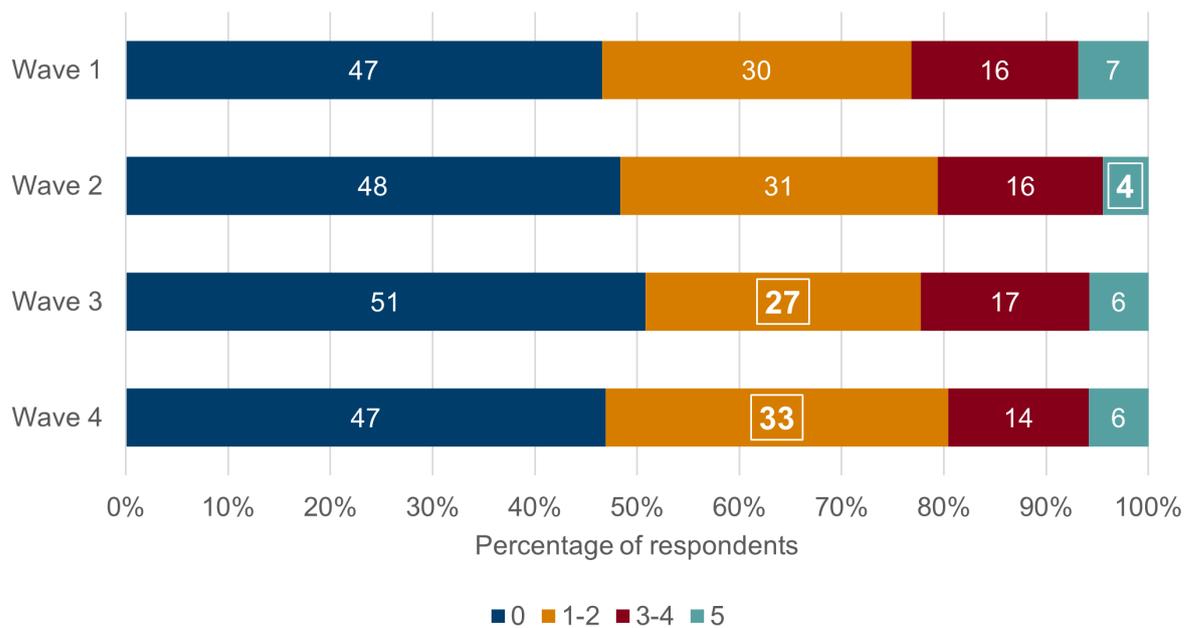
2.22 Respondents were asked if they had made any of 5 changes to their diet. The changes were:

- Reduced how often you eat dairy (e.g. cheese, milk, yogurt, cream)
- Reduced how often you eat red meat (e.g., beef, lamb)
- Reduced how often you eat white meat (e.g., chicken, pork)
- Reduced how often you eat fish or seafood (e.g., salmon, prawns)

- Increased how often you eat fruit and vegetables (fresh, frozen, tinned, dried or juiced)

2.23 The responses for each wave were very similar, around half of respondents (49% to 53%) had made at least one of the changes to their diet across each wave (Figure 2.12).

Figure 2.12 – Response to – ‘Have you made any of the following changes to your diet?’



Description of Figure 2.12: a stacked bar chart showing the number of changes to diet respondents had made in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

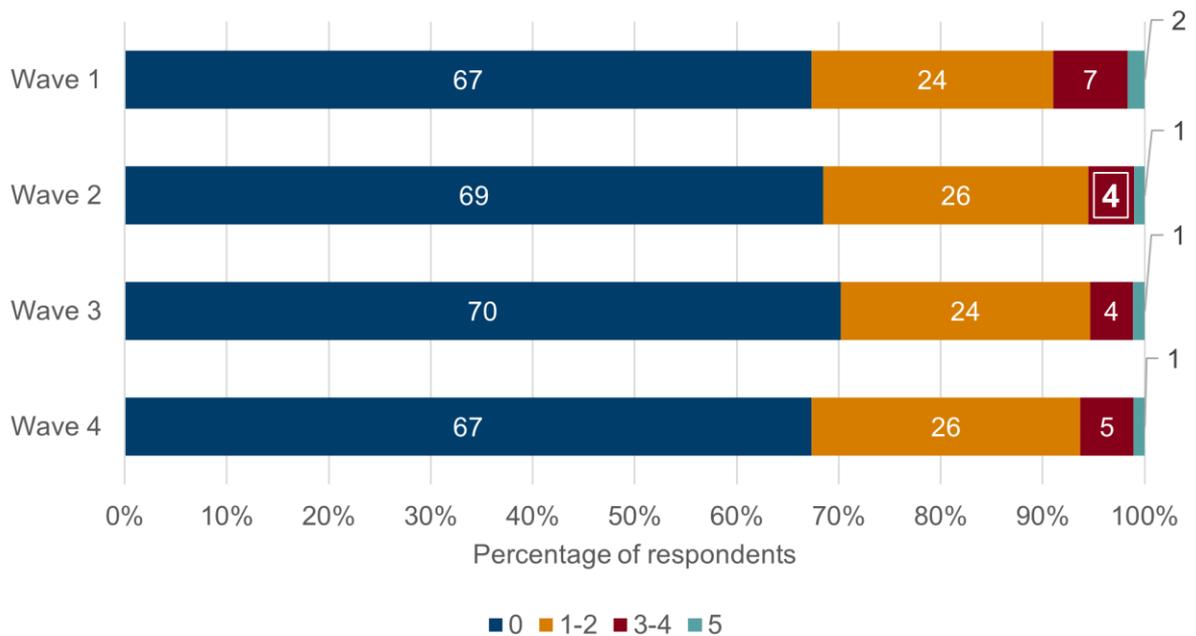
Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 4 percentage point (pp) decrease in respondents who answered 1-2 between wave 2 (31%) and wave 3 (27%), and a 6pp increase between wave 3 (27%) and wave 4 (33%)
- A 3pp decrease in respondents who answered 5 between wave 1 (7%) and wave 2 (4%)

2.24 Of the changes to diet that they said they were doing, respondents were asked to indicate which of these had been started in the last 12 months. Again, the responses to in each wave were very similar. In wave 1, 33% had made at least one change to diet in the last 12 months, compared to 31% in wave 2, 30% in wave 3, and 33% in wave 4 (Figure 2.13).

Figure 2.13 – Response to – ‘Which, if any, of these (changes to your diet) did you start doing this in the last 12 months?’



Description of Figure 2.13: a stacked bar chart showing the number of changes to diet respondents had started in the last 12 months in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 3 percentage point (pp) decrease in respondents who answered 3-4 between wave 1 (7%) and wave 2 (4%)

Shopping for food and cooking meals

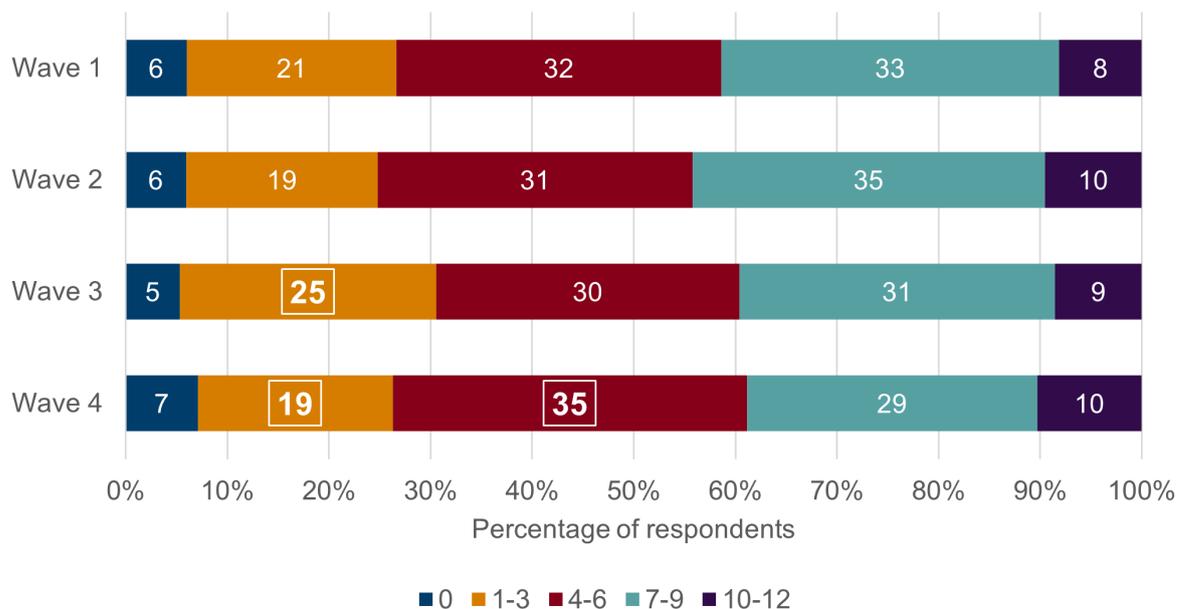
2.25 Respondents were asked if they did any of 12 sustainable actions when they shopped for food. The behaviours were:

- Intentionally buy locally grown food
- Intentionally buy seasonal food
- Intentionally buy food from sustainable businesses
- Reheat leftovers rather than throw them away, or use leftovers in a different meal
- Only buy the food you know you’re going to use
- Take a list when you go food shopping
- Check what is in the fridge or freezer before you go shopping
- Check that the food you buy is stored correctly to help it last longer
- Check the ‘best before’ and ‘use-by’ dates of food you buy
- Cook in bulk (e.g. cook enough for several meals and freeze portions to eat later in the week)
- Compost food waste at home

- Plan meals in advance

2.26 The responses for each wave were broadly similar; the most common number of behaviours being undertaken was 4 to 6, and 7 to 9 in each wave with roughly a third of respondents for each category (Figure 2.14).

Figure 2.14 – Response to – ‘Do you do any of the following when food shopping or cooking meals?’



Description of Figure 2.14: a stacked bar chart showing the number of sustainable actions respondents made when shopping for food and cooking meals in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

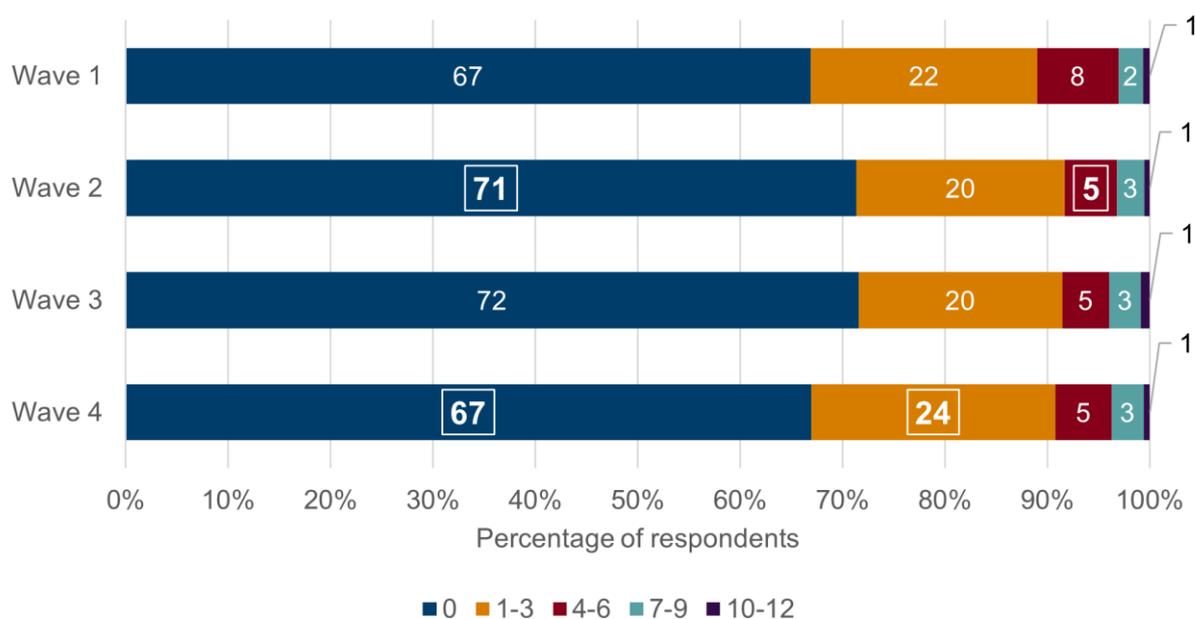
Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 6 percentage point (pp) increase in respondents who answered 1-3 between wave 2 (19%) and wave 3 (25%), and a 6pp decrease between wave 3 (25%) and wave 4 (19%)
- A 5pp increase in respondents who answered 4-6 between wave 3 (30%) and wave 4 (35%)

2.27 Of the sustainable actions that respondents said they were doing when shopping for food or cooking meals, respondents were asked to indicate which of these had been started in the last 12 months. The responses for wave 1 and 4 were broadly similar, as were the responses for waves 2 and 3. Between wave 3 and 4 the proportion of respondents recently adopting zero measures decreased from 72% to 67%, while the number recently adopting 1 to 3 measures increased from 20% to 24% (Figure 2.15).

Figure 2.15 – Response to – ‘Which, if any, of these (sustainable behaviours while shopping for food) did you start doing this in the last 12 months?’



Description of Figure 2.15: a stacked bar chart showing the number of sustainable actions respondents started in the last 12 months when shopping for food and cooking meals in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 4 percentage point (pp) increase in respondents who answered 0 between wave 1 (67%) and wave 2 (71%), and a 5pp decrease between wave 3 (72%) and wave 4 (67%)
- A 4pp increase in respondents who answered 1-3 between wave 3 (20%) and wave 4 (24%)
- A 3pp decrease in respondents who answered 4-6 between wave 1 (8%) and wave 2 (5%)

Daily life behaviours

2.28 Respondents were asked if they did any of 10 sustainable actions in their daily lives.

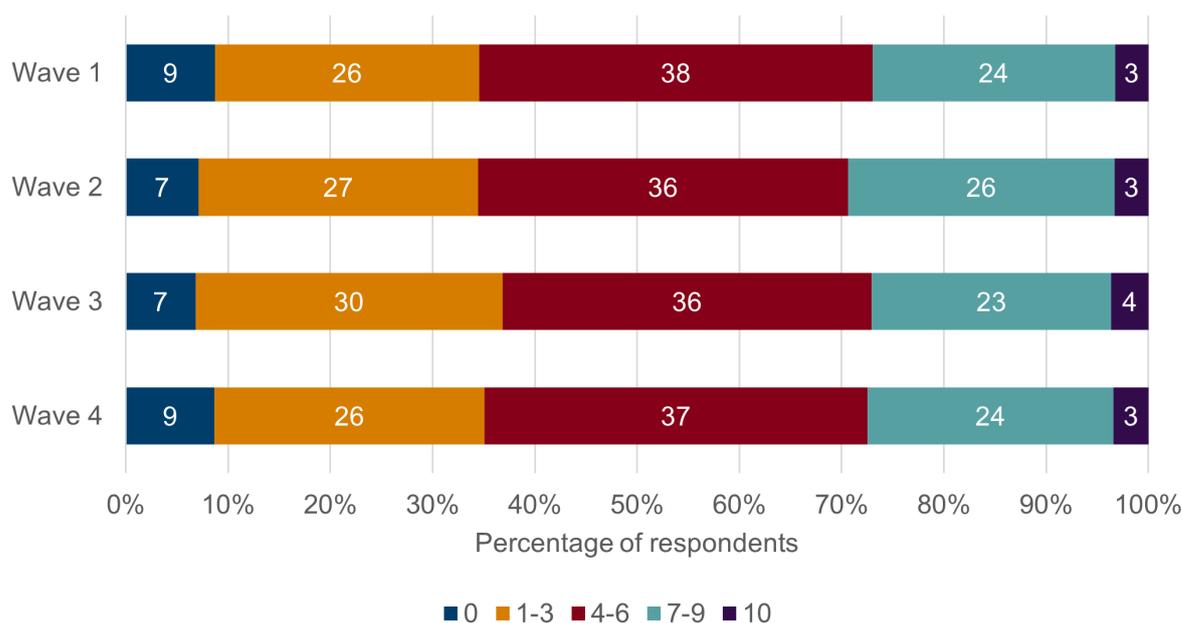
These were:

- Intentionally choose sustainable businesses when picking products or services
- Intentionally buy products with less packaging
- Shop close to home
- Buy second-hand items (e.g. from eBay, Vinted, car boot sales and charity shops)
- Donate or sell unwanted items (e.g. through eBay, Vinted, car boot sales and charity shops)
- Borrow or rent items (including library books, tools, toys, etc)
- Repurpose something for a different use instead of throwing it away

- Fix things rather than buying new (e.g. fixed by yourself, a professional or at a repair café)
- Use re-usable products (e.g. coffee cups, shopping bags, water bottles, reusable straws)
- Recycle unwanted items or take them to a reuse facility (e.g. by taking to your local Household Waste Recycling Centre, or to a shop which has a recycling drop-off point)

2.29 The responses for each wave were broadly similar, the most common number of behaviours being undertaken was between 4 to 6 in each wave. (Figure 2.16).

Figure 2.16 – Response to – ‘Do you do any of the following (daily life behaviours)?’

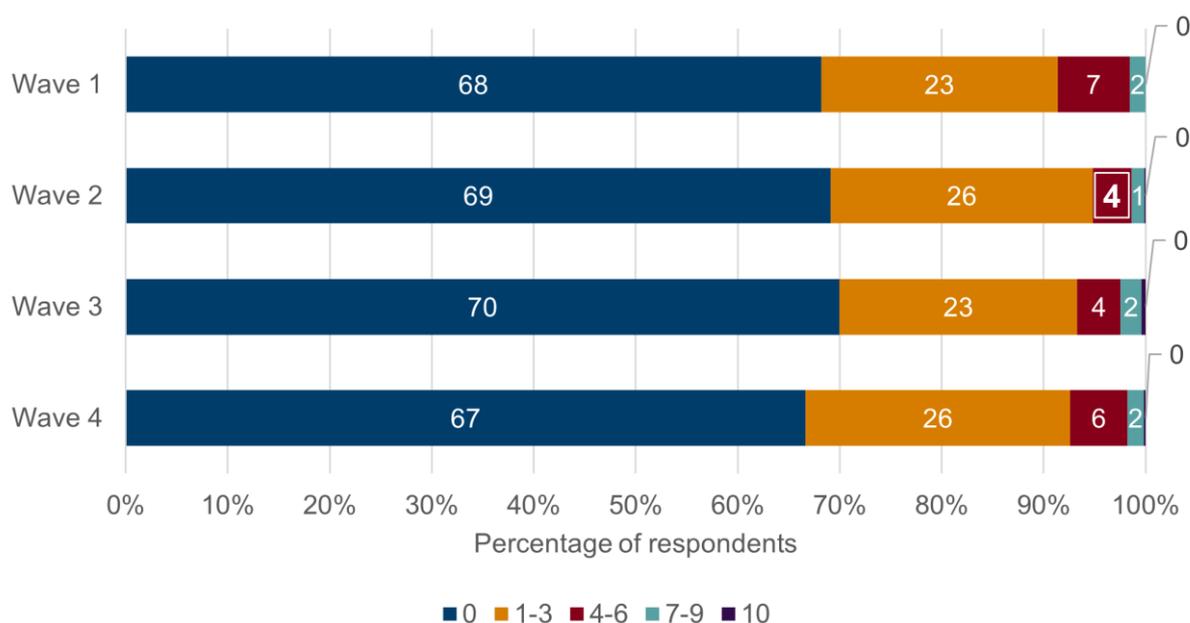


Description of Figure 2.16: a stacked bar chart showing the number of behaviours respondents made in their daily life in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

2.30 Of the daily life behaviours that respondents said they were doing, they were asked to indicate which of these had been started in the last 12 months. The responses for each wave were broadly similar, the majority of respondents (67% to 70%) did not report adopting any measures in the last 12 months across the 4 waves (Figure 2.17). This could be expected given that over half the respondents reported adopting at least 4 measures in the earlier waves of the survey as shown in Figure 2.16.

Figure 2.17 – Response to – ‘Which, if any, of these (daily life behaviours) did you start doing this in the last 12 months?’



Description of Figure 2.17: a stacked bar chart showing the number of daily life behaviours respondents started in the last 12 months in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 3 percentage point (pp) decrease in respondents who answered 4-6 between wave 1 (7%) and wave 2 (4%)

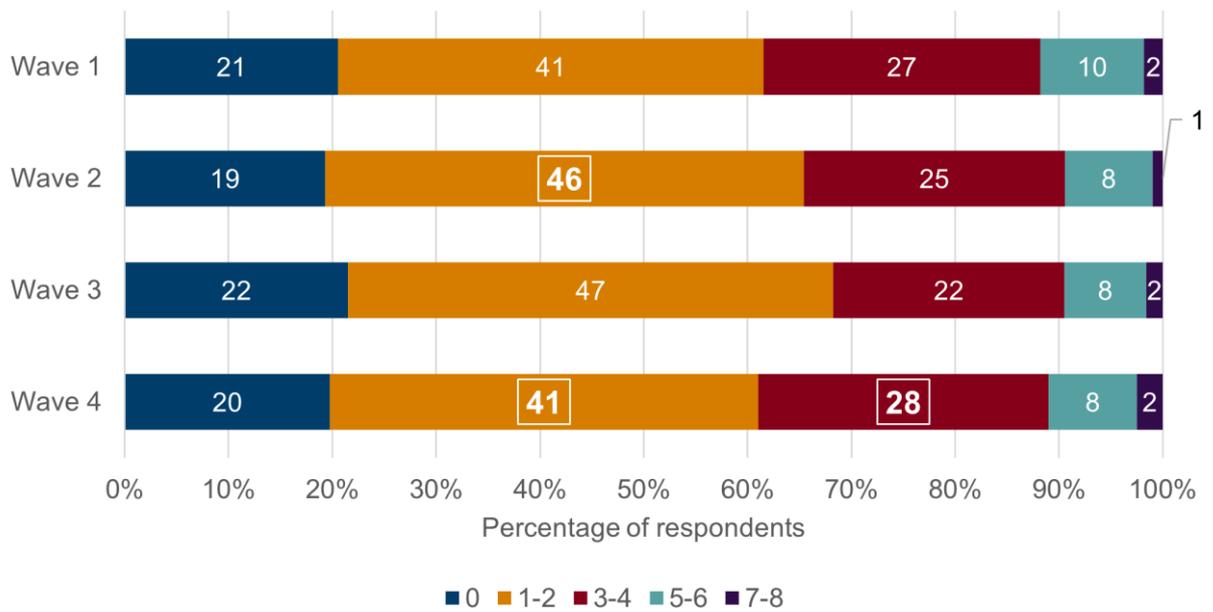
Travel behaviours

2.31 Respondents were asked about 8 travel behaviours they might undertake as they travelled from place to place. These were:

- Walk/wheelchair where possible
- Cycle where possible
- Use public transport where possible
- Try to avoid using your car/van/motorcycle
- Car share (e.g. with work colleagues, or on the school run)
- Keep to 60mph and below when driving to save fuel
- Avoid unnecessary travel (e.g. by organising virtual meetings or doing online grocery shopping)
- Avoid taking flights (e.g. by holidaying in the UK, using alternative transport.)

2.32 The responses for each wave were broadly similar. The proportion of respondents undertaking 3 or more behaviours was 39% in wave 1, 34% in wave 2, 32% in wave 3, and 38% in wave 4 (Figure 2.18).

Figure 2.18 – Responses to – ‘Do you do any of the following when travelling from place to place?’



Description of Figure 2.18: a stacked bar chart showing the number of travel behaviours respondents made in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

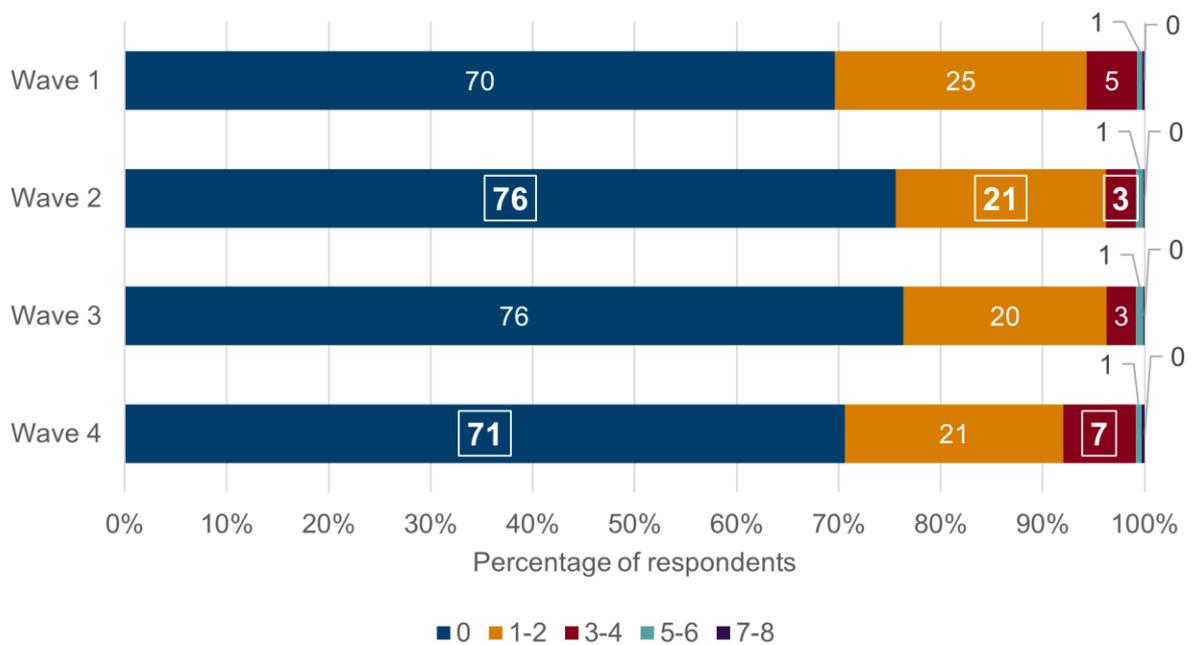
Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 5 percentage point (pp) increase in respondents who answered 1-2 between wave 1 (41%) and wave 2 (46%), and a 6pp decrease between wave 3 (47%) and wave 4 (41%)
- A 6pp increase in respondents who answered 3-4 between wave 3 (22%) and wave 4 (28%)

2.33 Of the travel behaviours that they said they were doing, respondents were asked to indicate which of these had been started in the last 12 months. The responses for each wave were broadly similar, the majority of respondents (70% to 76%) did not report adopting any measures in the last 12 months across the 4 waves (Figure 2.19).

Figure 2.19 – Response to – ‘Which, if any, of these (travel behaviours) did you start doing in the last 12 months?’



Description of Figure 2.19: a stacked bar chart showing the number of travel behaviours respondents started in the last 12 months in each wave.

Source: Climate Change Perceptions and Actions Survey, Wave 1, 2, 3 & 4 2023 to 2025. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded. Base W4 = 1001, W3 = 939, W2 = 943, W1 = 949

Statistically significant change from previous wave marked in bold text with border.

Statistically significant changes highlighted in the chart are:

- A 6 percentage point (pp) increase in respondents who answered 0 between wave 1 (70%) and wave 2 (76%), and a 5pp decrease between wave 3 (75%) and wave 4 (71%)
- A 4pp decrease in respondents who answered 1-2 between wave 1 (25%) and wave 2 (21%).
- A 2pp decrease in respondents who answered 3-4 between wave 1 (5%) and wave 2 (3%) and a 4pp increase between wave 3 (3%) and wave 4 (7%)

3. Conclusion

- 3.1 A comparison was undertaken between the four waves for responses to perceptions and attitudes and sustainable actions.
- 3.2 In each wave the majority of respondents believed climate change was mainly or entirely caused by human activities. The proportion said this was lowest in wave 4 at 56%, compared to 64% in wave 3, 62% in wave 2, and 61% in wave 1. There was a statistically significant decrease in the number of respondents reporting that climate change was mainly or entirely caused by human activities between wave 3 and wave 4 (8 percentage points).
- 3.3 The number of respondents who reported that climate change is an extremely serious problem at the moment decreased between wave 1 (43%) to wave 4 (32%) with a statistically significant decrease between wave 3 and 4 (4 percentage points).
- 3.4 There has been a reduction in energy-saving steps taken at home, with fewer respondents adopting new measures or behaviours over time. The number of respondents undertaking 10 or more steps was 41% in wave 1, 33% in wave 2, 31% in wave 3 and 26% in wave 4.
- 3.5 The number of respondents reporting that they have zero of the 8 energy efficiency measures to keep their homes warm saw a statistically significant increase between wave 3 and 4 (9 percentage points).
- 3.6 In each wave around half of respondents have made dietary adjustments (e.g., reducing meat or increasing vegetables), with minimal variation in changes made in the past twelve months made across waves.
- 3.7 There was little variation in sustainable habits for shopping, cooking or daily life I across the waves, with most respondents not adopting new behaviours within the past twelve months.
- 3.8 When asked about 8 travel behaviours there were statistically significant decreases in the number of respondents reporting undertaking 1-2 of the behaviours between wave 3 and wave 4 (6 percentage points) and a statistically significant increase in the number of respondents reporting undertaking 3-4 of the behaviours between wave 3 and wave 4 (6 percentage points). There was also a statistically significant increase in the number of respondents reporting undertaking 3-4 new (within the past 12 months) behaviours between wave 3 and wave 4 (4 percentage points).

Reflections and considerations for interpretation of the outputs

- 3.9 Several methodological and analytical considerations may impact the interpretation of the findings.
- 3.10 Whilst the sample was broadly representative of the public in Wales based on key sample demographics, the survey exhibited minor differences with census data for location, occupation, tenure, and property type. This may have stemmed, in part, from self-selection bias. This imbalance in the sample composition could lead to biased findings, as the views and behaviours of overrepresented groups may disproportionately influence the results, thus not accurately reflecting the diversity of the population. The survey results were not weighted to reflect the broader population.
- 3.11 Additionally, there is a potential for bias in the respondents' answers. Participants may, consciously or unconsciously, alter their responses due to ingrained biases or preconceptions. This could obscure the true nature of public attitudes and behaviours toward climate change.
- 3.12 Lastly, the survey's findings may have been influenced by the media environment. Items that were topical in the media at the time of the survey could have affected the strength of feeling expressed by respondents, potentially exaggerating certain attitudes or concerns in ways that do not accurately represent long-term views.