Citizens' Panel for an accessible and affordable household vision of Net Zero

Summary for policymakers

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Acknowledgements

This Citizens' Panel included significant inputs from specialists on the subject of climate change, Net Zero and household choices. Specialists included individuals from other organisations, staff from the client organisation (the UK Climate Change Committee) and members of the Oversight Group. The authors would like to thank the citizens who participated, and the following specialists for their contributions to this report and the Citizens' Panel process.

Specialists and the topics they presented on

Name	Organisation	Point of contribution
Prof. Myles Allen	University of Oxford	Aviation policies
Rose Armitage	Climate Change Committee	Aviation's emissions and role of household choices in emissions reduction
Dr. Harry Armstrong	Civil Aviation Authority	Sustainability in the aviation industry, and options for reducing emissions.
Dustin Benton[1]	National Food Strategy and Green Alliance	Alternative proteins and UK diet trends
Marili Boufounou	Climate Change Committee	Land use changes to meet Net Zero in the UK
Dr. Sandra Bogelein	Climate Change Committee	Introduction to the Climate Change Committee's role, household choices and policy levers for different sectors
Dr. Sally Cairns	Sally Cairns & Associates Ltd.	Past and future UK aviation trends
Rachel Carr-Whitworth	Climate Change Committee	Surface transport choices and policy options for distribution of flying across households
Dr. Eoin Devane	Climate Change Committee	Net Zero, UK's 2050 target and actions needed to get there
Matt Finch[2]	Transport & Environment	Aviation policies
Esther Harris	Climate Change Committee	Home heating choices and policy options
Prof. Ed Hawkins	National Centre for Atmospheric Science	Climate change causes and impacts
Tim Johnson	Aviation Environment Federation	Aviation policies
Peter Levell	Institute for Fiscal Studies	Policy levers, including fiscal trade-offs
Bea Natzler	Climate Change Committee	Policies to support households in making surface transport and home heating choices
Toby Park	The Behavioural Insights Team	Policy levers
Colin Walker	Energy & Climate Intelligence Unit	Electric vehicles (EVs)
Prof. Rebecca Willis	Energy and Climate Governance, Lancaster University	How policy choices shape actions of different actors (including households)

[1] Dustin Benton was chief analytical advisor for the National Food Strategy and worked for Green Alliance at the time of the panel. Since July 2024, he has worked at Forefront Advisers.
[2] Matt Finch left Transport and Environment in September 2024.

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Name	Organisation
Sarah Allan[1]	Involve
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Dr. Christopher Holmes	King's College London
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Justin Macmullan	Which?
Toby Park	Behavioural Insights Team
Dr. Alison Todd	Office for Budget Responsibility
Prof. Rebecca Willis (Chair)	Lancaster University

About this report

This report presents a summary of findings from the Citizens' Panel that are relevant to specific sectors. Detailed findings can be found in the main report, which has been published here.

[1] Sarah Allan transitioned from her role at Involve to freelancing as a deliberative engagement specialist at the end of March 2024.

1. What happened and why?

The Climate Change Committee (CCC) commissioned Ipsos in 2024 to deliver a Citizens' Panel to understand public views on achieving Net Zero. Supported by the UK Research and Innovation (UKRI)'s Sciencewise programme, the panel explored what an accessible and affordable vision of Net Zero looks like from a household perspective.

The CCC's Citizens' Panel gathered 26 members of the public from Birmingham and the surrounding area. Participants were recruited to take part in a series of workshops that considered:

- What does a vision of Net Zero look like that you can get behind?
- What would make it accessible and affordable for your own and other households?

The panel focused on what policies are needed to ensure that key household choices for Net Zero are accessible and affordable for all households, across four areas:

- low-carbon home heating and insulation
- electric vehicles (EVs) and reducing driving through a shift to public transport and active travel
- a reduction in average meat and dairy consumption
- a smaller than expected increase in flying.

Findings from the panel will inform the CCC's advice to the UK Government and the Devolved Administrations on the UK's Seventh Carbon Budget (2038-2042).

Household choices presented to participants. As this was preliminary analysis, some numbers were based on the Sixth Carbon Budget[1], and numbers may differ slightly from the CCC's Seventh Carbon Budget Advice.

Surface transport	
The amount of driving reduced by about a tenth (~10% less) by 2050. This can be achieved through modal shift, like walking, cycling, or taking public transport.	By 2035, every time someone buys a new car, it is an EV.

Home heating	
Replacing boilers that burn gas or oil with cleaner options that do not involve burning fuels (mainly heat pumps which use electricity) in all homes.	Improving homes so they are less draughty, and it is easier to keep them warm (for example, loft insulation, cavity wall insulation).

Diet	
An average 35% reduction in meat consumption by 2050.	An average 20% reduction in dairy consumption by 2050.

Aviation
A 25% increase in flights by 2050 (compared to a 65% expected increase by 2050).

[1]https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf

1. Why was this different to other processes?

To date, a number of deliberative processes have explored citizens' views on the household choices needed to meet Net Zero. In many processes, topics of fairness and public spend are raised, but there has not been space to explore the important trade-offs that Government needs to consider in relation to the distribution of action, costs, and savings.

As questions around affordability and fairness are important in the discourse on Net Zero, the CCC wanted to inform its advice in this area. This Citizens' Panel aimed to understand what members of the public, once informed about climate change, Net Zero and household choices, thought about the affordability and accessibility of different policies to support households make low-carbon choices in home heating, travel and diet. For each policy area, there was an explicit focus on trade-offs, and the question of who pays and who benefits.

When discussing policies that could support households to make changes to home heating and car use, participants were introduced to findings from the CCC distributional impacts model. The model estimates the impact of different policies on costs and savings experienced by illustrative household archetypes. The use of modelled findings enabled discussions on tangible trade-offs and citizens' feedback on illustrative policies modelled by the CCC.

“I think it’s great to bring everybody together to discuss [climate change]. I don’t think that it’s spoken about in the right way to draw people in.

“Participating in these climate change discussions, it’s been really interesting, and it has made me consider a lot of things that are going to change in my life.

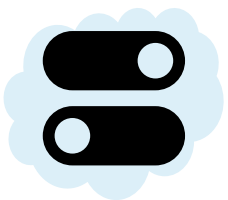
“I would welcome changes that help us reach Net Zero, but I am concerned at the Government’s ability to make a transition easy and affordable.

2. Following deliberation, there were some cross-cutting key messages...

Participants were on board with the household choices. They understood the importance of changes in how we do certain things to meet Net Zero by 2050.

However, ensuring affordability of household changes was key. For many, the acceptability of household changes hinged on affordability. Participants were clear that the upfront costs of certain household choices (e.g. heat pumps) were too significant for households to overcome without Government support.

Those less able to make changes should be protected against the potential costs of these changes. Participants felt this was vital, particularly for low-income households or families.



Participants supported the higher-carbon option becoming more expensive if there is an affordable and accessible alternative: for example, if heat pumps were cheaper than gas boilers. If activities were seen as more optional (such as flying), participants tended to be more supportive of higher-carbon options becoming more expensive for those using them more, even without an alternative.

There was a strong appetite for Government to play a significant and proactive role in supporting households' transition to Net Zero. This role included information provision, so households are aware and confident about necessary changes; phase-out dates for petrol/diesel cars and gas boilers; improving public transport and EV charging infrastructure; setting standards for home energy efficiency; increasing taxes on certain flights and for certain consumers; and providing grants and loans to support households to purchase low-carbon technologies.

Participants wanted Government to encourage sustainable choices by making them easier for households. Participants tended to prefer policies that integrated into their routines more easily or invested in infrastructure that made the sustainable choice easy, minimising daily life disruptions. They felt that the transition would be aided if it was easier to choose the Net Zero option than the high-carbon one.

2. And participants grappled with some tricky trade-offs, where further key themes emerged

Participants saw upfront costs as more important than running costs. Participants wanted support with upfront costs for low-carbon technologies, and preferred generalised, deferred costs over direct, immediate costs – accepting that funding support for upfront costs would likely come from increased taxation, or repayment of low-interest loans in the future.

Participants thought all households should be able to access support for upfront costs, especially for heat pumps. They wanted higher-income households to be able to access some form of support for larger upfront investments, although they felt higher-income households did not need as much support as middle- or lower-income households.

Participants wanted those on lower-incomes to be protected against negative impacts if they did not, or could not, adopt low-carbon technologies early. For example, they should be protected against paying for higher gas bills if they cannot afford a heat pump in the next few years.

When discussing early adopters making greater savings in the longer run, participants largely thought this was acceptable, often seeing this as the status quo. They also said that early adopters (who may be higher earners) may help pave the way for technologies to become cheaper and easier to use.

Participants' perspectives on the fairest way to fund household choices varied across sectors. For example, participants preferred general taxation to be used for home heating, where everyone would have access to some support (i.e. grants for heat pumps), but erred towards those polluting more paying more when thinking about flying.

Participants wanted companies to pay to support household changes, too. This was particularly prevalent when participants were discussing changes to home heating, with some arguing that Government should increase taxes on energy companies to help pay for support measures like grants. Participants also raised this for flying, thinking airline companies should carry some of the costs and responsibility for reducing emissions from flying.

What did participants say about the four sectors?

3. Surface transport

What did we discuss?

Surface transport was discussed in several workshops. This sector was typically discussed together with home heating – the findings in this section relate only to surface transport, but the context of these conversations is important to note.

Participants were introduced to the main changes needed in surface transport:

- A small reduction in average driving.
- A switch to an EV.

This included introducing participants to EVs as a technology, and the policy options that could be used by Government to support households to make these changes.

To help with deliberations, participants were presented with CCC analysis on the cost and savings implications of these different policy options on different illustrative households.

Throughout workshops, participants could ask questions, and deliberated to develop their views. They were encouraged to use the information given to them to discuss tricky trade-offs about who should pay, and who should benefit.

3. Surface transport

Participants were overall happy with switching to EVs and modal shift to reduce overall driving, so long as it was affordable for households.

Participants supported phase-out dates for petrol/diesel cars, if alternatives were accessible and affordable. For many, this was seen as something that is already going to happen (often referring to existing commitments around future phase-out dates for petrol/diesel cars); for others, this would encourage households and businesses to shift to low-carbon technologies. However, participants thought it was essential that the alternative was affordable – for example, that price parity is achieved with petrol/diesel cars in the near future. Participants were especially concerned about journeys households were making that were seen as essential, such as commuting.

Participants thought it was important to invest in infrastructure to facilitate changes to how we travel, and what we drive. This includes improving public transport networks, home and public charging points for EVs, and ensuring the electricity grid can handle increased electricity demand. Presently, participants felt this infrastructure (particularly public transport) was too unreliable or inconvenient to be a viable alternative to driving petrol/diesel cars.

After deliberation, participants saw grants for EVs as a lower priority than grants for heat pumps. Despite initially mixed views on whether grants for EVs were needed, after deliberation participants felt expected price parity of upfront costs and expected running cost savings meant grants were not needed. For households who might not be able to afford an EV, participants thought other options, such as interest free loans and scrappage schemes, could help with upfront cost barriers.

Participants said there was a need to provide a balanced view on EVs to the public and to address misconceptions. Participants had questions about issues surrounding EVs, such as the availability of minerals to manufacture batteries, the reliability of EVs' range, public charging infrastructure, and disposal of batteries. Following a presentation addressing common concerns about EVs, participants' concerns were reduced. However, they wanted to see more information being provided to tackle misinformation and misconceptions.

3. Surface transport

Participants thought additional or indirect costs of EVs should be considered in policy design. Despite agreement that grants to purchase EVs were not necessary, participants were concerned about the costs surrounding EVs, including insurance and costs of installing home charging points. In later workshops, participants thought grants for charge points may be appropriate to help facilitate households purchasing an EV.

Participants were curious about how the shift to EVs may impact the second-hand market. Many participants' primary experience with purchasing a vehicle was through the second-hand market, as with most people in the UK. Participants wanted to know that batteries of second-hand cars would last or have reasonably-costed warranties (after learning about the average 8-year manufacturer warranty of batteries). Some suggested potentially prioritising loan/grant support for second-hand purchases.

After deliberation, participants saw policies (primarily increasing taxes on petrol/diesel) that would make petrol/diesel cars more expensive to drive as acceptable. However, they emphasised the need for these measures to be accompanied by policies to reduce costs for EVs or public transport, such as combining higher taxes on petrol and diesel with cheaper electricity for EV charging. This was a shift in view from earlier workshops, where such policies were seen as potentially 'penalising' those households unable to switch to an EV early. The reason for the shift in view likely stemmed from further discussions and information about EVs being expected to reach price parity with petrol/diesel cars soon.

Ultra Low Emission Zones (ULEZ) and road pricing were less popular. Participants generally disliked what they saw as the punitive nature of these policies, and questioned how practical road pricing would be to implement. It should be noted that discussions focused on these policies' role in supporting modal shift and EV purchases, instead of broader considerations like air quality or future fiscal gaps from reduced fuel duty.

> The phase-out of diesel and petrol cars is a good thing.

> They don’t need a grant. If we’re correct, the prices are going to come down anyway, and they’re going to save because electric vehicles are meant to be cheaper to run.

> I’m moving to interest free loans as opposed to grants, I think it’s going to be people’s choice to purchase electric and not everyone drives equally.

4. Home heating

What did we discuss?

Home heating was discussed in several workshops, alongside surface transport. The findings in this section relate only to home heating, but the context of these conversations is important to note.

Participants were introduced to the main changes needed in home heating:

- Replacing gas/oil boilers with cleaner options, such as heat pumps when the heating system is being replaced.
- Improving homes so they are less draughty, and it is easier to keep them warm.

Participants were introduced to heat pumps as a low-carbon heating technology, and measures to improve home energy efficiency. Following this, participants learnt about policies Government could use to support households to make these changes.

To help with deliberations, participants were presented with CCC analysis on the cost and savings implications of these different policy options on different illustrative households.

Throughout workshops, participants could ask questions and deliberated to develop their views. They were encouraged to use the information given to them to discuss tricky trade-offs about who should pay, and who should benefit.

4. Home heating

Participants understood and accepted the need for homes to become better insulated, and to be heated using heat pumps instead of gas or oil boilers. They supported doing so proactively.

Despite this, they had some uncertainties about heat pumps and how the transition would work. For example, participants had questions about the practicalities of owning a heat pump, including how noisy they were, space required to install, and their reliability.

Participants supported phase-out dates for gas boilers, provided alternatives are affordable. They thought phase-out dates would provide an incentive for manufacturers, whilst giving households time to prepare and Government time to set up suitable schemes for grants. Participants were worried about the affordability of purchasing a heat pump and insulating their homes, and argued that Government should offer financial support.

Participants wanted new homes to be built with low-carbon heating systems and to meet minimum energy efficiency standards. They felt that if existing houses would be asked to meet these requirements, properties being currently built should do the same.

Participants saw upfront costs of heat pumps compared to gas boilers as the primary barrier, even though they are expected to have lower running costs. They consistently emphasised that long-term savings alone would be insufficient to overcome the initial price barrier and thought that spreading the cost of heat pumps over a number of years would be preferable. Participants thought grants should be used to overcome this challenge, and that these should be large enough to shorten payback periods of additional upfront costs to ideally between 3-5 years.

Participants thought solutions like tapered grants are essential to making heat pumps and energy efficiency measures affordable. Most discussions suggested implementing tapered grants, means-tested by income, for heat pumps and energy efficiency upgrades. This would allow households of all income levels access to support, with higher grants for lower-income households, and was preferred to offering a grant only to low-income households. Participants accepted that providing some grants for everyone would need to be paid for somehow – for example, through higher taxation. A few participants suggested zero or low-interest loans as a potential option for costs not covered by grants.

4. Home heating

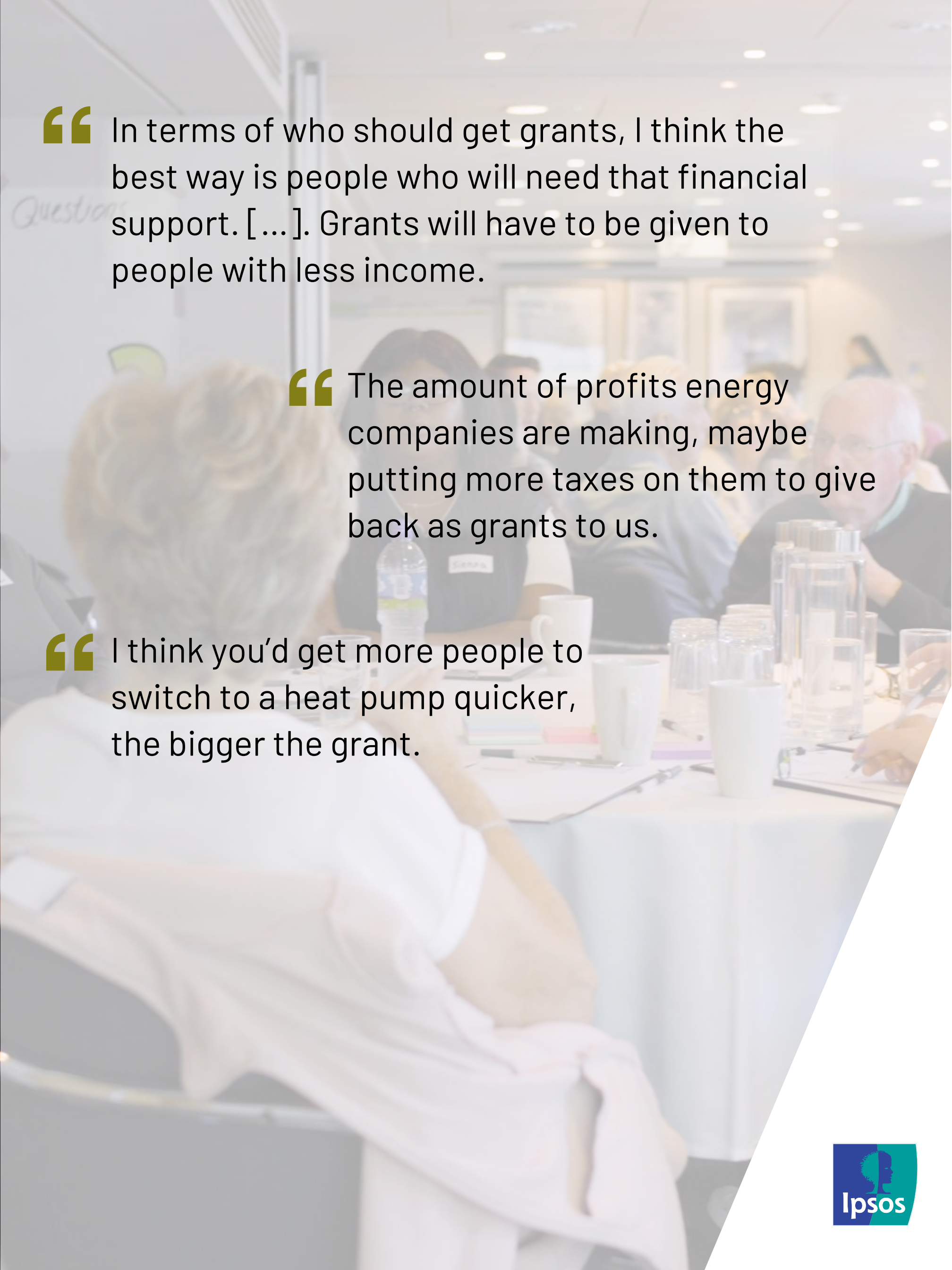
There was broad agreement that grants should be funded through higher general taxation, rather than through increased taxes on gas. After deliberation, participants accepted the trade-off that grants would require increases in general taxation, which they thought was fairer than increases in the cost of gas.

Participants widely supported reducing electricity costs, but views varied on how to fund this. Opinions differed on funding lower electricity costs through general tax or added tax on the cost of gas, with many favouring a mix.

Participants emphasised that the interests of renters should be protected. Often, participants noted that renters may be reliant on their landlord to make changes and that costs of these changes would likely be passed down through increased rents. A few participants were also concerned that landlords may leave it to renters to make changes themselves or pay higher bills. Participants wanted minimum energy efficiency standards for private rented housing, but for there to be protections for renters to prevent landlords from increasing rent if they install home energy efficiency upgrades or a heat pump.

Participants generally thought that energy companies should cover some of the costs. While in-depth discussions on the role of private companies were out of scope for these workshops, participants suggested that companies paying some of the costs would be fair. This remained even when participants understood that this would likely translate to higher consumer prices.

They wanted to see public engagement and information by Government to address concerns and dispel misconceptions about heat pumps and insulation. Participants expressed a desire for reliable and easily accessible information, provided in various formats – including on social media, traditional adverts, or via Government websites. They emphasised the importance of widely advertised, easy-to-access information and guidelines on household changes – including methods of insulating homes, and what support is available to help households to do so (e.g. grants).



> In terms of who should get grants, I think the best way is people who will need that financial support. [...]. Grants will have to be given to people with less income.

> The amount of profits energy companies are making, maybe putting more taxes on them to give back as grants to us.

> I think you'd get more people to switch to a heat pump quicker, the bigger the grant.

5. Policy packages

Participants were presented with two possible packages of policies to support home heating and surface transport household choices. They were presented with the costs and savings that five illustrative households would experience under the two policy packages. This was based on findings from the CCC's distributional impacts model. Through deliberation, participants landed on their own preferred policy package, which is summarised below.

Yes, lots of support (*conditions proposed by participants in italics*)

- Minimum energy efficiency standards in homes, *with strict regulations on landlords*
- Grants for heat pumps – *available to most, if not all, but tapered in line with income*
- Interest-free loans for EVs
- Making electricity cheaper
- Investment in public transport, active travel, and EV charging
- Phase-out of fossil fuel boilers, and petrol/diesel cars
- Taxing energy companies to cover some of the costs of support
- General preference for policies to be funded through general taxation, with some taxes on fossil fuels – *if the alternative to fossil fuels became cheaper*

Yes, some support (*conditions proposed by participants in italics*)

- Increasing cost of gas/oil for heating – *if gradual increases and heat pumps are affordable*
- Upfront grants for insulation, *available to most, if not all, except for the largest homes/highest income households*
- Upfront grant for EV's, *only for lowest income households in rural areas, and only in the short-term (e.g. next five years)*
- Regulations for boiler manufacturers to sell a proportion of heat pumps
- Scrappage scheme for cars
- Increasing fuel duty on petrol/diesel, *if a switch to EV is affordable*

No, participants did not like this policy (*conditions proposed by participants in italics*)

- ULEZ / CAZ, road pricing*

No conclusion reached (*conditions proposed by participants in italics*)

- Reducing council tax for insulated homes
- Support for car clubs

*These were not discussed in terms of air pollution or health outcomes

5. Policy packages

At the end of the final workshop, participants were asked the extent to which they agreed with the statement: *The citizens' policy package for home heating and surface transport would make the changes households need to make to their homes and how they travel accessible and affordable*.

23 out of 26 participants voted they either strongly or tended to agree with the statement.

If I could ask Government to tell households one thing on car use and heating our homes, it would be...

> [The transition] is accessible through Government grants and nationwide schemes that support implementation of infrastructure.

> Emphasise the impact to the planet, but offer reassurance that it will be made affordable for all.

> Explain why we need to take these actions clearly and with jargon free advice.

> Incentivise us to switch to EV and heat pumps right now and not in 3-4 years' time. Don't penalise those who can't afford to do this. Make manufacturers and energy companies do their bit as well - e.g. windfall taxes on shareholder profits.

If someone asked me if Net Zero can be made affordable and accessible for all households in car use and heating our homes, I would say...

> Yes, this is possible, but we need to help everyone to get there.

> It is possible; and can be made so through a policy of financial support packages (i.e. grants).

6. Diet

What did we discuss?

Participants were introduced to the main changes needed in diet:

- A 35% reduction in average meat consumption by 2050.
- A 20% reduction in average dairy consumption by 2050.

Participants learnt about historic and current patterns in UK diets and were introduced to alternative proteins as possible replacement options for meat/dairy products. They were then introduced to policy options that could be used by Government to support households to reduce meat and dairy consumption.

To help with deliberations, participants were presented with evidence from the CCC and experts on the different policies, with trade-offs focusing on individual policies and the expected impact on different households.

Throughout workshops, they could ask questions and deliberated to develop their views. Participants were encouraged to use the information given to them to discuss tricky trade-offs.

6. Diet

Generally, participants were willing to reduce meat and dairy consumption. This was particularly strong following deliberation, when it was clear to participants that their diets could have a significant impact on the environment and their health.

Participants were comforted that the changes required only a percentage reduction in meat and dairy consumption, rather than a complete exclusion. Prior to understanding that diet change involved an average reduction in meat and dairy (not everyone adopting a fully vegetarian or vegan diet), there were some concerns about people who had less flexibility in their diets, or those who simply did not want to stop eating meat or consuming dairy as they enjoyed it.

Participants were positive about alternatives to meat and dairy that already exist, but initially were more sceptical about novel alternatives, using precision fermentation or cultivated protein. Some were willing to try these novel alternative proteins, but wanted reassurances they would taste good, and were healthy. Others preferred replacing some meat and dairy products with whole foods (e.g. vegetables), rather than replacing them with products that they considered "artificial". As discussions progressed, more participants became open to trying alternative proteins – but others remained unsure.

Low awareness of emissions from food prompted participants to support public education on the impacts of different foods on peoples' health and the environment. Participants felt that targeting information at younger people may be more effective, as this could establish dietary preferences early on; information should be around health (participants emphasised this) and the environmental impacts of food choices; and it should come from multiple sources, including schools, the Government, and food businesses.

Later, when discussing alternative proteins, participants wanted similar information available. For example, how to make home cooked plant-based meals using alternative proteins, with recipes and methods being shared in schools and via information campaigns (e.g. recipe cards in supermarkets).

6. Diet

Participants wanted to see plant-based foods become more affordable, including whole foods and convenience foods. Following deliberation, participants were happy for this to be done through Government-funded subsidies. They thought this would be critical in ensuring more people could afford to and would realistically choose to buy non-meat products, particularly because there is often a premium for plant-based convenience foods.

Participants generally agreed that there would need to be changes made in the relative price of meat and non-meat alternatives. While participants agreed that alternatives should be a similar price to meat, they disagreed on whether it would be acceptable for meat products to increase in price. Some felt it would be acceptable if the revenue is used to fund making meat-free options cheaper. Others, however, were concerned this could make meat less affordable for low-income families. Some participants proposed offering vouchers to lower-income households to mitigate this.

Participants thought elevating the visibility of plant-based alternatives in restaurant menus and supermarket displays was a readily achievable policy lever. While not seen as amongst the most impactful policies, it was deemed an achievable cultural shift which could help to normalise plant-based foods and foster broader acceptance of such dietary choices.

Participants supported replacing a small proportion of meat in pre-prepared meals with vegetables or alternative proteins. Some participants thought that while reducing the portion of meat in meals is unlikely to have a significant impact for customers, it should be nonetheless mentioned on the packaging. Others, however, were indifferent to these labelling changes.

6. Diet

Participants wanted farmers' livelihoods to be protected when households start consuming less meat and dairy. They suggested several ways to support farmers, for example offering subsidies for practices like growing trees to help farmers diversify and reduce reliance on livestock and policies to protect domestically-produced food, encouraging the public to buy more locally-grown products.

At the end of the final workshop, participants voted on a series of statements related to diet policies. The results are below:

- The majority (17 out of 26) of participants agreed with the statement: *"It is acceptable for the Government to ensure some meat in, for example, ready meals, is replaced with other ingredients."*
- The majority (18 out of 26) agreed that *"It is acceptable for the Government to support innovation and sales of alternative proteins."*
- The majority (19 out of 26) participants agreed that "*It is acceptable to remove some subsidies from some meat products and use these to make other foods cheaper*."
- When asked which policies they supported, the majority favoured policies around replacing some meat in meals with other ingredients and informing the public on plant-based and alternative options.

If someone asked me if Net Zero can be made affordable and accessible for all households in terms of diet, I would say...

> People need to cook more and have support to cook vegetarian food. Manufacturers and restaurants need to stop selling loads of red meat. Farmers need support.

> After the group discussions the changes that would need to be made aren't that drastic and it can make a big difference. Reducing red meat consumption and opting for healthier meat free options two days out of the week is all you need to do.

If I could ask Government to tell households one thing on diet, it would be...

> You don't have to change your diet completely, but a small change will help.

> Educate and do some classes in school as that's what it comes down to – education. Perhaps as kids grow up by that time they will move off meat.

> You have a lot of lab-based things, but we need evidence behind it that it's not going to be harmful for us in the long run.

> If vegetarian or vegan options are cheaper, I am more likely to go for them[1].

[1] CCC presentations made it clear that only an average reduction in meat and dairy consumption is required, rather than people adopting a predominantly or fully vegan or vegetarian diet. Despite this, participants sometimes made this connection to vegan/vegetarian foods and diets.

7. Aviation

What did we discuss?

Participants were introduced to the main change needed in aviation:

- A smaller than expected increase in flights of 25% by 2050, compared to a 65% expected increase by 2050.

Participants were introduced to the emissions impact of aviation, trends in aviation, and policies that can ensure levels of flying see a smaller than expected increase by 2050.

To help with deliberations, participants were presented with insights from the CCC and experts on policy options, their potential impact on ticket prices, and different illustrative households.

Throughout workshops, participants could ask questions and deliberated to develop their views. They were encouraged to use the information given to them to discuss tricky trade-offs about who should pay, and who should benefit.

7. Aviation

Participants thought it was acceptable to stop practices which may encourage flying. This applied to policies like limiting airport expansion (which they felt contradicted Net Zero goals) and eliminating airmiles programmes (which was seen as an easily achievable change).

Participants tended to see flying as more of a 'luxury' choice than other household choices, like heating or commuting by car. They were struck by the fact a small proportion of households took most flights, and around 50% of households in the UK do not fly abroad in a given year[1]. This meant they were more open to policies that lead to higher costs for some households, like taxes on certain types of tickets or frequency of flying. Despite viewing flying as more of a 'luxury' choice, they still wanted to ensure all households could afford to travel abroad on holiday once per year.

Participants thought that managing how much we fly was reasonable, because it would still allow families to travel abroad on an annual family holiday.

Participants thought the illustrative ticket price increases (see below) were fair for most, but were concerned about the implications for lower-income families. Again, participants wanted to protect households' annual family holiday from becoming unaffordable. However, they generally felt that higher flight costs were a good measure to reduce frequent flying. There was concern about the implications for lower-income families, which informed the preferred policy levers discussed overleaf.

Illustrative ticket price increases shown to participants

- Estimates[2] indicate that a return flight to Madrid that today costs **£150** could increase to **£200 - £300** in **2050.**
- A return flight to New York that today costs **£560** might increase to **£720 - £920** in **2050**.

[1]This statistic was included as part of specialist presentations to participants.
[2]These illustrative ticket prices were explained to not factor in inflation. This was analysis in development so may slightly differ from the final numbers presented in the CCC's Seventh Carbon Budget Advice.

7. Aviation

After deliberation, participants preferred a combination of a frequent flier levy and a distance-based tax. Initially, some participants preferred taxing based on the length of each flight while others preferred basing this on the number of flights per year (a frequent flyer levy). By the final workshop, participants generally preferred a combination of the two, which would see increased taxes for every subsequent flight (a frequent flier levy), but the size of the tax would be dependent on the length of flight, to reflect emissions.

Participants wanted private jets and business flights to be targeted, but recognised this would not reduce emissions enough on its own. They viewed this as a matter of fairness, wanting to see businesses moderate their flights alongside households.

Some participants thought improved rail infrastructure could decrease demand for flying and increase public buy-in for restricting or taxing domestic short haul flights. They felt that improving railways and train infrastructure in the UK could create an alternative option to short-haul domestic flights which more people would consider.

However, some participants questioned whether train travel could really become a viable alternative to flying. They emphasised the convenience of flying and doubted that even significant improvements to railway infrastructure could offset the advantage of shorter flight times.

Overall, most participants did not want there to be an overreliance on removals used to reach Net Zero. Following deliberation, some participants thought removals could be a supplementary measure to support, rather than substitute for, efforts to manage aviation demand.

Some participants were sceptical about carbon removals[1] being used to reach Net Zero at all. These participants thought this technology did not address the real issue. Participants who held this view were concerned that this approach could allow individuals to continue high-emissions behaviours while relying on technology to offset the impact.

Participants preferred the polluter-pays principle when discussing who should pay for removals. They thought it was unfair for those who never or rarely fly to bear the cost for offsetting emissions from flying, and so those who fly, and airlines, should carry the cost.

[1]Methods for removing carbon from the air and storing it. In this instance direct air capture was discussed.

7. Aviation

Participants wanted airlines to proportionately contribute to mitigating their carbon emissions. They maintained a firm stance on the principle of holding airlines accountable for their environmental footprint. Some suggested introducing stricter regulation of flight price increases or windfall taxes on airline profits. They thought this stricter regulation could ensure that flight price increases would be passed on to the customer fairly.

However, some participants had low trust in airlines to manage removals and felt there should be some government oversight or regulation of this process. Participants were concerned about what they saw as a lack of transparency in airline operations and were sceptical about how effective it would be to require airlines to remove emissions without monitoring and enforcement from the Government.

At the end of the final workshop, participants voted on several of the key policies. The results are below:

- The majority (20 out of 26) of participants agreed with the statement: *"It is acceptable to introduce an increase on ticket prices of the amounts we have discussed to help manage how we fly."*
- When asked which policies they supported, most participants supported both a frequent flyer levy and tax based on the emissions or length of a flight, as well as funding for rail alternatives and limiting airport expansion.

If someone asked me if Net Zero can be made affordable and accessible for all households in terms of flying, I would say...

> Yes, if costs are put on those who take more flights and longer durations, as this is the individual's choice.

> It can [be affordable and accessible], but tight regulation of airline companies will be crucial.

If I could ask Government to tell households one thing on flying, it would be...

> To consider how many journeys you are making, and whether there are alternate routes that could take you there.

> I like a combination of frequent flyer and tax on long haul flights... It depends on the emissions, because if three flights to Paris are the same, emissions-wise, as a flight to Jamaica, that cancels each other out. Go by emissions.

> I don't think it's that bad of a rise [in ticket prices]. It's a luxury for most people so that's a choice you've got to make.

8. What this means for future deliberations

- **Regularly reminding participants that information-based policies alone are not enough to deliver the changes required for Net Zero allows for more nuanced discussions about policy trade-offs.** Doing so encouraged participants to consider complex trade-offs in policy decisions, rather than focusing predominantly on information-based solutions.
- **Experienced facilitators can use targeted facilitation techniques, such as in-depth probing questions**, to help participants go deeper than their initial views that feel like an "easy yes" to consider harder, and more nuanced perspectives. This can facilitate in-depth discussions about nuanced trade-offs that don't always come out in more principle-based discussions.
- **Discussions on potentially contentious topics like affordability and fairness can provide valuable, often unexpected insights into public perceptions.** These deliberations can be productive and promote constructive dialogue, offering policymakers useful information about public priorities and values for policy development.
- **Number-driven discussions are feasible within deliberative research settings, provided sufficient time is allocated** for developing comprehensive materials and explaining complex concepts.
- **Participants demonstrate an understanding of inherent trade-offs in policy choices**. They recognise that these choices involve balancing competing priorities and accepting potential drawbacks alongside benefits.
- **Close collaboration with the commissioning body in deliberative processes ensures that the resulting insights directly inform policy analysis and advice**. This active participation allows for real-time feedback, clarification of policy questions, and a deeper understanding of public perspectives.