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Climate change perceptions and actions survey: wave 1 and 2 comparison report

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Climate change perceptions and actions survey: wave 1 and 2 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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Glossary

Green choices

Green choices are the choices we can make in our everyday lives to tackle climate change from our home energy, to transport, food and consumption behaviours.

Net Zero

Where the greenhouse gases taken from the atmosphere are in balance with the greenhouse gases emitted.

Introduction

- 1.1 This summary report compares the main findings from the first two waves of the Climate Change Perceptions and Actions quantitative survey of households in Wales. The surveys were 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 six biannual waves, with a target of 1,000 responses per wave.
- 1.3 The Wave 1 and 2 Methodology Report provides further detail on survey design and delivery, along with a comparison of survey samples for both Waves 1 and 2 against Census 2021 data and other relevant national data sets.
- 1.4 The Wave 1 and Wave 2 Survey Output Reports provide key outputs from each individual survey, showing the current position, with any notable differences in responses when disaggregating the sample noted.

Report structure

- 1.5 This report presents a high-level summary of key outputs from both Wave 1 and Wave 2, highlighting both similarity in responses and differences where they occur.
- 1.6 All outputs show non-weighted responses and therefore cannot be statistically taken to represent the population of Wales as a whole, but the respondents collectively are broadly representative of that population according to key demographic variables. The outputs are a result of bi-variate analysis undertaken on the survey responses.
- 1.7 The report is structured as follows.
 - Section 2 – Wave Comparison
 - Section 3 –Conclusion

Wave comparison

Fieldwork

- 1.8 Wave 1 survey fieldwork was conducted in August and September 2023, and Wave 2 survey fieldwork was conducted in February and March 2024.
- 1.9 A summary of the fieldwork and responses for both Wave 1 and Wave 2 is provided in Table 2.1: Wave 1 and 2 fieldwork summary 1.

Table 2.1: Wave 1 and 2 fieldwork summary 1.

	Wave 1	Wave 2
Fieldwork dates	19/08/2023 – 14/09/2023	06/02/2024 – 17/03/2024
Postcards distributed	13,715	15,761
Surveys completed	949	943
Online completions	835	764
Face to face completions	114	179
Welsh language completions (online)	7	18
Response rate	6.9%	6.0%

Source: Climate Change Perceptions and Actions Survey, Wave 1 and Wave 2, 2024

- 1.10 The response rate for Wave 1 was 6.9% compared to 6.0% for Wave 2. Wave 2 required distribution of more postcards and provision of more face-to-face interviews to achieve a satisfactory number of completions.
- 1.11 As a proportion of online surveys, Welsh completions were 2.4% in Wave 2 and 0.8% in Wave 1.

Sample demographics

- 1.12 Demographic characteristics of Wave 1 and 2 were compared to national data sets for Wales to ensure the sample was representative of the wider population. Demographic questions covered age, male and female, ethnicity, location, work status, occupation, household income, property type, and tenure.
- 1.13 Comparisons indicate that both Wave 1 and 2 are broadly representative of the population of Wales. The survey outputs compared well alongside national data sets for age, sex, ethnicity, work status, household income, and occupation. Small variations were observed between the survey data and national data sets for location, occupation, tenure, and property type.

- 1.14 Small differences between Wave 1 and 2 responses were identified in household income and property type. For household income, Wave 2 attracted fewer respondents from the lowest income bands than Wave 1. Approximate average household income was £41,000 for Wave 2 and £38,500 for Wave 1. In both Wave 1 and Wave 2, 26% of respondents did not state their household income.
- 1.15 For property type, the proportion of respondents living in detached houses, semi-detached houses and flats was similar across Wave 1 and Wave 2. However, Wave 2 showed 35% of respondents living in terraced houses, compared to 42% in Wave 1. This is due to the randomly selected interview starting points.
- 1.16 The full comparison is given in Wave 2 Methodology Report.

Demographic patterns

- 1.17 The demographic data was broken down further to identify relationships between the different demographic characteristics and highlight any differences between Wave 1 and Wave 2 respondents. Overall, the sample characteristics were very similar between Wave 1 and Wave 2.
- 1.18 Female survey respondents were younger than male survey respondents in both Wave 1 and Wave 2. In Wave 1, 44% of female respondents were aged 44 or under, compared with 26% of male respondents. The corresponding figures for Wave 2 were 42% of female respondents aged 44 or under compared with 31% of male respondents.
- 1.19 Younger respondents tended to live in the centre of a large city or town, whilst older respondents tended to live in the suburbs of a large city or town, or the countryside or a small village. In Wave 1, 58% of respondents who lived in the centre of a large city or town were aged between 18 and 44, compared with 42% of respondents aged 45 and over. The corresponding figures for Wave 2 were 66% of respondents who lived in the centre of a large city or town were aged between 18 and 44, compared with 34% of respondents aged 45 and over.
- 1.20 Countryside or small village was the area type with the highest proportion of respondents with a skilled trade occupation across both waves (20% in Wave 1, 16% in Wave 2).
- 1.21 A large proportion of respondents preferred not to state their household income. This group tended to be older (33% of respondents aged 65 in Wave 1, 31% in Wave 2) live in the countryside or a small village (38% in Wave 1, 28% in Wave 2),

often had a skilled trade (37% of in Wave 1, 35% in Wave 2), and tended to own their home outright (63% in Wave 1, 59% in Wave 2).

Perceptions and attitudes

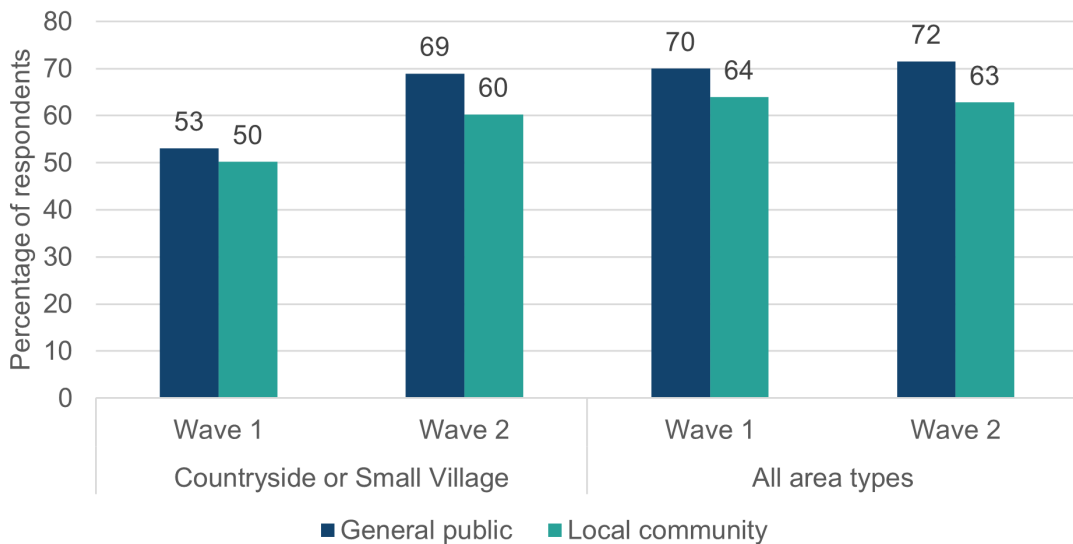
- 1.22 Respondents were asked about their views on climate change.
- 1.23 Across all respondents from Wave 1 and 2 there was general agreement that climate change is happening and that it is caused entirely (15% of respondents in Wave 1 and 14% of respondents in Wave 2) or mainly by human activity (44% of respondents in Wave 1, 46% in Wave 2).
- 1.24 Male respondents were more likely to believe that climate change is not happening, or it is caused by natural processes (12% in Wave 1, 10% in Wave 2) than female respondents (4% in both Wave and Wave 2). Male respondents were also less worried about the effects of climate change than female respondents (58% of male respondents very / fairly worried in Wave 1, 56% in Wave 2, 77% of female respondents very / fairly worried in Wave 1, 74% in Wave 2).
- 1.25 Male respondents also said they had more knowledge than female respondents of:
- Net Zero: 49% of male respondents indicated they know a fair amount / a lot compared to 22% of female respondents in Wave 1, 52% compared to 26 percent in Wave 2
 - Net Zero targets: 25% of male respondents indicated they know a fair amount/a lot compared to 15% of female respondents in Wave 1, 31% compared to 16% in Wave 2 and;
 - Welsh Government's Green Choices: 26% of male respondents indicated they know a fair amount/a lot compared to 16% of female respondents in Wave 1, 31% compared to 17% in Wave 2.
- 1.26 Respondents were asked what responsibility they thought different groups had for tackling climate change. By area type, those living in the countryside or a small village assigned lower responsibility for tackling climate change to the general public and local community groups than respondents living in other area types. This distinction was more pronounced in Wave 1 than Wave 2:
- 53% of Wave 1 respondents living in the countryside or a small village said the general public were 'highly' or 'somewhat' responsible for tackling climate change in comparison to 70% of all respondents. In Wave 2, 69% of

respondents living in the countryside or a small village said the same, in comparison to 72% of all respondents.

- 50% of Wave 1 respondents living in the countryside or a small village said their local community was 'highly' or 'somewhat' responsible for tackling climate change in comparison to 64% of all respondents. In Wave 2, the difference was smaller with 60% of those in the countryside or a small village saying the same in comparison to 63% of all Wave 2 respondents.

1.27 Overall, Wave 2 responses showed less variation by area type (Figure 2.1).

Figure 2.1: Proportion of respondents indicating a group is highly /somewhat responsible for tackling climate change: all and countryside and small village respondents - 'To what extent do you believe the following are responsible for tackling climate change?'

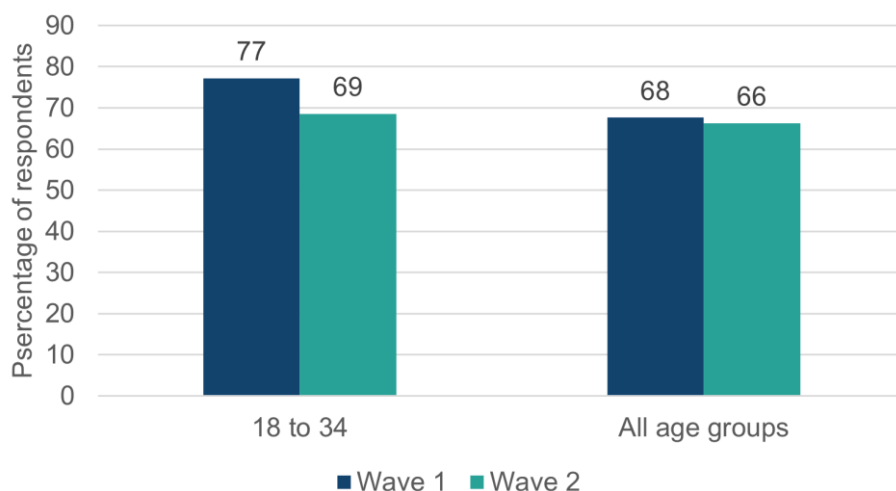


Source: Climate Change Perceptions and Actions Survey, Wave 1 and Wave 2, 2024. Multiple choice. Questions asked of all. 'Don't know' and 'Prefer not to say' excluded from both Responsibility and Area type response. Base W1 = 868-886 (Countryside or small village = 255-260), Base W2 = 876-881 (Countryside or small village = 219-224)

1.28 Concern about climate change across all respondents was similar in both Waves. In Wave 1, 68% indicated they were very/fairly worried in comparison to 66% of all respondents in Wave 2 (Figure 2.2).

1.29 By age, Wave 1 younger respondents (18 to 34 year olds) were more worried about climate change than respondents from other age groups, but in Wave 2 this age group showed less worry than in Wave 1 (77% of 18 to 34 years olds very / fairly worried in Wave 1, 69% in Wave 2, Figure 2.2).

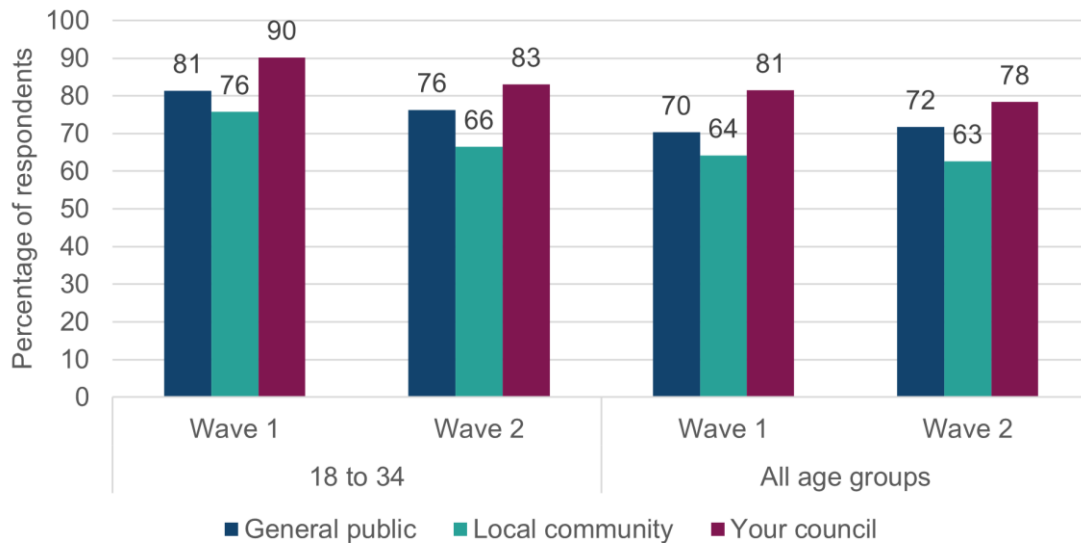
Figure 2.2: Proportion of respondents indicating they are very / fairly worried about climate change: all and respondents aged 18 to 34 - ‘How worried are you personally about climate change?’



Source: Climate Change Perceptions and Actions Survey, Wave 1 and Wave 2, 2024. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded from Worry response, ‘Prefer not to say’ excluded from Age response. Base W1 = 920 (18 to 34 = 180), Base W2 = 901 (Countryside or small village = 175)

1.30 Younger respondents also assigned higher levels of responsibility across different societal groups than other age groups, suggesting a view that there should be more collective responsibility for tackling climate change. Similarly to climate change worry, this distinction from other age groups was more pronounced in Wave 1 than Wave 2 (General public “highly” or “somewhat” responsible 81% in Wave 1, 76% in Wave 2; local community 76% in Wave 1, 66% in Wave 2; your council 90% in Wave 1, 83% in Wave 2). This is shown in Figure 2.3 along with the results for all respondents which are relatively similar between waves.

Figure 2.3: Proportion of respondents indicating a group is highly / somewhat responsible for tackling climate change: all and respondents aged 18 to 34 - ‘To what extent do you believe the following are responsible for tackling climate change?’



Source: Climate Change Perceptions and Actions Survey, Wave 1 and Wave 2, 2024. Multiple choice. Questions asked of all. ‘Don’t know’ and ‘Prefer not to say’ excluded from Responsibility response, ‘Prefer not to say’ excluded from Age response. Base W1 = 877-895 (18 to 34 = 174-177), Base W2 = 883-898 (18 to 34 = 170-173)

1.31 Overall, perceptions and attitudes of Wave 1 and Wave 2 respondents were similar. There were some differences in younger respondents’ in levels of worry about climate change and assigning levels of responsibility for climate change to societal groups.

About your home

- 1.32 Respondents were asked about energy use within their home and if any energy saving measures were being employed.
- 1.33 Over three quarters of all respondents in both Waves 1 and 2 paid their energy bill by direct debit (77% in Wave 1, 76% in Wave 2). These respondents tended to be employed (81% in Wave 1, 80% in Wave 2) and owned their own home either outright or on a mortgage (85% in Wave 1, 87% in Wave 2). The respondents most likely to use a pre-payment meter were unemployed (41% in Wave 1, 49% in Wave 2) and those renting their accommodation (29% in Wave 1, 35% in Wave 2).
- 1.34 Nearly all of respondents said they have taken at least one step to save energy, regardless of the reason for doing so (92% in Wave 1, 94% in Wave 2). In both Wave 1 and Wave 2, a lower proportion of respondents living in the countryside or a small village were employing energy saving actions than those living elsewhere.

However, whilst this difference by area type was observed across all energy saving actions in Wave 1, the difference was less pronounced in Wave 2, with those living in the countryside no less likely to say they used less hot water (47% from countryside or small village compared to 45-49% of other area types), unplugged appliances when not used (54% from countryside or small village compared to 49-60% of other area types) and kept radiators clear (55% from countryside or small village compared to 50-54% of other area types) compared to other area types.

- 1.35 Respondents who preferred not to say their household income were also less likely to employ energy saving actions.
- 1.36 A higher proportion of respondents with higher household incomes had energy efficient measures installed in their home than those with lower household incomes. For example:
- Smart lighting: 29% of Wave 1 respondents with a household income above £50,000 indicated they had smart lighting in their home in comparison to 6% of respondents with an income up to £19,999. In Wave 2, 22% of respondents with a household income above £50,000 said the same, compared to 6% with a household income up to £19,999.
 - Smart heating: 22% of Wave 1 respondents with a household income above £50,000 said they had smart heating compared to 9% with household income up to £19,999. In Wave 2, 21% of those with a household income above £50,000 said the same, compared to 4% of those with a household income up to £19,000.
- 1.37 There was minimal difference between Wave 1 and Wave 2 responses for the other About Your Home questions covered in the Wave 1 and Wave 2 output reports.

Food

- 1.38 Respondents were asked about their personal and household food consumption.
- 1.39 Dairy products were the most frequently consumed food type by all respondents across both Waves. In Wave 1, 69% said they ate meat every day, 66% said the same in Wave 2.
- 1.40 Fish was the least frequently consumed across both Waves (2% every day in Wave 1, 1% in Wave 2) followed by red meat (3% every day in Wave 1, 2% in Wave 2).

- 1.41 Across both Waves, respondents with higher household incomes consumed fruit and vegetables more frequently than respondents from lower household income groups:
- Wave 1: 87% of those with a household income above £50,000 said they ate fruit/vegetables at least 5 days per week compared to 66% of respondents with a household income up to £19,999.
 - Wave 2: 86% of those with a household income above £50,000 said the same, in comparison to 64% of those with a household income up to £19,999.
- 1.42 By age, respondents aged between 18 and 34 consumed white meat more frequently than older respondents in both waves. However, this younger group also consumed dairy, fruit and vegetables less frequently:
- White meat: In Wave 1, 25% of those aged 18 to 34 said they consume white meat at least 5 days per week in Wave 1 compared to 11% aged 65 and above. In Wave 2, 20% of respondents aged 18 to 34 did the same, compared to 10% of those 65 and over.
 - Dairy: In Wave 1, 67% of those aged 18 to 34 said they consume dairy at least 5 days a week compared to 86% of those aged 65 and over. For Wave 2, it was 71% of 18 to 34 year olds compared to 81% of those 65 and over.
 - Fruit and vegetables: 69% of those aged 18 to 34 said they consume fruit and vegetables at least 5 days per week in Wave 1, compared to 80% of those 65 and over. For Wave 2, 65% of the younger age group did so, compared to 80% aged 65 and over.
- 1.43 Respondents aged 65 and over said they threw away less food and recycled food waste more regularly than respondents from other age groups (18% aged 65 and above, compared to 5-10% of other age groups in Wave 1, 20%, compared to 7-13% of other age groups in Wave 2).
- 1.44 Respondents who lived in the countryside or small village undertook fewer sustainable food practices than those living in other area types, though this difference was more pronounced in Wave 1. Specifically, in Wave 2, those living in the countryside were similar to other groups in checking the 'use by' or 'best before' dates of foods bought (69% from countryside or small village compared to 69-79% of area types), intentionally buying seasonal food (26% from countryside or small village compared to 23-30% of other area types), and intentionally buying locally

grown food (26% from countryside or small village compared to 26-33% from other area types), whilst they were the least likely group to do these in Wave 1.

- 1.45 In both Waves, a higher proportion of respondents in the countryside or small village reported composting food waste (28% from countryside or small village, compared to 16-18% of other area types in Wave 1, 26%, compared to 19-22% of other area types in Wave 2).
- 1.46 There was minimal difference between Wave 1 and Wave 2 responses to the other Food questions analysed in the Wave 1 and 2 reports.

Daily life

- 1.47 Respondents were asked about sustainable practices they might do in their daily life.
- 1.48 The three most common practices for all respondents were donating or selling unwanted items (66% in Wave 1, 68% in Wave 2), recycling unwanted items (65% in Wave 1, 68% in Wave 2), and using reusable products (66% in Wave 1, 65% in Wave 2).
- 1.49 Female respondents undertook more sustainable practices than male respondents in both Wave 1 and Wave 2. For example:
- Buying second hand: 55% of female respondents said they bought second hand items compared to 36% of male respondents in Wave 1, 60% compared to 41% in Wave 2
 - Donating or selling unwanted items: 75% of female respondents said they donated or sold unwanted items compared to 59% of male respondents in Wave 1, 75% compared to 60% in Wave 2
 - Using re-usable products: 72% of female respondents said they used re-usable products compared to 57% of male respondents in Wave 1, 70% compared to 60% in Wave 2
- 1.50 Across both Waves, almost all of the sustainable practices were being undertaken by a greater proportion of respondents with higher household incomes (over £50,000 per annum) in comparison to those with lower household incomes (up to £19,999 per annum). For example:

- Intentionally choosing sustainable businesses: In Wave 1, 31% of respondents with household income over £50,000 chose sustainable businesses, compared to 16% of respondents with household income up to £19,999. In Wave 2, 32% of respondents with household income over £50,000 did so, compared to 13% of respondents with household income up to £19,999.
- Recycling unwanted items: In Wave 1, 77% of respondents with household income over £50,000 recycled unwanted items, compared to 63% of respondents with household income up to £19,999. In Wave 2, 77% of respondents with household income over £50,000 did so, compared to 61% of respondents with household income up to £19,999.

- 1.51 Respondents who preferred not to state their household income had the lowest response proportions for all sustainable practices in both Wave 1 and Wave 2.
- 1.52 There was minimal difference between Wave 1 and Wave 2 responses to the other Daily Life questions.

Travel

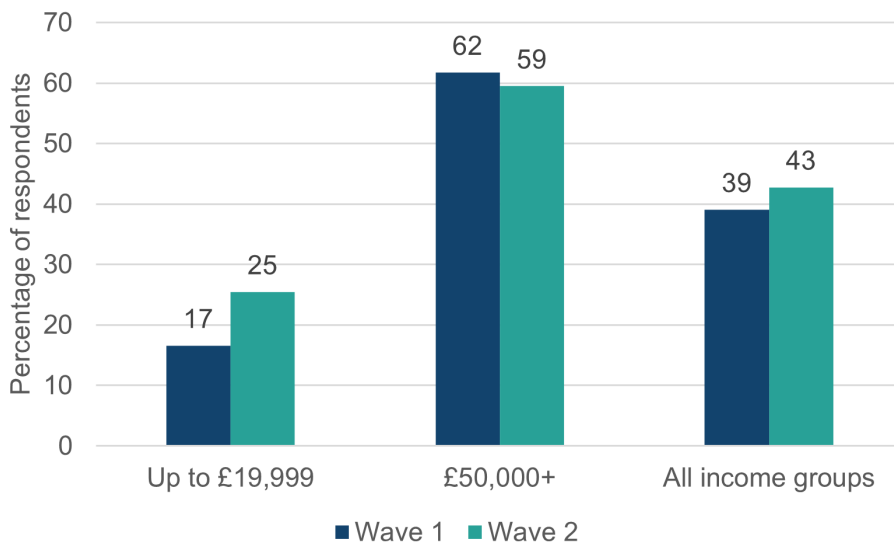
- 1.53 Respondents were asked about their travel behaviour.
- 1.54 The majority of all respondents lived in a household with access to at least one vehicle (84% in Wave 1, 83% in Wave 2). A lower proportion of respondents who had a household income of up to £19,999 (30% in Wave 1, 34% in Wave 2) or were unemployed (42% in Wave 1, 45% in Wave 2) had access to a vehicle in comparison to other groups.
- 1.55 Comparing the responses from respondents with household income greater than £50,000 to those with household income of up to £19,999, the higher income group had access to more vehicles (96% with access to at least one car compared to 70% in Wave 1, 96% compared to 66% in Wave 2) and more hybrid and electric vehicles (16% hybrid, 8% electric in Wave 1, 20% hybrid, 9% electric in Wave 2).
- 1.56 In terms of travel behaviours¹, respondents with higher household incomes also differed from those with lower incomes across both Waves:
- Cycling: 15% of Wave 1 respondents with a household income greater than £50,000 cycled at least once a week compared to 6% of those with a

¹ Including short and long journeys, but not including activities such as walking or cycling for pleasure, exercise or walking the dog

household income up to £19,000. In Wave 2, this was 10% of the higher earners compared to 8% of the lowest earners.

- Plane travel: In Wave 1, 59% of those with a household income above £50,000 said they travelled by plane at least once per year compared to 17% of those with a household income up to £19,000. For Wave 2, 62% of the higher earners did so compared to 25% of the lower earners (Figure 2.4).
- Long distance holidays: 25% of those with a household income above £50,000 said they took at least one long distance holiday in the last year compared to 7% of those with a household income up to £19,000 in Wave 1. For Wave 2, this was 18% compared to 10%.

Figure 2.4: Plane travel by household income: all and highest and lowest earners - 'How often do you use each of the following to travel from place to place? Plane' Once or twice per year and 3 or 4 times per year



Source: Climate Change Perceptions and Actions Survey, Wave 1 and Wave 2, 2024. Multiple choice. Questions asked of all. 'Don't know' excluded from All income response. Base W1 = 899 (Up to £19,999 = 175), Base W2 = 903 (Up to £19,999 = 165)

1.57 In both Wave 1 and Wave 2 respondents who lived in the countryside or a small village were less likely to have adopted sustainable travel practices than those living in other area types though the difference is more pronounced in Wave 1 than Wave 2. For example:

- Using public transport where possible: In Wave 1, 17% of respondents who lived in the countryside or a small village used public transport where possible, compared to 45% of respondents who lived in the suburbs of a large city or town, 45% who lived in the centre of a large city or town, and 38% who lived in

a large village or small town. In Wave 2, 23% of respondents who lived in the countryside or a small village used public transport where possible, compared to 40% of respondents who lived in the suburbs of a large city or town, 47% who lived in the centre of a large city or town, and 29% who lived in a large village or small town

- Walking where possible: In Wave 1, 41% of respondents who lived in the countryside or a small village walked/used a wheelchair where possible, compared to 73% of respondents who lived in the suburbs of a large city or town, 68% who lived in the centre of a large city or town, and 67% who lived in a large village or small town. In Wave 2, 56% of respondents who lived in the countryside or a small village walked/used a wheelchair where possible, compared to 70% of respondents who lived in the suburbs of a large city or town, 71% who lived in the centre of a large city or town, and 63% who lived in a large village or small town

1.58 Overall, response to the Travel questions was similar for Wave 1 and Wave 2.

Conclusion

- 1.60 The Climate Change Perceptions and Actions 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.
- 1.61 The first quantitative survey of six waves undertaken in August and September 2023. The second survey was undertaken in February and March 2024. For both surveys there were over 940 respondents and the datasets collected were broadly representative of the population of Wales.
- 1.62 A selection of survey outputs from both surveys have been detailed within this report. The report has compared the two waves and identified similarities in responses and any changes in attitudes or behaviours of the overall sample or disaggregated group within the sample.
- 1.63 Overall, behaviours and attitudes across the two survey waves were similar. Sixty percent of respondents said that climate change was happening and was entirely or mainly caused by human activity. Male respondents were more likely than female respondents to believe climate change was not happening and to be less worried about its effects. Slight differences were identified in the attitudes of younger respondents to which societal groups are responsible for tackling climate change, with Wave 1 younger respondents assigning higher levels of responsibility to General Public, Local Community and their Council, than those in Wave 2.
- 1.64 Across both Waves, nearly all respondents had taken steps to reduce energy usage, though households with a higher income had more energy saving measures installed in their homes.
- 1.65 Similarly, across both Waves, nearly all respondents were employing sustainable practices when food shopping or preparing meals, though households in the countryside or small villages undertook fewer sustainable food practices than those living in other area types.
- 1.66 The majority of all respondents in both Waves 1 and 2 lived in a household with access to at least one vehicle. Respondents with higher household incomes had access to more vehicles, more hybrid and electric vehicles, cycled more frequently, travelled by plane more often and took more holidays than other respondents.

Respondents who lived in the countryside or a small village were less likely to have adopted sustainable travel practices than those living in other area types. In Wave 2 slightly more respondents from lower household income groups said they had travelled by plane than in Wave 1.

- 1.67 The outputs of future survey waves will be analysed to see if these are changes in attitudes and behaviours, or just a natural variation in the sample.
- 1.68 The following survey waves are scheduled to take place in August 2024, February 2025, August 2025 and February 2026.

Limitations of the survey

- 1.69 Several methodological and analytical considerations may impact the interpretation of the findings.
- 1.70 Firstly, the survey analysis was exclusively bivariate, meaning it only considered the relationship between two variables at a time. This approach does not capture how multiple factors may interact to influence individuals' attitudes and behaviours around climate change. It is possible that observed associations between demographic variables and climate change attitudes or behaviours could be explained by confounding variables. Multivariate analysis would provide a more nuanced understanding of the determinants of climate change perceptions and actions, and would allow controlling for confounding relationships.
- 1.71 Furthermore, the survey results were not weighted to reflect the broader population. This means the findings may not be representative of the general public's attitudes and behaviours.
- 1.72 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.
- 1.73 Conversely, the sample size of some marginalised groups, such as certain ethnic minorities, was too low in this survey to provide generalisable insights. Other complementary methods may be required in the future to further understanding around those most likely to be impacted by climate change and climate policies.

- 1.74 Additionally, there is a potential for bias in respondents' answers. Participants may, consciously or unconsciously, alter their responses due to ingrained preconceptions. This could obscure the true nature of public attitudes and behaviours toward climate change.
- 1.75 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. As highlighted above, future waves will help identify whether this was the case.