Social research for the National Infrastructure Commission to inform the second National Infrastructure Assessment

Core audience report

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Project Overview and Key Findings
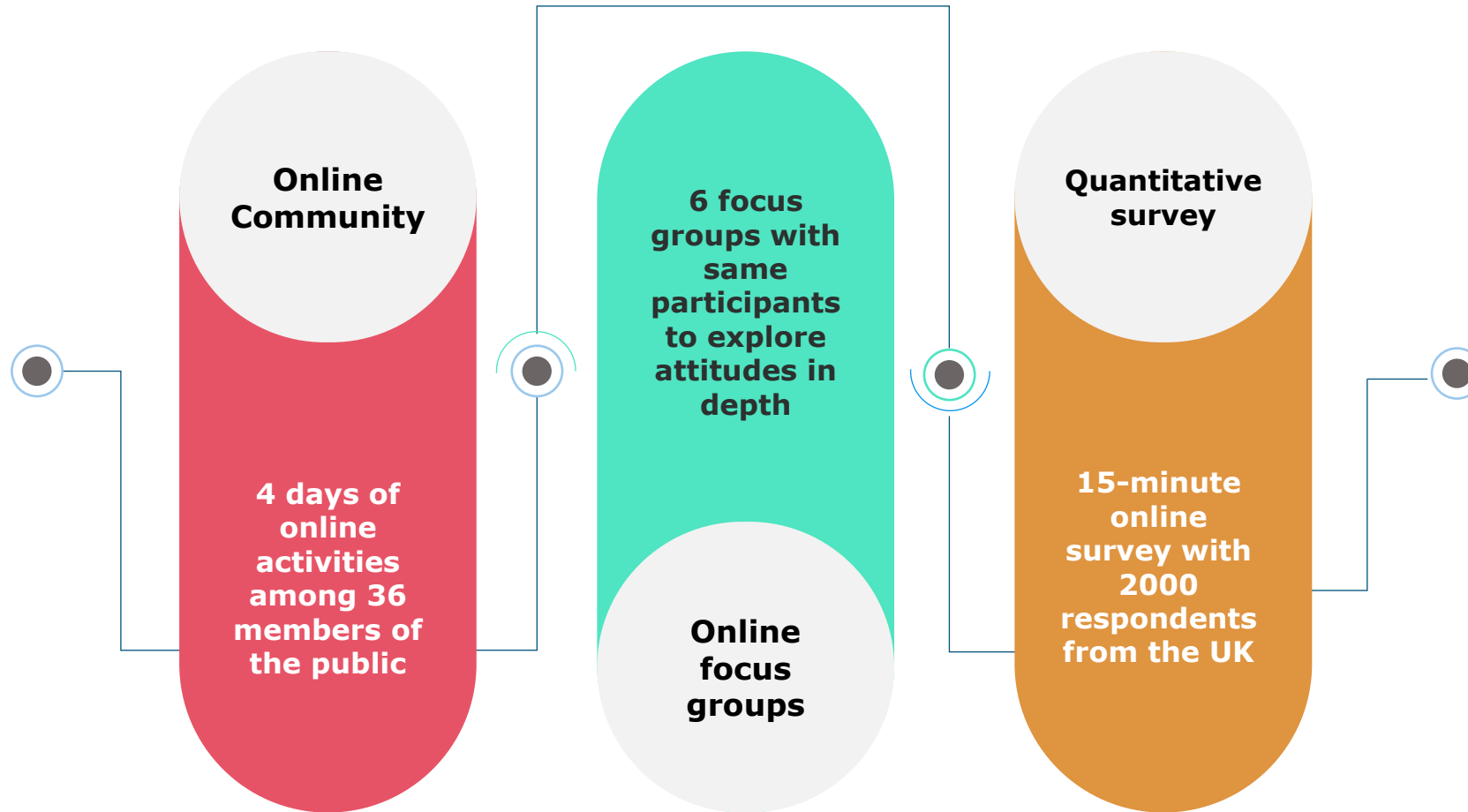
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Background and objectives

The National Infrastructure Commission (NIC) is currently preparing the second National Infrastructure Assessment (NIA2). To help inform the policy recommendations included in the NIA2, NIC commissioned Thinks Insight and Strategy to conduct research with the public. This research was designed to explore attitudes to infrastructure delivery and investment, and test the recommendations in three key areas where the public directly interact with infrastructure; transport, heating and recycling

The objectives of this research were to:

- Understand the public's informed and detailed views of heating, transport, and recycling, as well as infrastructure investment more broadly.

- Explore the key perceived barriers to decarbonisation in the UK.

- Understand awareness of climate change resilience and infrastructure's perceived role in this.

- Explore views on funding of infrastructure, especially prioritisation and the role of both taxes and consumer bills.

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Core Project overview

Online Community

4 days of online activities among 36 members of the public

6 focus groups with same participants to explore attitudes in depth

Online focus groups

Quantitative survey

15-minute online survey with 2000 respondents from the UK

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Key Findings

1. **Cost of living pressures and a lack of trust in the current government dominates perceptions of infrastructure in the UK.** These factors create a sense of apathy and a lack of faith in the UK's capacity to improve and upgrade the current infrastructure that is in place.

2. **The public feel that public transport options need to be improved before they can consider cutting down on car use,** a mode of transport which is used much more frequently than buses or trains. Those in rural areas especially feel that public transport provision in the UK is inadequate and causes them to be car reliant.

3. **Price is the key driver and barrier to switching heating sources for the UK public.** The public say the expected high cost of transitioning their energy supply is why they wouldn't currently make changes, but also that saving money would be the key driver for considering changing in the future.

4. Although most accept that recycling requires input from producers and individuals alike, they feel that the **onus must be on the producers to produce less waste and the Government to support people to recycle**. Where individuals are involved, the public show a preference for policies that incentivise rather than punish.

5. Reflecting cost concerns already mentioned, **the public unsurprisingly are resistant to tax payer funded infrastructure improvement**, feeling that instead utility companies and other associated industries should use **perceived recent high levels of profit** to bear the brunt of the infrastructure upgrade costs, especially in the context of the current cost of living crisis. There is **low awareness** however that this option would likely lead to higher consumer bills.

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Context

Most are quick to associate physical networks with infrastructure, and the public broadly understand the term as the systems needed for society to function

People make the following associations with infrastructure:

Most frequently mentioned

Less frequently mentioned

Railways and roads are top of mind when discussing infrastructure, showing transport is closely associated with the term.
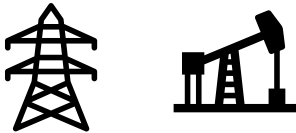
Utility provision such as gas and electricity is also commonly associated with the term and, to a lesser extent, the internet.
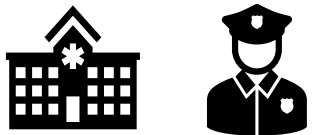
Some also mention **key public services** in relation to the term, especially healthcare and policing which are seen as vital to the smooth running of the country. Note that these services are out of scope of this research.

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Long term planning and the fight against climate change are seen as the most compelling visions for infrastructure strategy in the UK

Infrastructure vision	% who choose idea as top two priority
Our infrastructure should help the UK lead the fight against climate change, by reducing greenhouse gas emissions from our electricity, heating and transport systems	**33%**
We should use long-term planning, ensuring we take decisions quickly and efficiently to deliver the infrastructure we all need on time and to budget	**32%**
UK infrastructure should cope with future challenges, such as increasing population and climate change	**31%**
Infrastructure should drive regional growth, rebalancing economic growth more fairly across the country	21%
Our infrastructure strategy should aim to help the UK become a leader in the new digital and technological revolution, to help secure the jobs and growth of the future	21%
Infrastructure doesn't need to change the world – it just needs to help us power our homes and businesses, communicate with our loved ones and allow us to travel where we need to go safely and quickly	18%

There is a clear preference that a vision for infrastructure reflects climate change priorities and long-term thinking. However, no clear "winner" emerges from these three priorities.

Those aged 65+ are more likely to select long term planning (42%) as one of the most important priorities and those 18-24 less likely to select this as one of the most important priorities. (24%).

9   Q24. The following statements all outline a 'vision' for the UK's infrastructure in thirty years' time. Please select your **two** most preferred statements. (n=2058)

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The cost-of-living crisis defines and influences how the public assess infrastructure performance and strategy, especially their thinking on funding

The most important areas of context that shape the way people think about infrastructure are:

Cost of living pressures

The high cost of living, especially energy bills, dominates discussion about infrastructure provision and influences how all areas of public sector spending are viewed, not just heating.

Significant infrastructure costs are viewed within the context of a high cost of living, making the public less supportive of expensive or large-scale projects. They are quick to predict that such projects are likely to be paid for by the public, either through taxation or higher bills.

"[It] feels like there's no way where the people can really win. And we're already in a cost of living [crisis]. And if we want to make it better for the future, we are still gonna have to pay more. There's not really a relief from what's going on." – Participant, 18-29

Lack of trust in Government

Few have faith in the government to address the issues currently facing the UK, as a result of which they have little confidence that it could successfully implement infrastructure policies tested.

Perceived government ineffectiveness is likely to adversely affect public confidence in Government's ability to upgrade the UK's infrastructure. The public are not convinced that it has either the will or expertise to make successful systematic changes at a national scale, but do not make a pointed argument for an increased role for the private sector either

"It sounds promising, but as ever the devil is in the detail, and how committed are future governments to all this?" – Online Community Participant

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Location and views on climate change can also influence views on infrastructure planning and performance

Some specific areas of context that shape the way people think about infrastructure are:

Location

Views towards infrastructure and particularly transport vary distinctly by location. This is especially true if someone is based in a large urban or rural location.

The public's views towards transport infrastructure differ significantly depending on where they live. Those in rural areas are much likelier to rely on their own vehicles and struggle to use public transport, whereas those in better-served areas are more frequent users of public transport systems.

"You know, somebody wants to live rurally, they shouldn't be penalised that they can't get a job in the city because there's no transport links there. You know, everyone should be given a fair chance to improve their life." – Participant, 50+

Scepticism of decarbonisation

Those who are sceptical of climate change, a minority mainly in the 50+ groups, are much more resistant to infrastructure upgrades, especially when they carry large cost implications or significant behavioural change.

While messaging around decarbonisation is persuasive for most, a vocal minority question the need for change. The issue appears to evoke a wider anti-government sentiment for this cohort, who are especially wary of extensive state involvement in private life.

"You mean, the public just getting ripped off again? And again? Now we've got to invest in the new system, because it will be us shelling out the money." –Participant, 50+

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Transport

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A car is the most frequently used form of transport among the public for local journeys, even in major urban centres

Frequency of use of transport mode for local journeys

Mode	Daily	Weekly	Monthly	A few times a year	Once a year	Never
Car	45%	29%	7%	5%	1%	12%
Buses or Coaches	18%	27%	13%	16%	6%	20%
Trains	11%	18%	16%	21%	7%	27%

Legend: ■ Daily ■ Weekly ■ Monthly ■ A few times a year ■ Once a year ■ Never
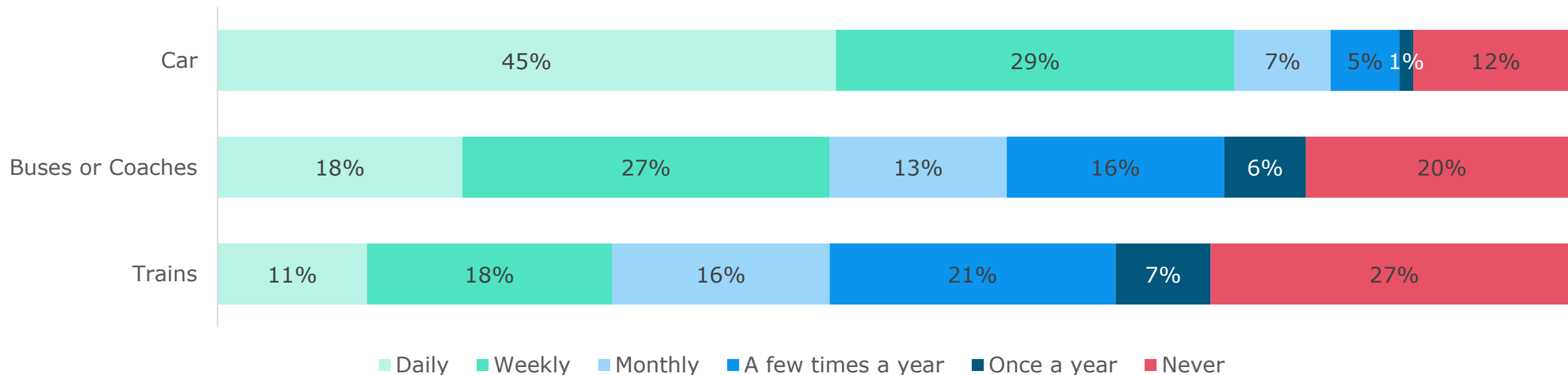
Car usage predominates, even in large cities or areas comprising several cities/towns (69% and 76% respectively use a car daily/weekly in their local area). Even in London, nearly two-thirds (64%) of respondents report using a car daily or weekly for travel in their local area. Only those aged 18-24 are *less* likely (64% daily/weekly) to use a car for daily/weekly travel in their local area, with other age groups (avg 74% daily/weekly) all showing similar car usage patterns in local areas.

Q1. Firstly, for context, on average, how often do you use **buses or coaches** to travel within your local area? Q2. How often do you use **trains** to travel within your local area? Q3. How often do you use a **car** to travel within your local area? (n=2058)

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Those who report travelling long distances regularly – using at least one of the below modes of transport daily or weekly – predominantly travel by car

Frequency of use of transport mode for longer distance journeys (regular long distance travellers)

Car: 37% | 45% | 10% | 5%
Buses or Coaches: 11% | 28% | 15% | 17% | 7% | 22%
Trains: 9% | 22% | 21% | 25% | 9% | 15%

■ Daily ■ Weekly ■ Monthly
■ A few times a year ■ Once a year ■ Never
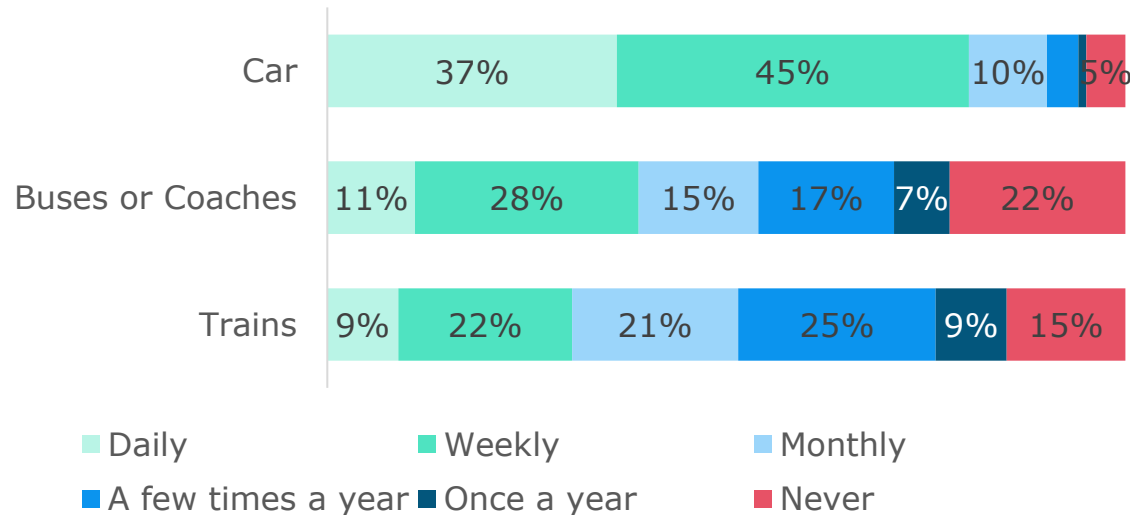
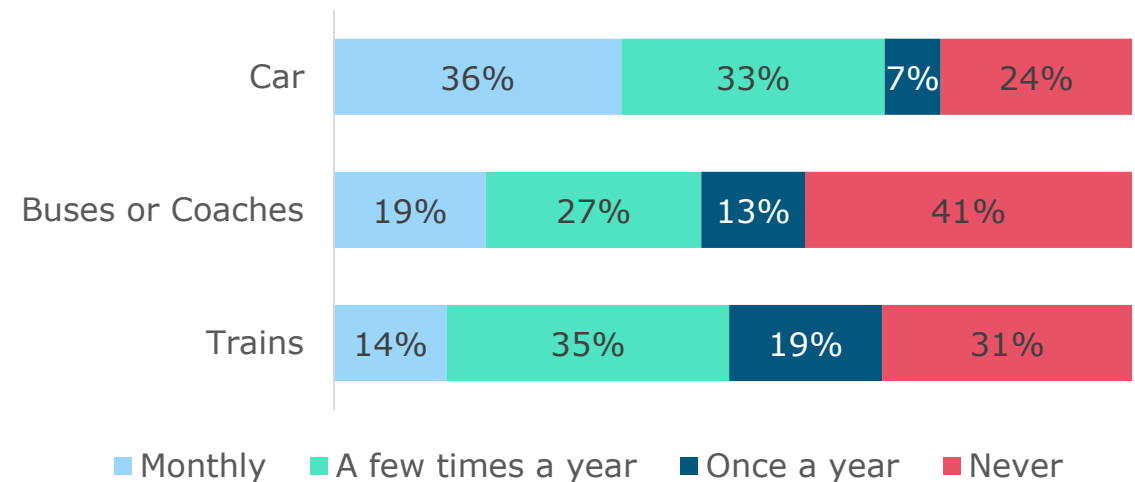**Frequency of use of transport mode for longer distance journeys (less regular long distance travellers)**

Car: 36% | 33% | 7% | 24%
Buses or Coaches: 19% | 27% | 13% | 41%
Trains: 14% | 35% | 19% | 31%

■ Monthly ■ A few times a year ■ Once a year ■ Never

Car is also the most frequently used mode of transport for long distance travel for both those who travel long distances regularly (daily or weekly) and those who do less frequently (monthly, once a year or never). This is also the same for both those in large urban centers and those in rural areas (45% and 59% respectively).

Q1. Firstly, for context, on average, how often do you use **buses or coaches** to travel between cities or distances longer than 10 miles? Q2. How often do you use **trains** to travel between cities or distances longer than 10 miles? Q3. How often do you use a **car** to travel between cities or distances longer than 10 miles?

14   (n=2058 – regular long distance travellers [those who report using at least one of the modes of transport for long distance travel either daily or weekly] n = 1247, less regular long distance travellers n=811)

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The pandemic has had an impact on travel patterns, with a significant proportion of the public report walking or cycling more and using cars or public transport less

Change in travel to work post-COVID

Mode of transport

Legend:
- Not applicable/Don't know
- Increased (significantly/somewhat)
- Stayed the same
- Decreased (somewhat/significantly)

Walking or cycling: 9%, 46%, 36%, 9%
Use of your own car/van: 13%, 23%, 40%, 23%
Use of a taxi or car-sharing in someone else's vehicle: 25%, 12%, 33%, 29%
Use of public transport: 9%, 17%, 39%, 35%
Distance you're travelling to work: 5%, 15%, 66%, 14%
Frequency of travelling to your workplace: 6%, 20%, 51%, 23%

Public transport usage has decreased most among audiences aged 18-44 with 41% reporting a decrease compared with 26% across the older age groups (54-65+). In contrast, reported walking and cycling has increased among the 18-44 audience with an average of 54% claiming an increase. The latest National Transport Survey data (2021) shows a slightly different picture, reporting a peak in active travel during the pandemic and a dip afterwards back down to pre-2019 levels. It's also important to note that 'reported' behaviour here may be overinflated due to a social desirability factor.

Q4. Using the below scale, please indicate how your travel to and from your workplace has changed since Covid-19, which began in March 2020: (Base: all respondents in employment n=1346)

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The public say an increase in working from home and subsequent reduction in commuting is the main reason for their changing travel patterns post pandemic

The public report feeling a dramatic change in regular transport behaviour as a result of COVID. For the most part, this is because they work from home either some, or all of the time now and commute less often. Some say that this influences how they commute, choosing active travel or carsharing because these are seen as more viable options if not needed on a daily basis.

Qualitatively, those who report using their car more, say the pandemic inspired them to move out of urban centres, which means they have fewer public transport options and instead rely more heavily on their car. This is supported by survey data: 32% of those in rural areas say car use has increased since the pandemic, compared to 23% of the public at large.

"I work from home and predominantly a local authority I work for encourages not to go into the office. So, which means obviously my car sits on the ground more than it used to." – Participant, 50+

"So, I only go into the office twice a week. But because I only go twice a week or other people cut down on the time that they spend on the roads, it means the roads are just a little bit more clear as well. So, it's improved. So yeah, my quality of life has improved. " Participant, 30-49

"So, I moved from Northwest London to Surrey, but I've noticed that there's less buses in my area. I have to drive around town. I only catch a bus or a train to go to town. So yeah, I'm using the car more." – Participant, 30-49

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Roughly a fifth of respondents reported a change in arrival and/or departure times for work commutes

Change in time to journey to work

- Got earlier
- Stayed the same
- Got later
- Not applicable/Don't know

13%
71%
9%
7%
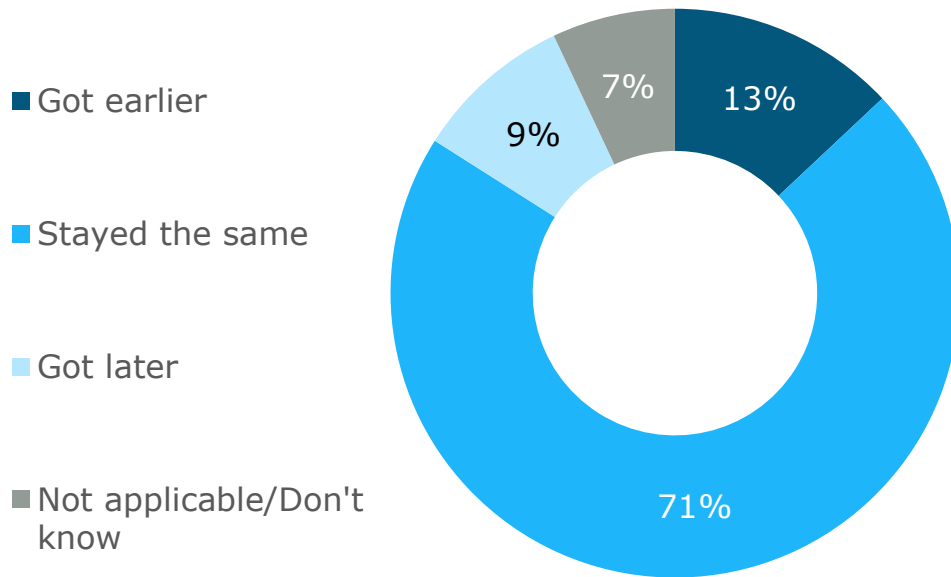
Change in time to journey home from work

- Got earlier
- Stayed the same
- Got later
- Not applicable/Don't know

10%
71%
12%
7%
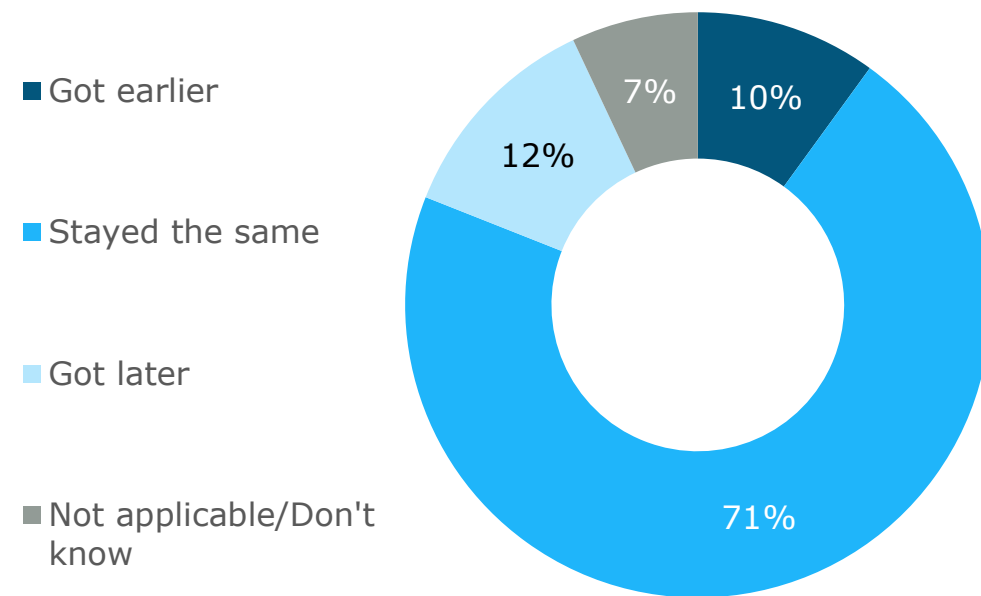
Q6. We're also interested to know if people have altered the timing of their journeys to and from work. Since Covid 19 (March 2020) has your…
1. Journey to work/targeted arrival time, 2. Journey home from work/departure time. (Base: all respondents in employment n=1346)

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Concerns about the environment appear to have had a significant impact on transport behaviours for some, but significant barriers remain for others

Quantitatively, over a third (39%) say their travel behaviours have changed as a result of concerns about the environment. Some also report this change in focus groups: those who have made a change, say they try and walk or take public transport rather than driving - a couple also mention using carpool schemes. The public say the pandemic did more to change their transport behaviours than the environment.

Qualitatively, many say they would like to take more environmentally friendly transport options but feel they are not able to. They say the 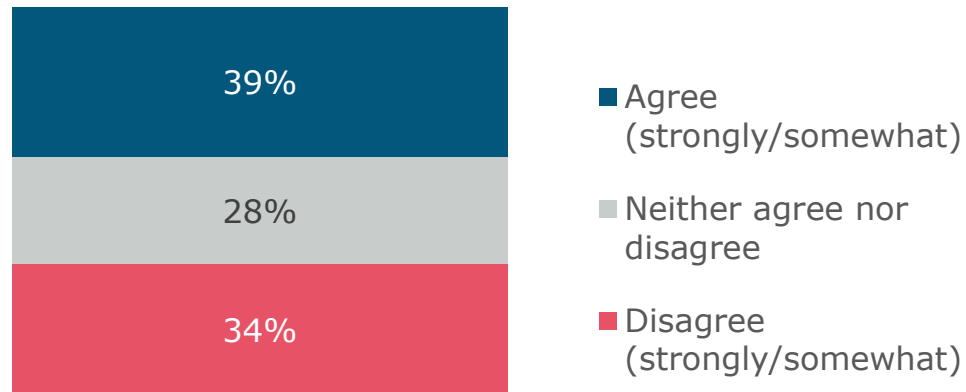poor public transport provision in their area and/or lack of safe cycle routes are key barriers to changing their behaviour. This view is particularly pronounced in rural areas.

39%
28%
34%

- ■ Agree (strongly/somewhat)
- ■ Neither agree nor disagree
- ■ Disagree (strongly/somewhat)

I try to use public transport as often as possible to be more environmentally friendly
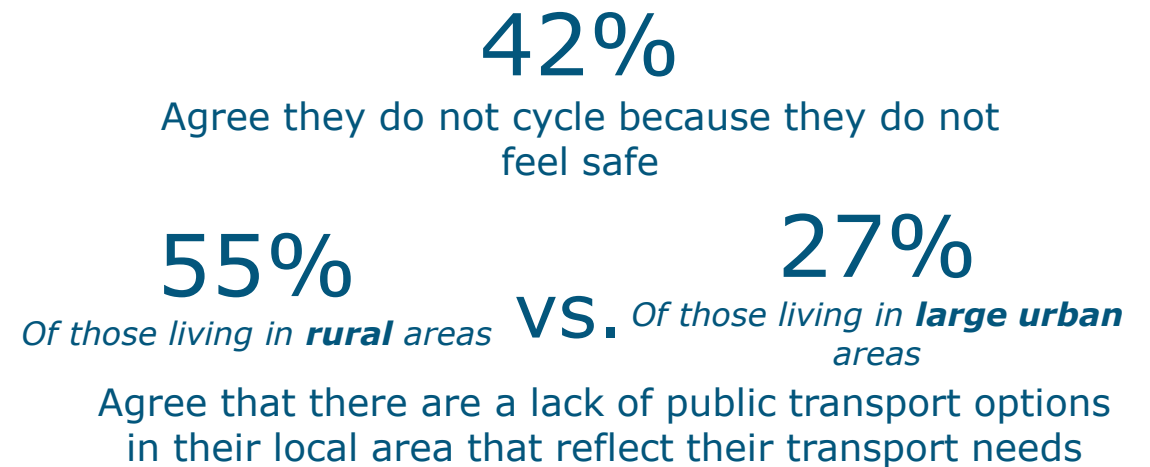
42%
Agree they do not cycle because they do not feel safe

55%
*Of those living in **rural** areas*

VS.

27%
*Of those living in **large urban** areas*

Agree that there are a lack of public transport options in their local area that reflect their transport needs

Q7. To what extent do you agree or disagree with the following statements? By local area, we are referring to within a 10-mile radius of your home. (n=2058)

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Most say public transport in the UK is too expensive, while those in rural areas feel that their local public transport provision is wholly inadequate

Transport: what is working well

Transport: what is working less well

There is some positivity about the transport infrastructure in specific areas, particularly in urban areas. Qualitatively, the public in London mention the Elizabeth line as an example of a successful infrastructure project, while those in Scotland point to the introduction of the free travel scheme as an example of the transport system working well……

50%
Feel that local public transport is reliable, with this number rising to 56% in large urban areas.

"I think the only place I've seen actually good public transport is London and if you're not in London then there's there's no point but it's a different beast." – Participant, 18-29

"I would say the transport infrastructure was appalling. The part of Shropshire I live in is very rural, you're lucky to get public transport." – Participant, 50+

"Yeah, I think it's pretty reliable, at least for me. I think that they do get quite busy because everyone uses them that the traffic is so bad if you don't have bus lanes everywhere and stuff." – Participant, 18-29

…However, those in rural areas feel they are being underserved by the current transport system. They feel London and the Southeast receives more investment, partly because private transport providers are able to prioritise profit

37%
Of those living in rural areas feel local public transport is reliable.

Many complain of the high price of transport, especially buses and trains, with many saying that this prevents them from choosing public transport. It should be noted that recent fuel rises are also felt to be impacting frequency of journeys in the car.

51%
Say public transport is too expensive.

There is a prevailing view that investment in public transport has been severely lacking over the past 10-20 years, with many suggesting this is the cause of perceived failings in the bus and train systems.

35%
Disagree that there have been improvements in public transport in their local area in the last 10 years and 37% feel neutrally on the topic.

Q7. To what extent do you agree or disagree with the following statements? By local area, we are referring to within a 10-mile radius of your home. (n=2058)

While most want to see a reduction of traffic in their local area, less than a third say they have recently become more supportive of traffic reduction schemes like congestion charges or parking restrictions

51%

Agree (strongly/somewhat)

31%

Neither agree nor disagree

18%

Disagree (strongly/somewhat)
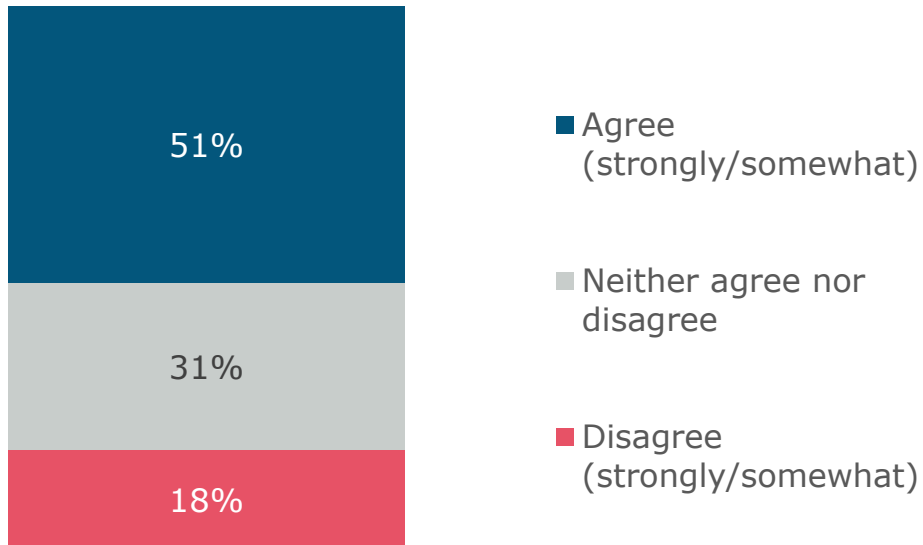
I think more needs to be done to reduce traffic in my local area

Change in attitudes in last few years to demand management policies

5% 7%

17%

14%

11%

46%

- Much more supportive
- No change
- Much less supportive
- Slightly more supportive
- Slightly less supportive
- Unsure/Don't know
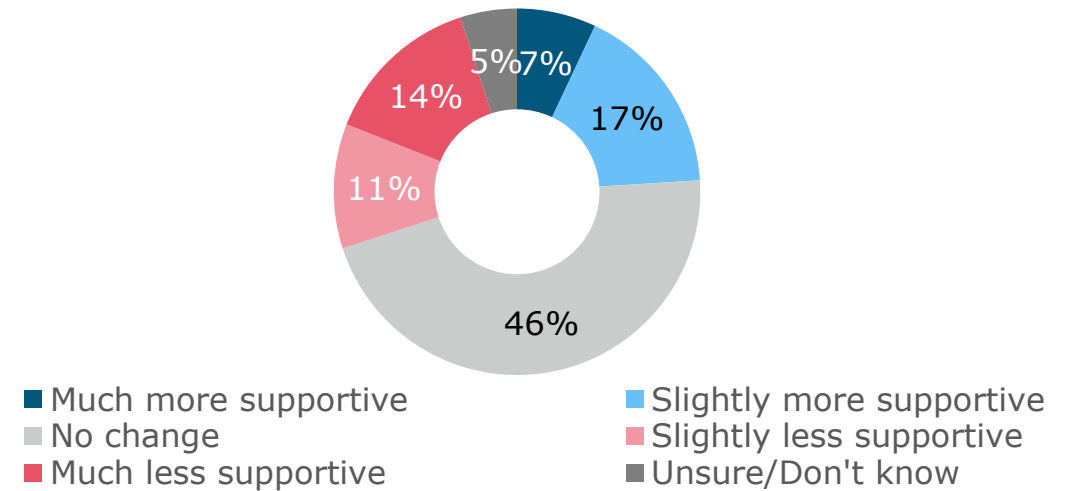
A similar proportion of respondents suggest they are more supportive (24%) of specific policies to discourage car use to those who say they are now less supportive (25%).

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Q7. To what extent do you agree or disagree with the following statements? By local area, we are referring to within a 10-mile radius of your home. (n=2058)
Q8. Has your attitude towards measures such as congestion charging and parking restrictions, which are designed to discourage car use where there are alternatives, changed in the last few years? (n=2058)

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Concern about the cost of living is the main challenge to demand management schemes like congestion charges and parking restrictions, proving to be more influential than environmental concern in driving opinion

Reasons for change in support of demand management policies

Reason	Less supportive	More supportive
Cost of living concerns	3.7	3.8
Increased environmental awareness	2.8	3.8
Evidence of the positive impacts of these measures	2.4	3.6
Improved options or alternatives to cars	2.5	3.5
Change in personal circumstances	2.7	3.1

■ Those who are less supportive of demand management
■ Those who are more supportive of demand management

Not at all ←————→ Significant impact

This reflects the broader qualitative context, with the cost of living dominating how the public assess infrastructure proposals. Those who are more supportive of measures to reduce traffic are unsurprisingly also driven by environmental awareness, as well as evidence that these measures work and improved alternatives to cars.

"You'd say it's a great idea to have a congestion charge. But it seems that bus prices and other prices of commuting has been raised up as well… They (people) want boosts they don't just want to be paying more money to be eco-friendly. A lot of people wouldn't do that. They can't afford to do that." Participant, 30-49

Q9. If your views on measures such as congestion charging and parking restrictions have changed, to what extent has this been impacted by the following:
(n=991, more support of demand management n=493 and less supportive of demand management n=506)

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To reduce the use of cars, the public want to see improvements to existing public transport systems

While the use of demand management to help reduce traffic is positive in principle, many are cautious in practice, saying that they must be tailored to each area and not forced on the public. Those who already live in areas with good public transport infrastructure are most enthusiastic.

Improve transport options	**Land use planning**	**Financial charges or incentives**	**Outreach programmes**
The public say this is key for reducing car use, as many feel they can only be less reliant on their car if public transport and cycling options are viable.	The public also like this idea, feeling that town centres could be better designed for active travel options.	While some, especially those in London, feel that initiatives like congestion charge have worked well, those living in less-well served areas feel public transport infrastructure must be improved first.	While this idea is not criticised, the public tend to feel that the initial onus should be on government to improve infrastructure systems to enable the public to change their behaviour.

Most Popular ← → *Least Popular*

"Rail links between cities really do need improvement before people will stop using cars to commute" – Online Community Participant	*"So the wife and kids can do almost everything in their lives within one mile. And that's brilliant. [it will mean] a very small carbon footprint." – Participant, 30-49*	*"I agree with the congestion as I live in Zone 1 and it does help but I feel that weekends and bank holidays there should be at least a half price so people can socialise." – Online Community Participant*	*"I don't think we should bear the brunt or have more expenditure that we haven't got, even if we did have money…I think that individual companies, governments, borrowers need to take the burden as well." – Participant, 30-49*

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More importance is placed on policies that focus on regional and local improvements, rather than connections with London

Attitudes towards intra-connectivity policies (among those from all locations exc. London)

69%	66%	64%	65%	57%	46%
21%	22%	25%	22%	25%	29%
11%	12%	11%	14%	18%	25%
Improving rail connections between cities within your region of the UK	Improving rail connections within your local area	Improving road connections between cities within your region of the UK	Improving road connections within your local area	Improving rail connections between your local area and London	Improving road connections between your local area and London

Legend:
- ■ Important (somewhat/very)
- ■ Neither important nor unimportant
- ■ Unimportant (not all/somewhat)

Respondents from larger urban locations outside of London place more importance in improving connections between London and their area than those from rural areas. Indeed, 61% believe improving rail connections to the capital is important and 55% believe the same for roads, whereas only 53% and 37% respectively believe this in rural areas. Respondents from rural areas place more importance in policies that focus on regional transport links; 67% and 66% place importance on improving regional and local rail links respectively.

Q11. How important are the following to you? (All locations exc. London n=1788)

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Rural focus group participants show a strong preference for improving inter-urban links, while urban participants are broadly satisfied with both, but feel the price of public transport in general is often prohibitive

Improving transport *within* and *around* cities

The public say this is especially important, not least because many feel that the current provision for this is poor. Some also point out that we should be prioritising this more frequent local travel over longer distance travel, because they think it will have a greater impact on climate change.

Rural

Those in rural areas say this should be a priority because they find it particularly hard to get around their area and into the closest city on public transport.

"Whilst this is important, it's not all about cities, not everyone wants to live or work in busy congested areas. People in rural areas have the right to work and moving around too." – Online Community Participant

Urban

Those in major urban areas and the South-East are more satisfied with this by comparison but believe more could be done outside major cities.

"I think the only place I've been actually with good public transport is London. If you're not in London then there's there's no point because it's a different beast." – Participant, 19-29

Improving transport *between* cities

The public tend to believe that transport links between major cities are sufficient so see this as less of an urgent priority. Many point out however that the price of this transport between cities can be prohibitive.

Rural

Those in rural areas say this has been the primary focus of government policy often at their expense.

"How does this help rural settings? Concentrated transportation for cities does not help and encourages the degradation of small communities." – Online Community Participant

Urban

Those living in urban areas focus on the price of travelling, not journey time and connections.

"I believe a big issue is also train prices. As mentioned in the little middle section under this, trips between cities can take almost twice as long by congested car routes than it does to go from Paris to London." – Online Community Participant

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The public are sceptical about transport "levelling up", reflecting their apathy towards the current government

Qualitatively the public find it hard engage with the term "levelling up" or point to point to examples of transport 'levelling up' in their area. Many believe the quality of transport systems in the UK is worsening not improving.

Those who have seen improvements in their local area are located in the South East and Scotland, where they can describe new projects and better service, especially the Elizabeth line.

Those from rural areas, as well as Wales and Northern Ireland, are unable to mention any new projects or improvements in service, instead reporting a reduction in local bus and train services.

There is significant scepticism of transport "levelling up", reflecting the apathy towards the current Government.

There is an assumption that apart from one or two main projects, transport provision budgets have decreased recently, not increased, especially in areas like the North-East.

Some also express a suspicion that the current government would not have the skills or expertise to properly "level up" transport across the UK, even if they wanted to.

"I'm very close to HS2. So immediately, I can see all the green countryside being ripped up. But then I can see the cities being rapidly developed. There's a lot of money coming in. So, I can see that benefit." – Participant, 30-49

"My views have not changed, if anything I'm more angry about how it's being presented by the government, everything I've read is fluffy and as someone in the North, I don't see anything improving." – Online Community Participant

"Its important everyone feels they can get a slice of the cake and wealth is shared between all of the UK." – Online Community Participant

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Heating

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Gas boilers remain the dominant method of home heating, with almost half claiming their boilers are relatively new (5 years old or less)

Current method of home heating

Method	%
Gas boiler	74%
Electric heat	20%
Oil heating	5%
Heat network	4%
Heat Pump	4%
Other	2%
Unsure	2%

Age of boiler

Age	%
5 years or less	44%
6-10 years	25%
11-15 years	11%
16-20 years	3%
Over 20 years	4%
Unsure	13%
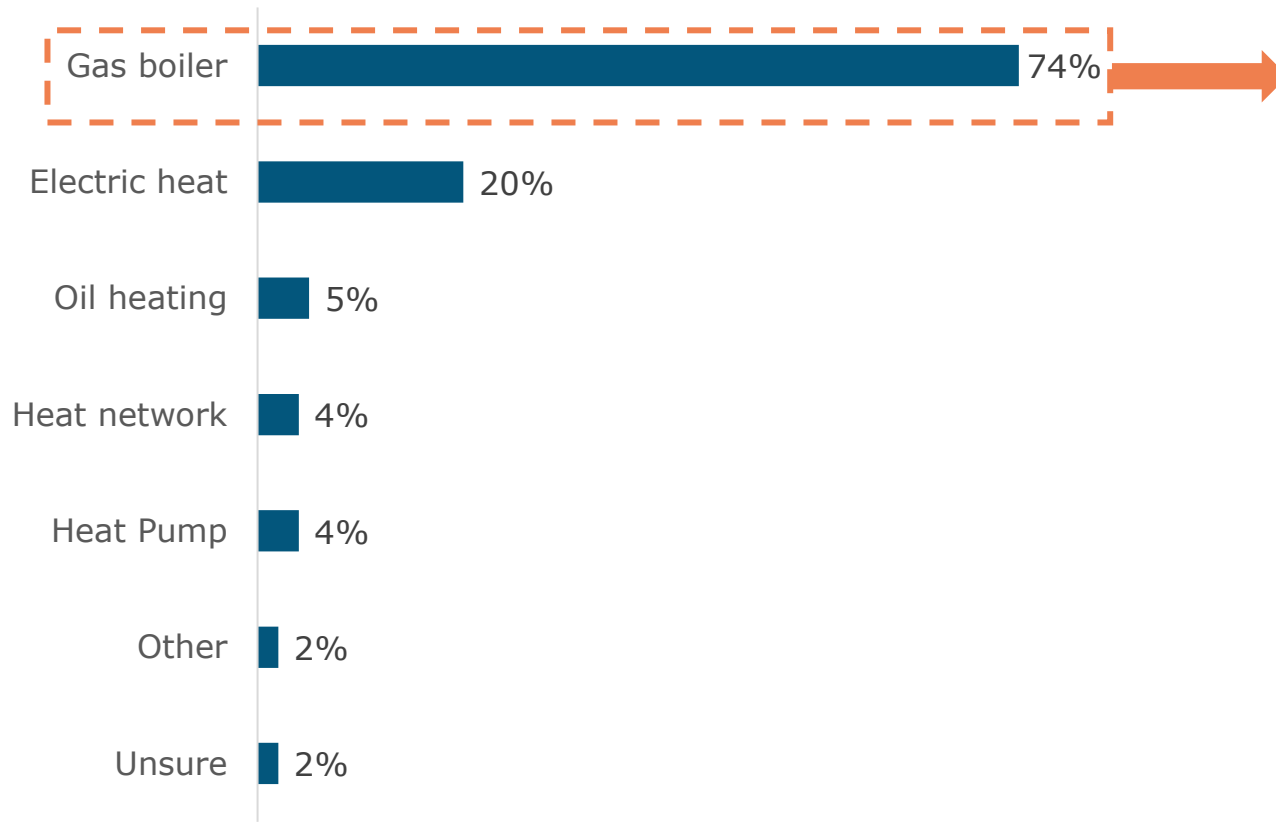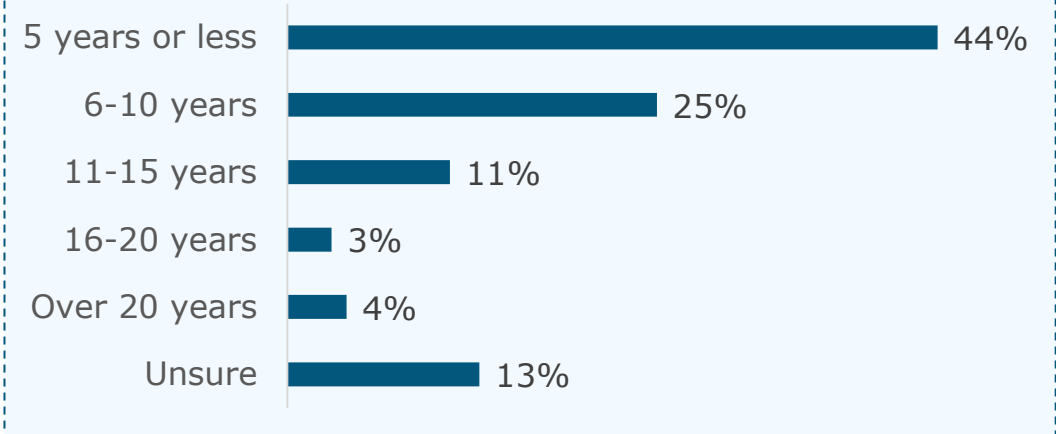
Electric heating is more common in large urban areas (24%), private rental properties (33%) and flats (38%).

Survey data reflects real boiler penetration figures, which indicate 80% of households use combi gas boilers*.

Q12. How do you currently heat your home? (n=2058)
Q13. How old is your boiler? (n=1511)
*www.warmzilla.co.uk, March 2023

Thinks
Insight & Strategy

The recent energy crisis dominates perceptions of how well the heating system is currently working in the UK

The public's mindset on heating is overwhelmingly negative, meaning they find it hard to identify or engage with solutions, or envisage a future where the system works well:

Heating: what is working well

Very few are able to say anything positive about the UK's heating system. The public worry about the current high cost of heating and feel anxious that the climate crisis will only exacerbate the problem.

"I think that it is lots that is going well, but we are not actually told about it… Everything is the worst case scenario. And I firmly believe that they're trying to keep us all in a state of heightened anxiety. " – Participant, 50+

"I've got friends that are wearing layers upon layers that don't want to spend money on heating. It's just all doom and gloom." - Participant, 18-29

"No-one can afford to put the heating on. I think it all seems very dystopian." - Participant, 50+

"Heating is having a massive effect on everyone's home, the price is just outrageous. Like, if you're spending all your money on heat, and then how are you supposed to live or enjoy your life, it's like, obvious at the moment, people are just working to survive." - Participant, 18-29

Heating: what is working less well

Many feel that the UK's heating system is broken, illustrating how the recent cost of energy crisis has impacted public views. The public say the current situation is unsustainable and unaffordable.

There is a shared perception that the public are not only footing the bill for the energy crisis but that they will also inevitably be lumbered with the cost of future system upgrades required by climate change.

The public blame the state of heating in the UK on the current government, feeling that they haven't done enough to ensure resilience. Some say the situation makes them feel completely disempowered.

"It's a joke that these companies have been making billions of pounds over countless numbers of years, are allowed to just gouge prices as high as they have been. To the point where people are choosing to just put on some more clothes at home rather than put heating on for an hour or two because it's ridiculously expensive." - Participant, 30-49

Thinks
Insight & Strategy

Familiarity with most alternative heat sources remains very low, with a majority unfamiliar with all except electric heat

Familiarity with alternative heat sources

Hydrogen heating: Familiar 16%, Neither familiar not unfamiliar 20%, Unfamiliar 65%
Low carbon heat networks: Familiar 16%, Neither familiar not unfamiliar 21%, Unfamiliar 63%
Heat pumps: Familiar 27%, Neither familiar not unfamiliar 23%, Unfamiliar 50%
Electric heat: Familiar 54%, Neither familiar not unfamiliar 19%, Unfamiliar 27%

Legend:
■ Familiar (very/somewhat)
■ Neither familiar not unfamiliar
■ Unfamiliar (not at all/somewhat)

There are certain groups who tend to be less aware of alternative heat sources than others. For example, those in smaller towns/urban areas (55%), those above the age of 65 (60%), female respondents (55%) and those in the DE SEG (58%) are less likely to be familiar with heat pumps than their counterparts.

Q14. How familiar are you with the following low carbon heating options? (n=2058)

Thinks
Insight & Strategy

Three quarters of those with a gas boiler have never considered switching their supply

Considered switching to alternative heat source in past

75%

Never considered switching

16%
Considered electric heat

11%
Considered heat pump
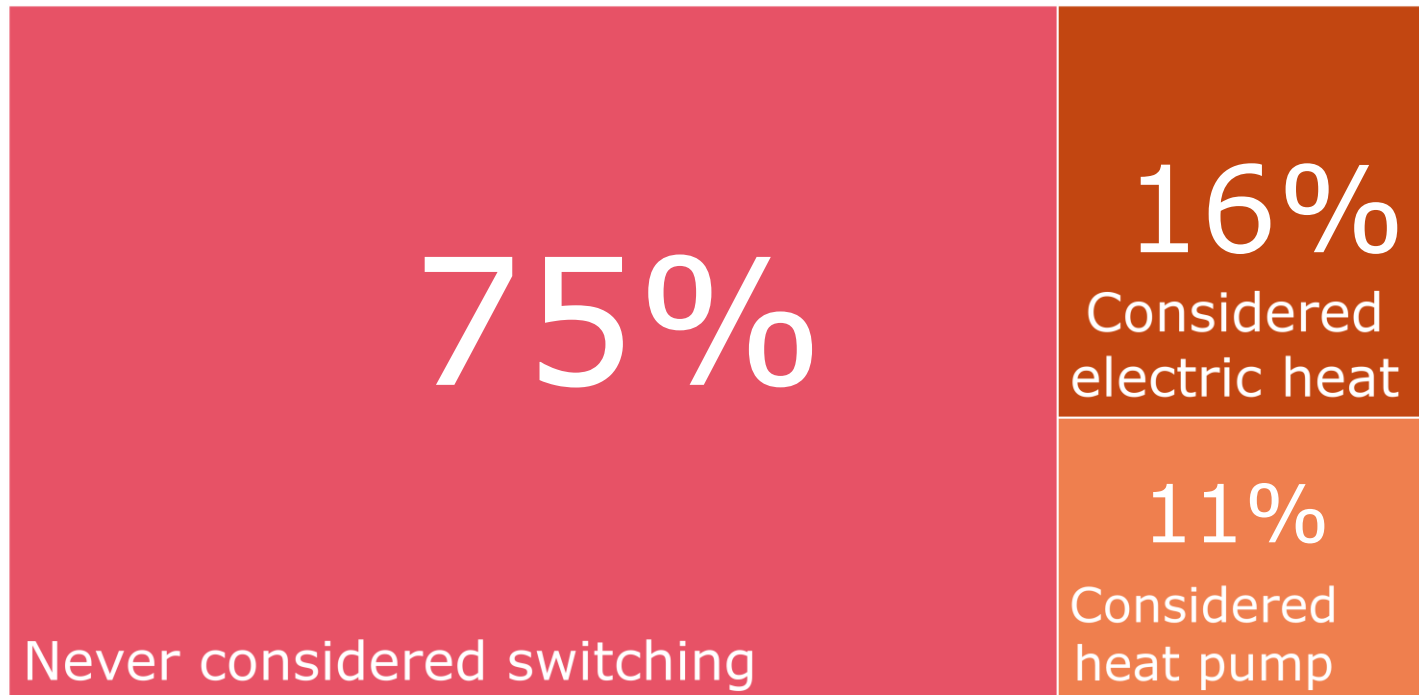
Those in SEG A/B are more likely to have considered switching to an alternative heat source than those in SEG C2DE (34% compared to 25%).

Those in large urban areas are more likely to have considered electric heat (23%) than those in rural areas (16%).

Q15. Have you ever considered switching your gas boiler to either of these two low carbon heating options?   (Base: Those with a gas boiler n=1511)

Thinks
Insight & Strategy

Installation costs are seen as the dominant barrier to switching, closing off discussion before other challenges are considered in detail
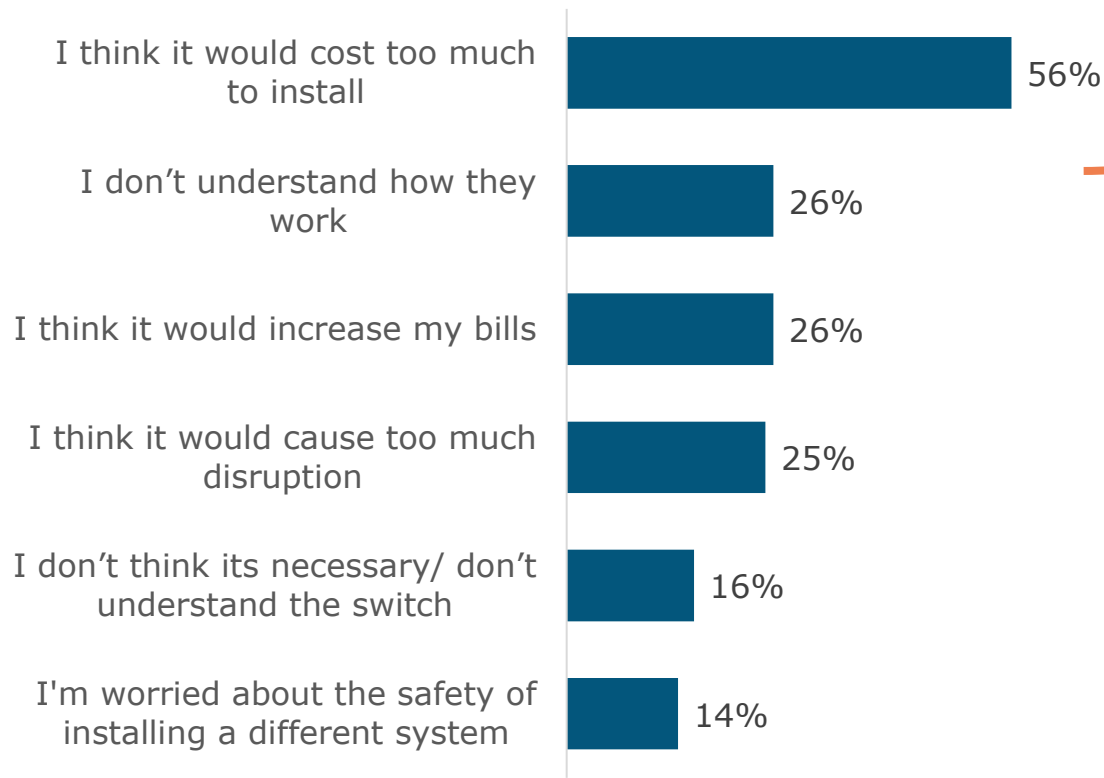
Barriers to switching to an alternative heat source

Barrier	%
I think it would cost too much to install	56%
I don't understand how they work	26%
I think it would increase my bills	26%
I think it would cause too much disruption	25%
I don't think its necessary/ don't understand the switch	16%
I'm worried about the safety of installing a different system	14%

Qualitatively, the public tend to focus on the cost of installation, assuming instantly that adopting an alternative method of heating won't be affordable for someone "like me". The current cost of heating means the public are more sensitive than ever to making any changes that might risk increased costs.

Qualitatively, those renting a property are more likely to point to additional reasons not mentioned here for not switching. These were predominantly a lack of permission to carry out such upgrades.

Q16. What are the key barriers, if any, that would prevent you switching to a low carbon heating system? Please select as many as apply (Base: Those with a gas boiler n=1511)

Thinks
Insight & Strategy

Unsurprisingly, most would be likely to switch energy sources if they would save at least £200 a year

Likelihood to switch to alternative heat source by different factors

	It would save me £500 a year	It would save me £200 a year	My energy bill and other costs stayed the same	It would cost £200 more a year
Likely (extremely/somewhat)	67 %	59 %	31 %	17 %
Neither likely nor unlikely	20 %	26 %	35 %	25 %
Unlikely (not at all/somewhat)	13 %	15 %	33 %	58 %

■ Unlikely (not at all/somewhat)   ■ Neither likely nor unlikely   ■ Likely (extremely/somewhat)
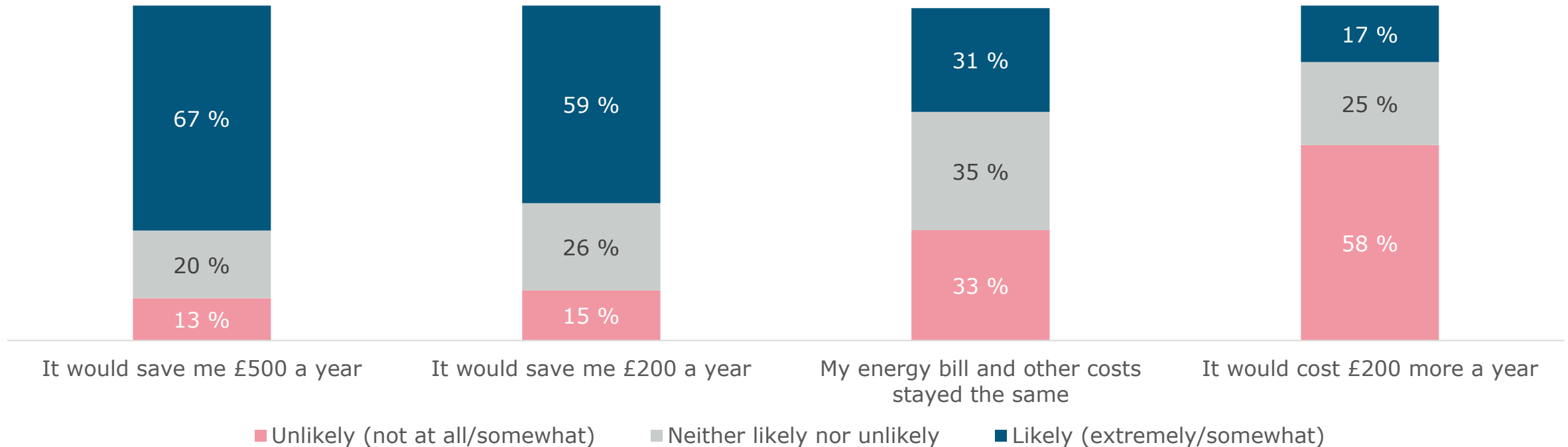
Q17. Switching from fossil fuel heat to a low carbon alternative may have cost implications for consumers (through energy bills and upfront costs). How likely would you be to switch your existing heating system to a low carbon option bearing in mind the following scenarios? I'd switch if… ? (Base: Those with a gas boiler n=1511)

Thinks
Insight & Strategy

While the public see how heat pumps could contribute to decarbonisation, the associated costs, lack of space and differences in use are major barriers to adoption

Strengths

- Public broadly agree that efforts to decarbonise are important, so zero emissions is seen as a bonus
- The public also like that the UK would be less dependent on importing gas (though mentioned to a lesser degree)

Weaknesses

- The public are resistant to the high costs associated with this solution i.e. high upfront costs, electricity being more expensive than gas etc.
- Heat pumps are felt to need more space than boilers – this is not seen as feasible for many (particularly those in flats)
- Heat pumps need more time than boilers to achieve the same temperature, leading to concerns this will mean higher overall bills (due to heating being on for longer)

Barriers

- Initial costs of £8-15k are seen as prohibitive to most, even with a government grant (which is also not seen as enough)
- Cumulative costs are also seen as an issue – such as the need for new insulation for older houses

"I think it's good because it's getting the emissions down. But at the same time if it's gonna take longer and it's going to be more expensive, and surely your electricity bill will be twice as high as it would like normally." – Participant, 18-29

"I thought they usually need quite large garden and you need to have quite a lot of exterior space. So, there wouldn't be suitable for flats and things." – Participant, 18-29

Thinks
Insight & Strategy

Cost and safety concerns are top of mind when considering hydrogen as a source of heating, with few perceived benefits when compared to traditional gas boilers

Strengths

- The idea that hydrogen will have the same efficiency, but at a lower cost to the environment is welcomed – many do not feel that the current heating system can continue as is

Weaknesses

- Safety concerns are top-of-mind for many, with people hesitant to adopt technology that is not well-understood or tested
- They expect it will require large investment and disruption to current heating infrastructure
- There are also outstanding questions as to how all homes can be appropriately retro-fitted to ensure proper ventilation
- Costs are seen as prohibitive: the public are resistant to any increase in bills; there are also concerns regarding the upfront cost of ensuring safety requirements. There is scepticism that the government will provide any financial help to households to help with the transition

Barriers

- The public need much more reassurance that hydrogen is a safe and reliable alternative before they are willing to adopt
- Clear plans need to be put in place as to how the necessary changes to the system can be implemented, and clear cost implications for doing so before people feel comfortable adopting

"Hydrogen has been ignored for too long, the most plentiful element since creation, if resources had been applied to the science of hydrogen heating earlier it could be the cheapest form of heating." – Online Community Participant

"The only way would be some form of government assistance, but I doubt they will be able to do it. Doesn't make sense at all because you're spending more money." – Participant, 18-29

"Overall, this sounds very concerning and I just think it would make me and others paranoid about having it in their house without extensive research and examples that it is safe." – Online Community Participant

Thinks
Insight & Strategy

Electric heating is felt to be the easiest to transition to and to have the most benefits compared to other heating alternatives, though cost is still a prohibitive factor

Strengths

- Being a lower carbon option is seen as a positive, particularly if electricity can be provided through renewable sources
- Idea of cheaper tariffs appeals to those looking to cut costs
- Electric boilers are seen as the easiest system to switch to, and felt to be the most suitable alternative to introduce nation-wide

"I am all for electric boilers as I believe they will be safer and, in my opinion, more sufficient." – Online Community Participant

Weaknesses

- Seen as more expensive to run than gas boilers
- Felt to take longer to heat up water than traditional gas boiler
- Those with larger homes (such as families) feel they may be disadvantaged; it is felt that electric boilers won't keep up with capacity, and may require additional costs to improve efficiency i.e. extra insulation

"My home is poorly insulated, my landlord has provided heaters, but they cost huge amounts in bills and the heat is lost straight away. This point is a major disadvantage that makes direct electric heating a poor solution" – Online Community Participant

Barriers

- Cost is seen as the major barrier – the public are hesitant to see their bills increase at a time when they are already paying so much

"How do you explain this to the working class who are already struggling regarding the cost of living at the moment?" – Online Community Participant

Thinks
Insight & Strategy

While many welcome the increased visibility and control that smart technologies will give, there are concerns that these benefits will not be accessible for everyone

Strengths

- The public feel that the increased visibility and control of Smart Homes will allow people to be more proactive in reducing their consumption, even while on the go

- It is felt that smart tariffs provide opportunity for cost-cutting by using electricity at off peak times

Weaknesses

- There are fears that those less digitally engaged will need assistance in setting up and managing smart technologies
- It is felt that 'Off peak' times for smart tariffs might penalise those unable to use electricity at those times i.e. businesses that require power at all times
- There are fears that the initial investment in technology may not be able affordable for all

"I love smart technology and I believe it is the way for the future. It took me awhile to jump on the trend but slowly my household is becoming a smart home and may just join the smart energy movements as I see a lot benefits that makes sense for a smarter future" – Online Community Participant

"I find the disadvantage to be for the elderly and those with developmental conditions who may live on their own or without much support. I always see cases like this at work how older customers say they struggle with technology" – Online Community Participant

"It isn't as easy for large businesses, nursing homes, hospitals etc. to use these - electricity is needed all day not at only off-peak times. It requires an investment in technology that many people cannot afford." – Online Community Participant

Recycling

Across the country, recycling approaches vary by area with no one approach adopted by local councils

6%

29%

31%

35%

Other/ unsure

Mixed recycling goes into 1 bin for collection for the council to sort

Residents are expected to separate their paper, cardboard, glass & cans, and plastic bottles into 3 or more bins for collection

Residents are expected to separate their paper/cardboard from their mixed recycling into 2 bins for collection
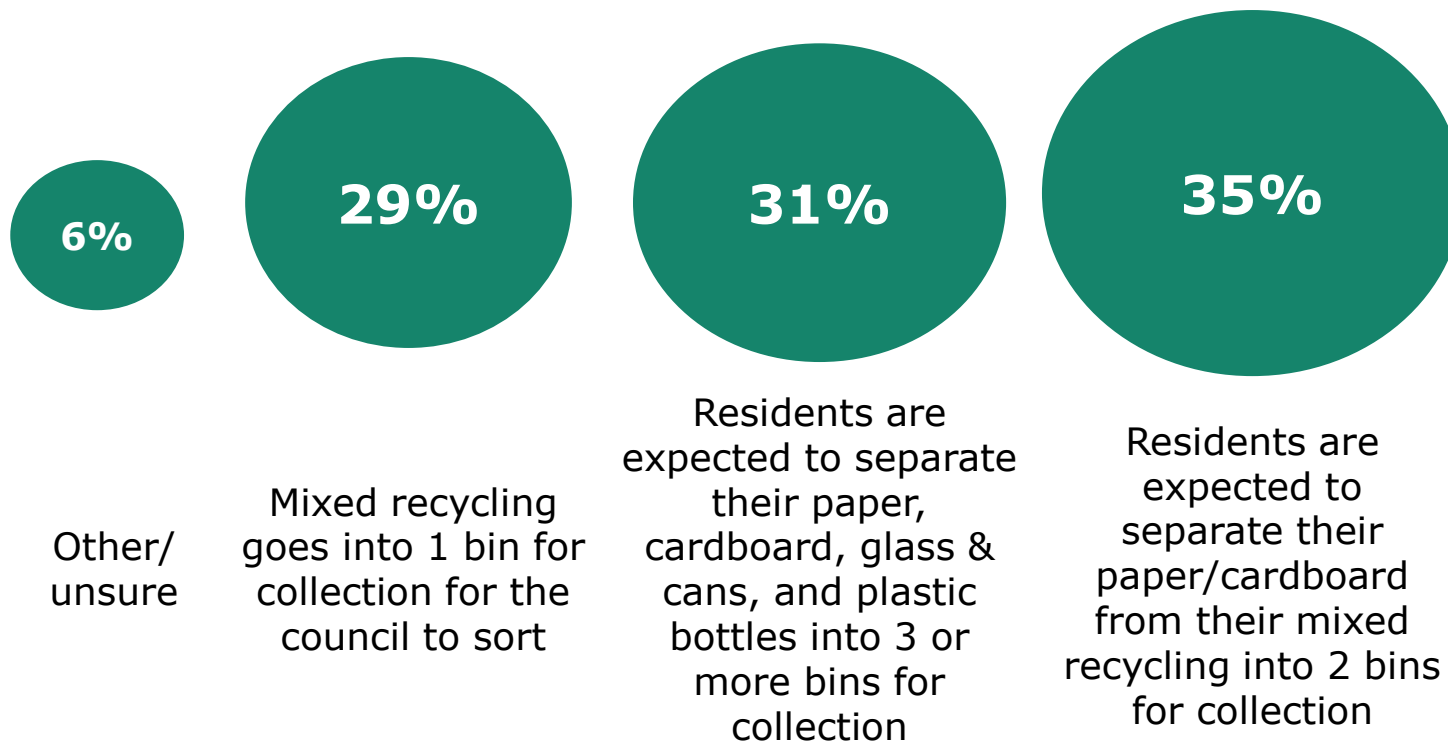
Recycling systems are not always clear, with over half saying it can be confusing to know what can be recycled

58 %

20 %

22 %

■ Agree (Strongly/somewhat)

■ Neither agree nor disagree

■ Disagree (strongly/somewhat)

It can be confusing knowing what things can be recycled

Q18: Which of the following recycling approaches most closely describes the approach your local council has adopted? (n=2058)
Q20: To what extent do you agree or disagree with the following statements relating to recycling? (n=2058)

Thinks
Insight & Strategy

Reducing waste to landfill is the key personal motivation for recycling, although many also link it to the broader aims of climate change and protecting the natural world

Key motivations for recycling

- To reduce waste going into landfills — 64%
- To protect the natural world — 56%
- To be ethically and socially responsible — 50%
- To help against the threat of climate change — 50%
- To make the best use of resources — 41%
- I am required to recycle by the council — 33%
- Unsure — 4%
- Other
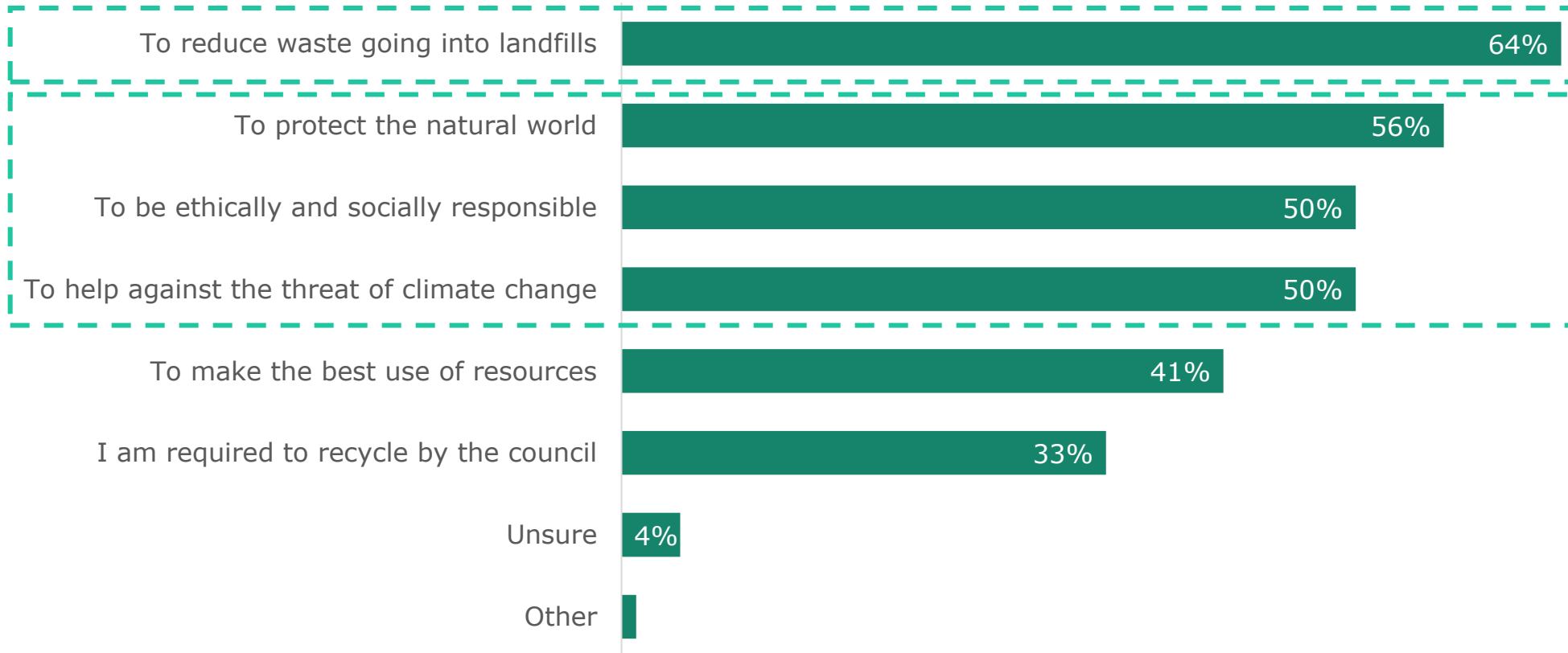
Question 21: What are your key motivations to recycle? Please select as many as apply. (n=2058)

Thinks
Insight & Strategy

Recycling is seen as an important action to protect our environment, but there is appetite for more to be done to improve provision in the UK

Recycling: what is working well

Recycling: what is working less well

Overall, the public have seen improvements in the quality of systems designed to support recycling and do think it is easier than ever to recycle…..

61%
Agree that people generally take recycling seriously now and the UK has made good progress

…..But there are still concerns that the UK does not do not enough recycling, with some saying it lags behind other countries who have better policies in place.

64%
Agree that the UK could do more to reduce waste compared to other countries

The public feel they individually take recycling seriously. Those who regularly recycle take pride in their adherence to the rules and systems…..

59%
Say they are contributing the right amount to recycling

….However, many do think other people in their community are not doing enough. Qualitatively many refer to specific friends, family and neighbours who they believe aren't doing enough when it comes to recycling consistently and properly.

50%
Say other consumers/public should be doing more to contribute to recycling

I feel like it could do basic things that would be better, like you know, how they could incentivise you to go and recycle your things." – Participant, 18-29

"I think it's completely and utterly disgraceful that we ship rubbish abroad. And I would love to know, who is making money out of doing that." – Participant, 50+

The public feel more action from industry and manufacturers to contribute to effective recycling in the UK can be taken.

63%
Say industry/manufacturers should be doing more to contribute to recycling

The public also feel more action from the government to contribute to effective recycling in the UK can be taken.

54%
Say the government/council should be doing more to contribute to recycling

40

Q19. To what extent do you think each of the following groups are making an effective contribution, currently? (n=2058)

Q20: To what extent do you agree or disagree with the following statements relating to recycling? (n=2058)

In principle, the public think producers should take the most burden for recycling in the UK

Most responsibility

Manufacturers / Industry

The public believe producers should have the **most responsibility** for the burden of recycling in the UK. They see solutions that rely on the manufacturer as removing the problem at source. Many also point to more sustainable methods of packaging, i.e., less plastic, and product restoration used in the past, like repair and reuse, as evidence this can be feasible for the future.

76%
Agree that manufacturers could go further to reduce the production of single-use plastic

Government

The public say that the government (both central and local) have a key role to play in ensuring the recycling system works well. They believe the government has the power to "set the tone" by encouraging producers to do more in this area and make it easier for the public to recycle.

Individuals

Most feel that individuals should have the **least responsibility** when it comes to recycling, simply because they feel that too many people are either too lazy or set in their ways to do it properly. However, there is acknowledgement that the public have a role to play and the current burden to tackle waste on the consumer is reasonable.

32%
Do not think that there is too much of a burden on consumers to tackle waste by recycling and 29% feel neutrally on the topic

Least responsibility

"I think the older generation aren't as educated as much as we might be now. So, they don't care, or they just don't understand. And some people are just too lazy." – Participant, 18-29
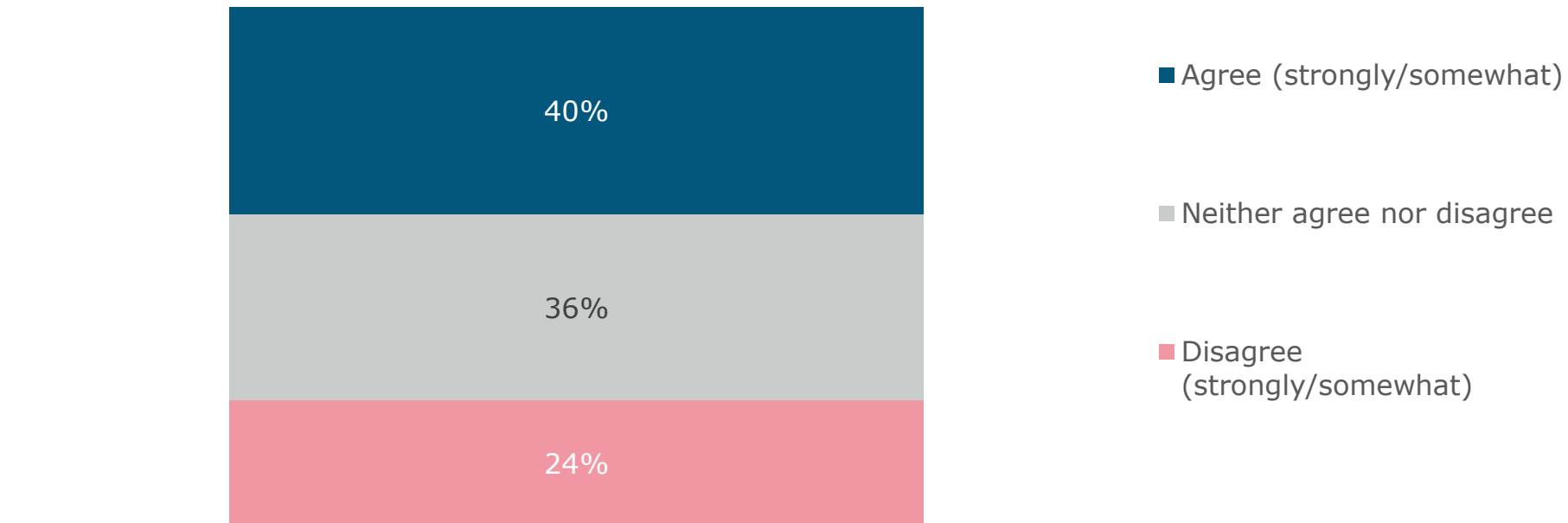
"The burden is on producer. they create the problem - they need to change consumer perceptions." – Online Community Participant

"It's down to the government then to kind of curve what they're allowed to produce to then help the individuals and recycle. And you can't really pass the buck on cycling. It's your job if you're gonna buy it, so it's definitely more the down to the individual and the government." – Participant, 18-29

41

Q20: To what extent do you agree or disagree with the following statements relating to recycling? (n=2058)

Thinks
Insight & Strategy

The public do not always instinctively see how their individual actions could impact their pockets, with only two fifths agreeing increased customer responsibility would lead to lower prices and taxes

40%

36%

24%

- Agree (strongly/somewhat)

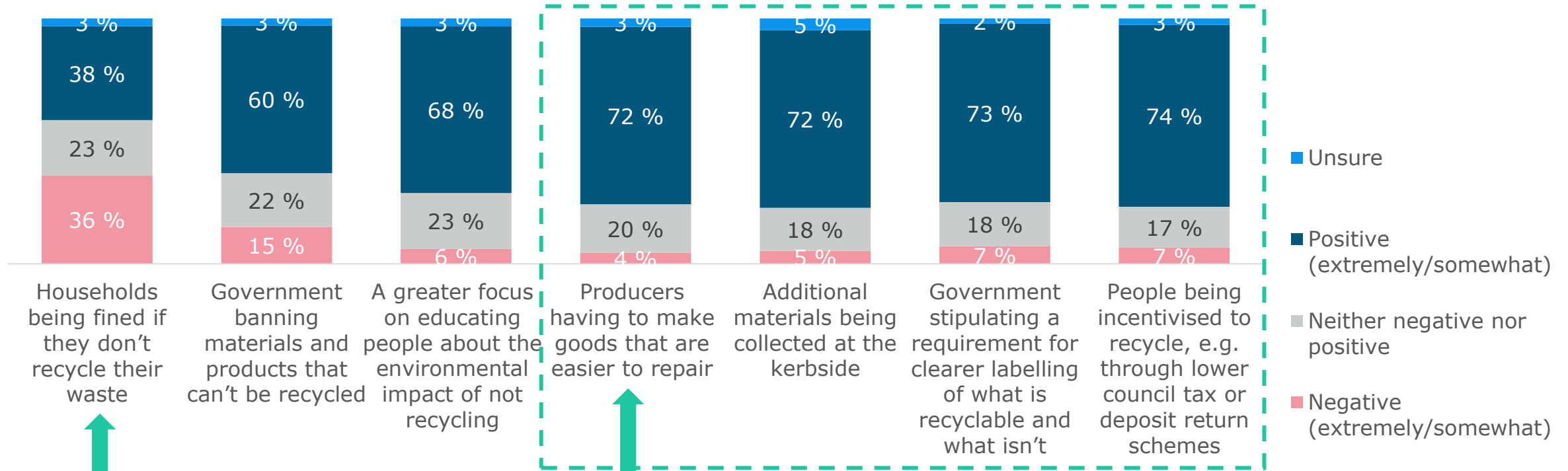- Neither agree nor disagree

- Disagree (strongly/somewhat)

If consumers took on more recycling responsibilities, the price of goods and their Council Tax bills might decrease

Q20: To what extent do you agree or disagree with the following statements relating to recycling? (n=2058)

Thinks
Insight & Strategy

Recycling policies that incentivise and support rather than punish are more popular with the public

Views on recycling policies

	Households being fined if they don't recycle their waste	Government banning materials and products that can't be recycled	A greater focus on educating people about the environmental impact of not recycling	Producers having to make goods that are easier to repair	Additional materials being collected at the kerbside	Government stipulating a requirement for clearer labelling of what is recyclable and what isn't	People being incentivised to recycle, e.g. through lower council tax or deposit return schemes
Unsure	3 %	3 %	3 %	3 %	5 %	2 %	3 %
Positive (extremely/somewhat)	38 %	60 %	68 %	72 %	72 %	73 %	74 %
Neither negative nor positive	23 %	22 %	23 %	20 %	18 %	18 %	17 %
Negative (extremely/somewhat)	36 %	15 %	6 %	4 %	5 %	7 %	7 %

Qualitatively there was a real concern that this policy would alienate people making them less motivated to recycle.

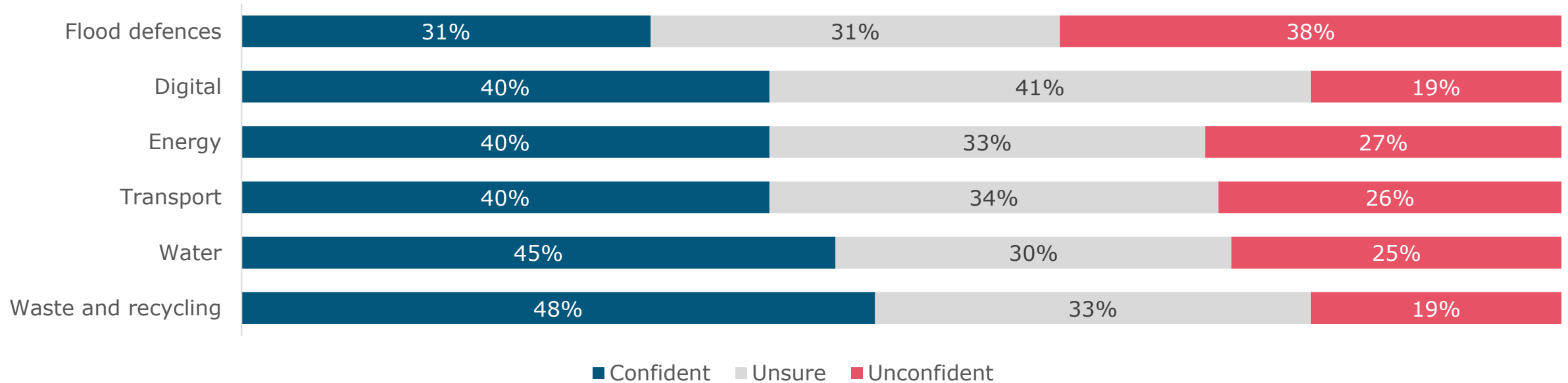This policy was particularly popular among those who praised the mend and repair culture of the past.

During the qualitative phases, many praised schemes used in other countries that incentivise recycling, especially compared to fines.

Question 22: Overall, to what extent do you think the following recycling policies would have a positive or negative impact on your community? (n=2058)

Thinks
Insight & Strategy

Prioritisation, Funding and Resilience

There is uncertainty in the UK's infrastructure resilience, but flood defences are the main area of significant concern for the British public

Confidence in infrastructure resilience

	Confident	Unsure	Unconfident
Flood defences	31%	31%	38%
Digital	40%	41%	19%
Energy	40%	33%	27%
Transport	40%	34%	26%
Water	45%	30%	25%
Waste and recycling	48%	33%	19%

■ Confident   ■ Unsure   ■ Unconfident

Confidence in infrastructure resilience to climate change differs by age and location – older age groups and those in rural areas are less confident in the UK's resilience compared to younger or urban respondents. Views towards flood defences show this; those from rural locations (40%) and over 65s (52%) are more likely to be unconfident than those in larger urban areas (33%) and 18-24-year-olds (26%).

Q23. How confident do you feel in the UK's infrastructure, systems and arrangements in relation to climate change? Please consider the following areas: (n=2058)

Thinks
Insight & Strategy

Unlike the survey data, qualitative data shows outright concern that the UK's infrastructure is not prepared for climate change and find the scale of work needed to ensure resilience overwhelming

Transport

Some worry that transport resilience to climate change is low, mainly citing the crippling effects extreme weather events have on public transport systems. Others feel more confident, pointing out the progress of electrification so far and the existing infrastructure in place, such as the railways and the UK's road network.

Heating

The public feel the UK's heating system is not at all resilient to climate change, referring to both the need to decarbonise in general as well as the perception that extreme weather will require a greater need for heating. The cost and scale of the upgrades needed to move away from gas boilers intimidates many.

Recycling

While many criticise the UK's current recycling system as having some way to go, the public have a more empowered, positive attitude towards recycling in general and feel that policies to improve the system are achievable.

While survey data shows the public to be uncertain on resilience, qualitatively, the public express the stronger concern. They believe heating needs to be the priority for upgrade and improvement, both because of the size of the challenge but also because of how expensive heating currently is in the UK.

"So the infrastructure is different. So roads were melting. And in the winter with extreme cold, they were cracking. So we need to be able to operate at a higher tolerance. And that will cost more." – Participant, 30-49

"We as the public are gonna have to pay to have it put in, if we get a grant or we don't get a grant, we'll still have to pay. It'll probably cost us more money. So there's no driver for us." – Participant, 50+

I think a big part of it is the education and the ease of it from like, law, I think the government should put it make it as easy as possible to recycle." - Participant, 18-29

"I feel like we could do basic things that would be better, like you know, how they do incentivise you to go and recycle your things" – Participant, 18-29

Thinks
Insight & Strategy

Unsurprisingly, in the context of the cost of living crisis the public feel they currently pay for the majority of the 'infrastructure bill', so want more funding responsibility placed on private company profits

Industry/commercial organisations

The public feel that private companies, especially energy providers, should be using their profits to contribute to improving infrastructure much more substantially than they have been doing. There is little recognition that taxing industry will lead to higher consumer charges.

Consumer charges

Despite concern about the cost of living, the public see user payment as an important revenue source, especially for those who can afford to pay. Some feel private companies have the expertise needed to maintain infrastructure to the necessary standard.

Council tax

The public prefer council tax to general tax – they feel that its use is more tangible, liking the breakdown they receive of how money is spent from local councils. They also claim that they directly benefit from the schemes or infrastructure council tax funds.

General tax

The public like general tax least, mainly reflecting their distrust of the current government and the expectation that revenue raised by general taxation will to be misused or used inefficiently. They also mention it is much harder to track or attribute when compared to council tax.

Most Popular ←——————————————————————————→ *Least Popular*

"Some of these companies who are taking advantage because they are supplying us the energy. I feel like they should be bearing some costs to some effects or some higher taxes." – Participant, 30-49

"I think user pays is the best way for everything possible…I think it's fair. And I also think if you're paying for it, more notice of what you're using. " – Participant, 50+

"You see stuff, that I'm not saying it doesn't need improving, but you see other things that would be in the money from the taxes being spent on and I just think they should be able to prioritise things more efficiently." – Participant, 18-29

"As I alluded to earlier, I think government should just spend the money they've already got better than they do. Currently. They just waste a lot of the money that they've got." – Participant, 30-49

Thinks
Insight & Strategy

Appendix

Qualitative Methodology

Online Community

36 participants took part in 4 days of activities hosted on a bespoke web platform to understand participants' spontaneous views and provide the information and context they need to meaningfully engage with research questions.

6 x 90-minute focus groups each with 6 participants

After the online communities, participants were divided into groups according to their age and invited to participate in online focus groups. These were held to explore research questions in greater detail, including perceptions of the different infrastructure areas, reactions to policies, and preferences of funding sources.
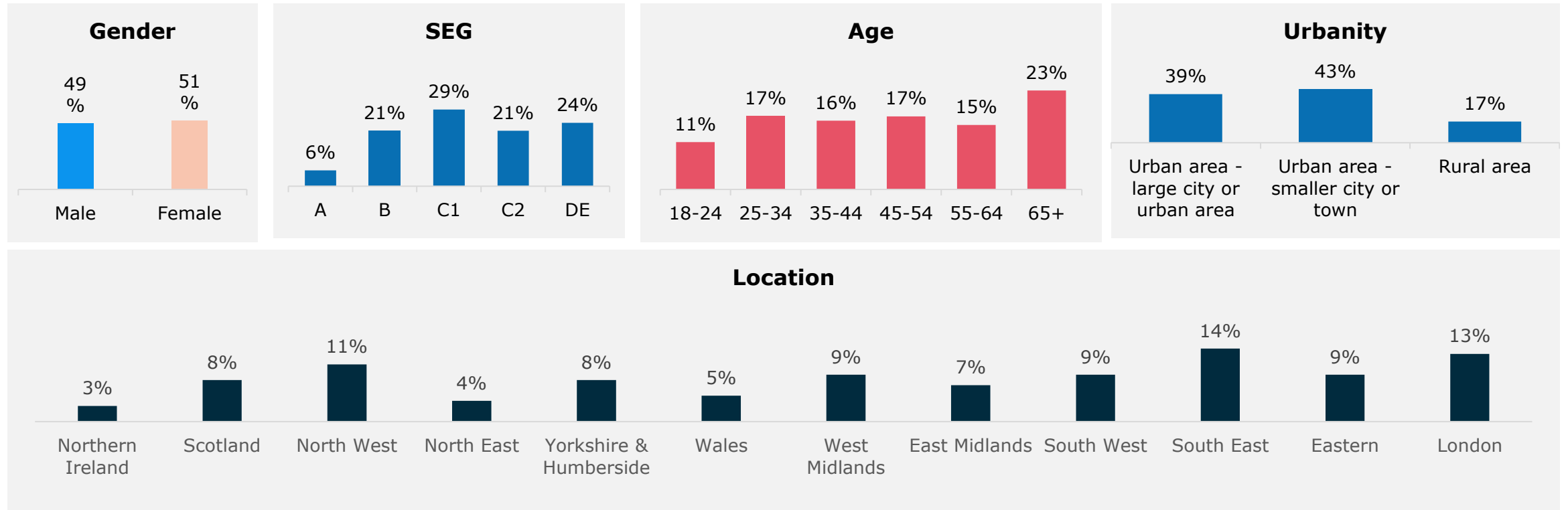
Sample
Participants for the core qualitative research were recruited to be representative of the UK population. This meant using a sample with a representative mix of the following: **locations** (including Northern Ireland, England, Wales and Scotland), **urbanity**, **home ownership**, **age, ethnicity, gender** and **family make up**.

Thinks
Insight & Strategy

Quantitative Methodology

After the qualitative research, 2058 members of the public took part in a 15-minute survey. The fieldwork was conducted online and ran from 22nd to 31st May.

- Data was weighted by gender, age, region and socio-economic grade to be nationally representative of the UK adult population.

Gender

Male	Female
49%	51%

SEG

A	B	C1	C2	DE
6%	21%	29%	21%	24%

Age

18-24	25-34	35-44	45-54	55-64	65+
11%	17%	16%	17%	15%	23%

Urbanity

Urban area - large city or urban area	Urban area - smaller city or town	Rural area
39%	43%	17%

Location

Northern Ireland	Scotland	North West	North East	Yorkshire & Humberside	Wales	West Midlands	East Midlands	South West	South East	Eastern	London
3%	8%	11%	4%	8%	5%	9%	7%	9%	14%	9%	13%

50 (n=2058)

SEG categories

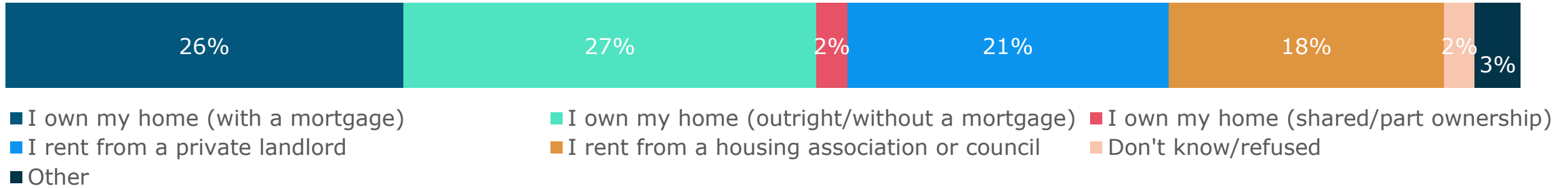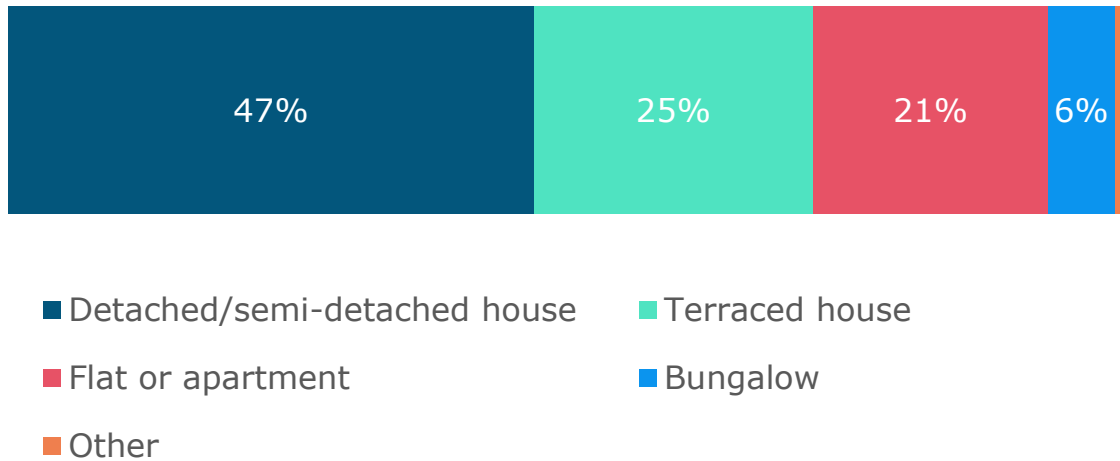| Grade	Occupation
A	Higher managerial roles, administrative or professional
B	Intermediate managerial roles, administrative or professional
C1	Supervisory or clerical and junior managerial roles, administrative or professional
C2	Skilled manual workers
D	Semi-skilled and unskilled manual workers
E	State pensioners, casual and lowest grade workers, unemployed with state benefits only.

Thinks
Insight & Strategy

Audience context

Property ownership

| 26% | 27% | 2% | 21% | 18% | 2% | 3% |

- ■ I own my home (with a mortgage)
- ■ I own my home (outright/without a mortgage)
- ■ I own my home (shared/part ownership)
- ■ I rent from a private landlord
- ■ I rent from a housing association or council
- ■ Don't know/refused
- ■ Other

Property type

| 47% | 25% | 21% | 6% | |

- ■ Detached/semi-detached house
- ■ Terraced house
- ■ Flat or apartment
- ■ Bungalow
- ■ Other

(n=2058)

Employment

Full time	45%
Retired	21%
Part time	15%
Full time carer of homemaker	7%
Other	5%
Self-employed	5%
Career break or parental leave	2%
Casual or temporary contract	1%

Thinks
Insight & Strategy