



EXPLORING CONSUMERS' PARTICIPATION AND ENGAGEMENT IN THE TRANSITION TO NET ZERO IN SCOTLAND

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1. EXECUTIVE SUMMARY

1.1 RESEARCH BACKGROUND & METHODOLOGY

Consumer Scotland is uniquely placed as an organisation able to identify and share the views of consumers across Scotland who will be affected by the transition to net zero, therefore, it can play a key role in supporting a successful and just transition.

The aim of this qualitative research was to deliver a rich and nuanced understanding of how consumers in Scotland experience net zero, including their attitudes, beliefs, behaviours, and barriers, and how these experiences vary across different audiences.

Two sequential qualitative research methods were used to investigate this with two different groups of participants: digital ethnography via a seven-day online community, and online focus groups. Fieldwork took place from 6th-25th March 2024, with a total of 57 participants. The sample included participants from a range of locations, ages, income levels, and property ownership status.

Participants were also split into groups according to their 'eco-attitudes', how immediate of a problem they felt climate change to be, and the steps they were taking to address it. A combination of attitudinal and behavioural metrics was used to assign each participant an eco-attitude category. Attitudes ranged from:

- **eco-passives** (who believe climate change is more of a problem for the future);
- **eco-reactives** (who believe climate change is a problem, but don't go out of their way to address it); and
- **eco-actives** (who invest extra effort in their daily lives to behave in more sustainable ways).

The research explored:

- consumer understanding of net zero (including related language and terminology);
- net zero behaviours and barriers; and
- potential opportunities for change (including government policies).

Five categories of behaviour were investigated:

- transport
- online shopping
- circular economy
- water use
- energy use.

To support research design and analysis, the project made use of the ISM behavioural model¹, developed by the Scottish Government, which looks at the key influences operating at the individual, social and material (ISM) levels. The key components of the ISM framework were integrated within the analysis framework to help organise the emerging themes. The ISM model was then used to creatively consider intervention opportunities needed to address key consumer barriers to change.

1 <https://www.gov.scot/publications/influencing-behaviours-moving-beyond-individual-user-guide-ism-tool/>

1.2 KEY INSIGHTS

The consumer experience of net zero

Participants are aware of the issue of climate change in general. How concerned they are, and how much they feel it personally affects them, varies according to their eco-attitude. By and large, most participants do not feel that climate change has impacted their lives in a significant way. One exception to this is participants whose lives are affected by seasonal industries, such as tourism, who report less predictable and less reliable weather patterns.

Participants rarely consider 'net zero' in their day-to-day lives or view their behaviours through this lens. Instead, net zero feels like a distant concept, something that is relatively new to them and more related to science and politics than their own individual behaviours. Where participants consciously engage in more sustainable behaviours, this is usually motivated by a general desire to be more environmentally friendly, rather than being part of any specific net zero framework.

When probed, there are divergent views of net zero, and varying levels of confidence in it being achieved. Participants who report being less personally engaged in sustainable behaviours are also less engaged in net zero as a topic and are sceptical about its importance. In comparison, participants who report personal investment in reducing their environmental impact are more familiar with the specifics of net zero. However, this can then create hesitancy about how realistic it is to actually achieve.

Overall, participants' awareness of specific policies related to net zero in Scotland is narrow. The policy with the highest profile among participants, regardless of level of reported concern about climate change, is the plan to phase out petrol and diesel cars in favour of electric vehicles. As with net zero more broadly, there is little clarity among participants as to the date by which these vehicles are intended to be phased out. Rural participants in particular express scepticism that this transition will be realistic or indeed feasible.

There is little understanding of the terminology surrounding net zero. Familiar, better understood, terminology is that which participants feel is easy to intuit meaning, such as 'decarbonisation' and 'greenwashing'. Where terms are newer or less commonly used, understanding is markedly lower. This is especially so where the language is felt to be vague, unintuitive and even frustrating, such as 'blue green infrastructure' or 'circular economy'.

Participants also do not relate net zero language to their daily behaviours, describing it instead in broader societal and political contexts. This seems to be driven by the familiarity which consumers have with these terms in the media. Use of language such as 'infrastructure' or 'economy' similarly makes participants feel these terms refer to structures and processes that are more wide-ranging than their own individual behaviours.

Consumer engagement with net zero

Despite this disconnect with net zero as a topic, everyday net zero behaviours have become embedded within participants' routines, whatever their personal views on sustainability. The net zero behaviours that are more commonly being practised are accessible, low effort, and already social norms, such as recycling. Participants who report less concern about climate change will engage in net zero behaviours due to external pressures. For example, they respond to regulations or perceived rules rather than making changes solely motivated by environmental concerns. In contrast, those with higher levels of reported concern for the environment are more likely to engage in net zero behaviours due to intrinsic motivation, particularly if the behaviours feel easily accessible.

Participants with 'eco-active' attitudes report consciously choosing sustainable behaviours, even when faced with easier – and less sustainable – options. They directly link their behaviours with potential environmental impacts. In contrast, participants with 'eco-reactive' attitudes are unlikely to spend time considering the impact of their individual behaviours and searching out sustainable alternatives. At the most extreme, participants with 'eco-passive' attitudes are unlikely to believe small behavioural changes will make a difference, and therefore don't think they are worth sacrificing time, convenience, or energy for.

Participants will only consider larger-scale investments if there are tangible benefits beyond contributing to net zero. Regardless of their views about net zero, they are reluctant to commit to larger-scale behaviour changes that are perceived to be more costly or more difficult to undertake, unless the benefits clearly outweigh the risks for them personally. For example, heat pumps might be considered in order to reduce energy bills, but only if home heating changes need to be made anyway.

Some investments, even if technically possible and accessible, are simply felt to be too inconvenient or costly – especially so where infrastructure isn't in place, such as in rural areas. In this case, even more invested participants do not see the need to make their lives exceedingly difficult by pursuing these investments only to have a comparatively small positive impact.

Consumer barriers to change

The ISM model encourages us to think more broadly about the range of individual, social, and material barriers that might be influencing consumer net zero behaviour - beyond just explicitly stated attitudes. Some of the examples of barriers to change emerging from this research include:

Individual barriers

- participants valuing cost and convenience over environmental factors when making consumption decisions, leading them to opt for affordable and readily available options, despite knowing the carbon implication;
- strong existing consumption habits that are difficult – or even impossible – to change, especially those ingrained in daily routines, closely tied to family or work commitments; and
- a lack of accurate knowledge about newer net zero behaviours or less commonly discussed consumption behaviours.

Social barriers

a lack of social norms for less visible net zero behaviours, for which there is lower consideration or understanding of how others do or should behave

(such as water use);

- a lack of social norms for less visible net zero behaviours, for which there is lower consideration or understanding of how others do - or should - behave (such as household water use);
- participants not seeing sustainability as part of their identity – particularly for those who are less personally concerned about climate change; and
- participants seeing other actors – like the governments and industry – as more responsible for net zero changes and failing to help consumers meet net zero targets, rather than themselves.

Material barriers

- infrastructure limitations limiting accessibility or preventing uptake of certain net zero behaviours – particularly for rural or island communities for example who experience energy supply issues beyond their control;
- resistance to government regulations (such as low emission zones) and lack of knowledge about government support; and
- scepticism of new technology, especially where perceived to be unrealistic or inconvenient.

Opportunities for change

Categorising barriers using ISM enables us to develop more effective 'multi-layered' interventions that look for opportunities across the individual, social, and material levels.

Individual opportunities for change include:

- informational interventions;
- measures to boost consumer motivation; and
- increased affordability of net zero products and services.

Social opportunities for change include:

- the normalisation of new net zero behaviours;
- and the use of trusted messengers.

Material opportunities for change include:

- raising knowledge of policies that support consumers transition to net zero;
- and measures to improve infrastructure.

Concluding summary

Our research was able to build a nuanced view of consumers' attitudes, needs, behaviours, barriers and drivers. While the research is not itself generalisable to the wider population, it nevertheless gives a detailed and nuanced insight into the participants' attitudes and behaviours. In doing so it is overwhelmingly evident that for consumers in Scotland to be supported in making net zero behavioural changes, a one-size-fits-all approach will be unlikely to lead to sustained changes that last. The ask of consumers needs to be both relevant and reasonable in order to be credible.

The opportunities presented in this report only just scratch the surface of the full range of changes that would be needed to help consumers contribute to achieving net zero by 2045. To be successful in helping consumers engage in the transition, we must consider the full range of individual, social

and material barriers that they face, and design multi-layered, behavioural interventions that facilitate both individual and system level change.

1.3 NEXT STEPS

A co-creation workshop, involving members of the Thinks research team and the Consumer Scotland project team, was held at the beginning of April 2024. The aim of this session was to use the ISM model to collaboratively develop behaviourally informed recommendations that could drive meaningful and sustained changes in consumer behaviour – at both an individual, social, and material level. Following the session, Thinks' Behavioural team refined and developed the workshop output to produce a longlist of intervention ideas.

A longlist of intervention ideas has been presented to Consumer Scotland. These ideas are intended to be Thinks' suggestions for Consumer Scotland to consider taking forward if they are deemed appropriate to be pursued internally or recommended to others. This list is by no means exhaustive and reflects some opportunities for how participants' key barriers could be overcome, informed by principles from the behavioural science literature.

Moving forward, Consumer Scotland will review the range of intervention ideas (presented in full in Appendix 7.3) and consider whether they are appropriate to pursue internally or recommend to others.

2. BACKGROUND AND METHODOLOGY

2.1 PROJECT BACKGROUND

Scotland has been making progress towards net zero, but the majority of emissions reduction has been via increased efficiency and changing energy generation methods, in particular. There is now a much more challenging phase where millions of people need support to make new decisions to help Scotland deliver net zero greenhouse gas emissions by 2045, five years ahead of the rest of the UK in 2050.

Consumer Scotland is uniquely placed as an organisation able to identify and share the views of all consumers across Scotland who will be affected by the transition to net zero; therefore, it can play a key role in supporting a successful and just transition.

Consumer Scotland's 2023 research¹ highlighted challenges that consumers in Scotland face in participating in the transition to net zero: high concern about climate change, confusion about what to do, and a range of barriers influencing behaviour.

The present study is designed to complement the 2023 research, delivering for Consumer Scotland a rich and nuanced understanding of consumers' attitudes, understanding and experience of the transition to net zero.

2.2 PROJECT OBJECTIVES

The overall objectives of this project are to:

- Build on previous research to further understand the consumer experience of net zero, as well as consumers' attitudes and behaviours.
- Improve understanding of consumer engagement with the transition to net zero and associated approaches to climate change mitigation

and adaptation, by exploring in detail consumers' views, priorities, motivations, values and social norms.

- Understand in detail what shapes consumers' habits, routines and practices with a view to highlighting perceived versus real barriers to participation, and the support consumers need to fully participate in the transition to net zero.
- Understand consumers' hopes for the future, and the opportunities available to enable and encourage more sustainable consumption across all areas of Scotland.
- Use an existing model for behaviour change to help explain the barriers consumers might face in making low and zero carbon choices and make recommendations on how those barriers might be overcome or opportunities seized.
- Obtain high quality research findings from a diverse group of consumers that broadly reflect the makeup of consumers in Scotland.

2.3 METHODOLOGY

Two qualitative sequential research methods are used to investigate two different groups of consumers' net zero attitudes and behaviours: digital ethnography via an online community, and online focus groups. The online community is designed to provide an in-depth understanding of consumers' day-to-day behaviours, their environment and the range of conscious and unconscious factors that influence them. The focus groups then explore initial themes surrounding behaviour and focused on opportunities for change. A comparison of online community and focus group insights enable us to compare private and public behaviour, and to provide insight into group dynamics and social norms.

¹ <https://consumer.scot/publications/consumers-and-the-transition-to-net-zero/>

The following categories of behaviour were investigated in the research:

- Transport
- Online shopping
- Circular economy
- Water use
- Energy use

To provide depth of insight over breadth, the topics were split between participants, with each participant covering two of the behavioural categories:

The full project is structured as follows:

- **Seven-day online community (running from 6th – 11th of March 2024)**

- Participants individually complete activities designed to explore their net zero attitudes, behaviours, and barriers, such as daily diaries, reflective questions, and polls.

- **Six online focus groups (hosted on the 20th, 21st and 25th of March 2024)**

- In the focus groups, these topics are explored further in a social setting, to understand how individuals' reports of attitudes, behaviours and perceived barriers vary when around others.

Responses from these two stages are analysed thematically and iteratively, allowing for the identification of key trends and differences within and between participant groups.

The project makes use of the ISM behavioural model², developed by the Scottish Government, which looks at influences at the Individual, Social and Material levels, to support research design and analysis. The key components of the ISM framework were integrated within the analysis framework to help organise the emerging themes. The ISM model is then used to creatively consider intervention opportunities needed to address key consumer barriers to change.

2.4 SAMPLE

The sample includes participants from a range of locations, ages, income levels and property ownership status. Participants also have a range of attitudes regarding the immediacy of climate change as a problem. A combination of attitudinal and behavioural metrics is used to assign each participant an eco-attitude category.

Below are the agreed-upon definitions for each segment of eco-attitudes. The full sample breakdown can be viewed in appendix 7.1.

- **Eco-active** - *Climate change is an urgent and immediate problem and I take steps in my daily life to combat it.*
- **Eco-reactive** - *Climate change is a problem but I'm not able to do much in my daily life about it (other than things like recycling).*
- **Eco-passive** - *Climate change is more of a problem for the future / people who rank climate change lower in a list of topics such as housing, transport, employment, cost of living, crime.*

As this research is qualitative, the sample is intended to represent a range and diversity of attitudes and experiences, relevant to consumers' experience of net zero. The sample is not designed to achieve statistical representation.

This report will look first at consumers' experience of net zero, followed by their engagement with net zero in their current behaviours. Barriers to change in consumer behaviours are then outlined, structured according to the ISM behavioural model. Finally, the ISM framework is used to identify opportunities that could bring about changes in consumer behaviours.

Anonymised participant quotes from the online community and the focus groups are included throughout the report, to illustrate findings in participants' own language.

² <https://www.gov.scot/publications/influencing-behaviours-moving-beyond-individual-user-guide-ism-tool/>

3. THE CONSUMER EXPERIENCE OF NET ZERO

KEY INSIGHTS



Participants are aware of the issue of climate change in general. How concerned they are, and how much they feel it personally affects, them varies depending on how urgent they feel it is compared to other issues and the level of responsibility they feel to tackle it.



Participants do not consider 'net zero' in their day-to-day lives or view their behaviours through this lens.



There are divergent views of net zero, and varying levels of confidence in it being achieved. These views are related to participants' eco attitudes.



Participants' awareness of specific policies related to net zero in Scotland is low, except the introduction of electric vehicles.



There is little understanding of the terminology surrounding net zero and participants do not related it to their daily behaviours.

3.1 CONSUMER ATTITUDES TOWARDS NET ZERO

Participants are aware of the issue of climate change in general. There is a spectrum of how much they feel like it impacts them personally, and how concerned they are about it.

Concern about climate change is the norm for our research participants. Active scepticism of climate change as a concept is very rare, with participants instead viewing climate change as an issue that requires some form of response from society. This is consistent with other research that has also found people care about climate change and want to see government leadership. They do not want to be left alone to face and tackle climate change

as individuals acting in isolation³. However, in the current study there is a disconnect between this perception and participants' personal experiences. By and large, participants do not feel that climate change has so far impacted their lives in a significant way. Exceptions to this are the larger impact it has among participants whose lives are affected by seasonal industries, such as tourism, who report less predictable weather patterns, and rural participants who report increasing levels of litter and fly tipping in their local area.

The level of concern that participants show towards climate change varies, as does the nature and severity of the response that they feel is required. The level of concern that participants have about climate change is often moderated by the concern that they feel towards other issues – where other issues are felt to take precedence, climate change can be seen as less of a priority. The cost-of-living crisis – specifically, rising prices of goods and services – is the issue most commonly causing participants to view climate change as a lesser priority. Participants feel that higher prices limit their scope to make environmentally conscious choices. To a lesser extent, they also feel that Scottish Government should prioritise ameliorating the effects of the cost-of-living crisis on consumers over the pursuit of net zero currently, despite feeling both are problems that need addressing overall.

Perceptions about whose responsibility it is to tackle climate change vary according to participants' environmental attitudes and behaviours. Among those categorised as eco-actives, there is a greater sense that individuals have a responsibility to make more environmentally conscious decisions in their day-to-day behaviours. These participants are also more likely to feel that the Scottish Government should be making significant efforts to tackle climate change that go beyond individual behaviour, such as promoting renewable energy production.

Eco-passives, on the other hand, are more inclined to feel that responsibility for reducing emissions does not lie with individuals but rather with large polluters globally, such as companies or states. While these participants may see Scotland as having some responsibility in this, they gener-

ally view it to have less responsibility than larger states, who they perceive to be more significant polluters. These participants want to know that their own behaviours are being matched by other actors, including businesses and states. Without this information, it's easy for them to be sceptical about the impact they can have or even the reasons they are being asked to change their behaviours.

“I do not believe that we in the U.K. need to accept that our lives will have to radically and fundamentally change. Even if we in the U.K. completely stopped using fossil fuels, we would only reduce global greenhouse gases by less than 2%.”

Male, Eco-passive, Urban, 56-65

While those who are more invested in the environment are more likely to see a role for individuals in reducing climate impacts, all attitude segments are clear that measures should not place a significant burden upon consumers. Participants instead feel that consumers should be encouraged and empowered to make sustainable choices that work for them.

Participants do not consider 'net zero' in their day to day lives or consider their behaviours through this lens.

Where participants do express a sense of responsibility to make more environmentally conscious choices, such as recycling or reducing consumption in general, the goal of achieving 'net zero' is not something that they consider when doing so. Instead, net zero feels like a distant concept, something that is relatively new to them and more related to science and politics than their own individual behaviours.

This sense of net zero being distant from their daily lives is likely influenced by how net zero is portrayed in the media (both traditional and social), where it is referred to mainly in scientific and political contexts, as opposed to in reference to consumer behaviour.

“I am neutral towards [net zero]. It makes me think of arguing politicians.”

Female, Eco-Active, Rural, 26-35

³ <https://climateoutreach.org/britain-talks-climate/climate-big-picture-2024/scotland/>

Consequently, where participants consciously engage in more sustainable behaviours, this is usually motivated by a general desire to be more environmentally friendly, rather than being part of any specific net zero framework. This general desire tends to stem from concern for the future, and from the sense that they would feel guilty if they did not make some conscious changes.

“I don’t use single use plastic anymore, I walk or cycle whenever I can rather than using the car, I fully recycle... I honestly think I do these things to feel less guilty rather than thinking that they are making much of a difference.”

Female, Eco-Reactive, Urban, 26-35

3.2 CONSUMER UNDERSTANDING OF NET ZERO

There are divergent views of net zero, and varying levels of confidence in it being achieved. These views are related to participants’ levels of concern about net zero and reported level of sustainable behaviours.

Participants are generally able to link the concept of net zero to reduced emissions, though most are less able to go beyond this and provide a technical definition, or easily recall a target date.

Among participants who are less invested in climate change, there is a greater degree of scepticism about the importance of reaching net zero in Scotland. This aligns with their view that responsibility to address climate change lies less with consumers in Scotland and the Scottish Government, and more with larger global polluters. These participants also show a greater degree of scepticism that the net zero target will be reached. They perceive annual progress target dates as having been pushed back previously, and consequently have little confidence that this will not occur again.

“The dates change so it’s difficult to keep up, because they set a target to catch a headline, then they realise maybe it’s not going to happen.”

Male, Eco-passive, Rural, 56-65

Participants who understand the importance of climate change, but don’t go out of their way to personally help address it, are aware of the net zero target in general and are cautiously optimistic about the prospect of it being achieved. However, they are unclear on the measures that would be required to do so. This lack of familiarity means that these participants are unsure of the potential impact that the pursuit of net zero could have on them personally. This can lead to wariness that this impact might be significant.

“I’m sure [my life] would change, but I just don’t know in what way, because I don’t know what the policies entail.”

Male, Eco-reactive, Urban, 18-25

Participants who invest extra effort in their daily lives to mitigate climate change are more engaged with the specifics of the net zero target, and the measures required to achieve it. But this comes with more pessimism that it can be achieved. Given their greater familiarity with the topic, they possess an awareness of the scale of the changes required that often leads them to the conclusion that it’s just not realistic.

“I think there are just so many changes that they want to make that we’re not ready for, like expecting everybody to own an electric car. I mean, the cost of that is ridiculous.”

Female, Eco-active, Island, 23-35

Participants’ awareness of specific policies related to net zero in Scotland is low, except the introduction of electric vehicles.

The only policy that almost all participants are consistently aware of is the plan to phase out petrol and diesel cars by 2030 in favour of electric vehicles. As with net zero more broadly, there is little clarity among participants as to the date by which these vehicles are intended to be phased out.

Divergent judgements of electric vehicle policy largely reflect attitudes towards the net zero goal. Eco-passive participants tend to be more sceptical of the environmental efficacy of the transition,

citing the environmental impact of the production of electric vehicles themselves. Eco-active and eco-reactive participants are more open to the benefits of the policy, though at the same time remain wary of the financial costs it could impose on consumers. They stress the importance of support for consumers in making the transition, such as a scrappage scheme for existing petrol or diesel vehicles.

“I don’t want to reduce my standard of living by giving up my car. If alternatives are offered like electric cars etc., but that’s not there for me yet. I’d need an electric or hydrogen car that can do 500 miles on a tank / charge, didn’t cost the earth, and didn’t change its value.”

Male, Eco-reactive, Suburban, 50-65

There are also divergent views from rural and island participants, compared to urban participants. Participants from more remote locations are more sceptical of the policy, suggesting that such a transition would be impractical for them given the lack of electric vehicle charging infrastructure in their local area. There is not a perception among these participants that such infrastructure would necessarily accompany the policy.

Much of the terminology surrounding net zero is little understood.

More familiar terminology is better understood by participants. ‘Decarbonisation’ and ‘greenwashing’ are terms that participants have become used to seeing in the media for a long time and that make intuitive sense to them. Where participants are less familiar with terminology, as terms are newer or less commonly used, understanding is markedly lower. This is particularly the case for terms in which participants find the language vague and unintuitive, such as ‘blue green infrastructure’ or ‘circular economy’. Older participants particularly express frustration with these terms, finding the language used to be arbitrary and vague in a way that hinders their understanding.

“It could mean a million things, I can just imagine a think tank thinking up [blue green infrastructure] and imagining it was great, but what does it mean to us.”

Female, Eco-reactive, Urban, 65+

Participants can infer the meaning of certain terms if the language is intuitive; for example, with ‘adaptation’. However, there are diverging interpretations. Some participants correctly interpret ‘adaptation’ as referring to changes made to better cope with the effects of climate change (with this interpretation considered to be more ‘pessimistic’). On the other hand, there are participants who believe that adaptation refers to behavioural changes made to proactively reduce environmental impact, such as switching to electric vehicles. This suggests that even where participants feel intuitive language is being used in certain terminology, it is not guaranteed that everyone shares the same interpretations from it.

Like net zero, participants tend not to relate these terms to their own behaviours or individual choices.

Rather than linking these terms to their own lives, participants tend to think about them in broader societal and political contexts.

This is likely driven by the familiarity that consumers have of these terms in the media, where they will often be situated in these wider contexts. This understanding can also be encouraged by the language used in these terms themselves. Participants feel ‘circular economy’ suggests images of something on a large, national scale, rather than something related to their own personal behaviours. Use of language such as ‘infrastructure’ or ‘economy’ similarly makes the research participants feel these terms refer to structures and processes that are more wide-ranging than their own individual daily behaviours.

“Economy means rather grand scale, chancellor of the exchequer type business... bigger than recycling.”

Male, Eco-reactive, Urban, 56-65

4. CONSUMER ENGAGEMENT WITH NET ZERO

KEY INSIGHTS



Everyday net zero behaviours that do not require much thought have become embedded within participants' routines, whatever their personal views on sustainability.



Participants who have a higher personal investment in net zero are more likely to consciously choose sustainable behaviours, even when faced with easier options.



Participants will consider making personal larger-scale investments, only if there are tangible benefits beyond contributing to net zero.

4.1 CURRENT CONSUMER BEHAVIOURS

Everyday net zero behaviours, such as recycling, have become embedded within participants' routines. This means that they are done regardless of participants' personal views on sustainability.

Across all participant groups, everyday net zero behaviours, like recycling and using public transport, are likely to be habitual, or considered social norms. These behaviours are considered accessible, low effort, and are unlikely to significantly alter routines. Participants' motivations are twofold: both behaving in a more ethical and responsible way, as well as benefitting more materially (for example, saving money on parking charges by walking) — though the emphasis placed on each motivation varies according to personal

priorities and attitudes towards climate change.

“Although I have a car, I would not drive into Glasgow or Edinburgh unless in exceptional circumstances. This is mainly because of parking costs and availability.”

Male, Eco-active, Urban, 65+

Participants who believe climate change is more of a problem for the future will engage in net zero behaviours in response to external pressures, such as regulations and expectations, rather than making changes solely motivated by environmental concerns. Participants who report higher levels of concern for the environment and commitment to sustainable behaviours will engage in net zero behaviours if they feel easily accessible. For example, choosing the “green” delivery option when shopping online, or buying food sourced locally when given the choice. However, these options

often overlap with other benefits for consumers, and participants in this research may have overemphasised the sustainable motivations behind behaviour due to this being the focus of the discussion.

“I buy pet food in bulk. It’s cheaper that way, and I don’t drive so I’m not having to travel out and get it. I notice with Zooplus there’s an option for a greener delivery, so you have to wait an extra day but its more environmentally friendly.”

Male, Eco-reactive, Suburban, 36-45

Behaviours that have become everyday due to social norms, such as recycling, are seen as easy wins for participants, not requiring much thought or change to their routines. They are also seen as expected, widely adopted, and therefore part of a tangible collective effort to lessen environmental impact. This contrasts with more difficult or lesser-known behaviours, which participants see as too much individual effort for too little collective reward. This includes water saving behaviours, like taking shorter showers. Participants feel that this would disrupt their daily routines and, because they do not see water conservation as a significant issue, do not perceive a reward in doing so.

“I have 3 smelly kids, I don’t bathe them every day so would struggle to do it less. I also have an incredible amount of washing. I bake and cook from scratch every day so have a full dishwasher every day and do a lot by hand.”

Female, Eco-active, Urban, 35-45

Participants who feel higher personal investment in net zero are more likely to consciously choose sustainable behaviours, even when faced with easier options.

Participants who report going out of their way to engage in sustainable behaviours, known in this research as eco-actives, are motivated by concerns about their consumption and an ethical commitment to sustainability. They report actively considering their behaviours and their potential environmental impact. For example, they may go out of their way to recycle items beyond paper and plastic packaging, such as electronics, or group individual purchases into one delivery. This willingness

to put in more effort reflects eco-actives’ belief in the importance of their contribution, and that even if most of the population has not adopted these behaviours, they have a personal duty to do so. For these participants, climate change is a top-of-mind concern that they see as a priority to personally address.

“I’m also conscious of my decisions, wearing more clothes, using a blanket heater instead of heating up the whole room. Knowing the fuel isn’t renewable we have to be conscious of our actions.”

Female, Eco-active, Rural, 55-65

On the other hand, participants who are less invested in the environment, known as eco-passives, are unlikely to believe small changes they make will have a big impact, or think they are worth sacrificing time, convenience or energy for. Even those who sit in the middle, eco-reactives, are unlikely to spend time considering the impact of their individual behaviours and searching out sustainable alternatives.

“I would like to only buy organic and more climate friendly options and would have gotten an EV solar panels or a heat pump already if I had unlimited funds. But, again, I feel like they would be a drop in the ocean of what’s actually needed.”

Female, Eco-reactive, Suburban, 55-65

Larger scale investments will be considered, only if there are tangible benefits beyond contributing to net zero.

All participants, regardless of attitudinal segment or other demographic variables, are currently reluctant to commit to larger-scale behaviour changes that are perceived to be more costly or more difficult to undertake, unless the benefits clearly outweigh the risks for them personally. This is the case particularly for behaviours that are reliant on public infrastructure, such as charging points for electric vehicles or more complex recycling schemes. These behaviours are dismissed out of hand by most participants, who see themselves as limited by circumstances beyond their control, which is felt to shift responsibility from them to other actors

such as government.

“If I could [get a heat pump] loan from a reputable source interest free, I would do everything I could. [Why?] Because I think I would save money in the long run, it would be better for the environment, and it would appeal to lots of people so I would know I would be doing something on a population scale, not just on an individual scale.”

Male, Eco-active, Rural, 44-55+

Some investments, even if technically possible and accessible, are simply felt to be too inconvenient or costly. For example, participants in rural locations feel online shopping is the best option for their circumstances and lifestyle. Any change to these habits would cause inconvenience that isn't felt to be justifiable. This is the case even for eco-active participants in rural locations, who do not see the need to make their lives exceedingly difficult to have a comparatively small impact.

“As I live in a rural area with not many shops I do a lot of online shopping. Someone living in a city has a lot of shops on their doorstep and doesn't have as much need for it.”

Female, Eco-active, Rural, 46-55

For those participants who have researched heat pumps and electric vehicles and the support avail-

able for them, they have often concluded that they are not worth the financial risk or inconvenience. When weighing up these changes, participants find that the potential reduction in environmental impact does not justify the investment.

“LPG gas boilers are a fraction of the cost of a heat pump and all the changes to radiators (even with grants).

In the recent energy crisis electric prices have doubled and standing charges trebled. LPG has risen 30% and the cost of tank rental stayed the same. In a rural location where I am this is the most cost effective solution and LPG is greener than natural gas and oil.”

Male, Eco-reactive, Rural, 46-55

Even eco-active participants are hesitant to take big steps to change behaviours in an irreversible way or adapt to behaviours that are seen as relatively recent, due to a perceived lack of support for changes that are seen as risky and/or inconvenient. Eco-passive and eco-reactives will only consider these changes if there are tangible benefits beyond contributing to net zero. Given the level of perceived risk and investment involved, participants would expect other incentives to make these changes; for example, financial support, or a guarantee of saving money in the long-term, by using less energy or not needing to replace a car frequently.



5. CONSUMER BARRIERS TO CHANGE

KEY INSIGHTS



Individual barriers to change include:

Participants valuing cost and convenience over environmental factors, strong existing consumption habits that are difficult to change, and a lack of accurate knowledge about newer net zero behaviours.



Social barriers to change include:

A lack of social norms for less visible net zero behaviours, eco-passive and eco-reactives not seeing sustainability as part of their identity, and participants' seeing other actors - like the government - as responsible for net zero changes.



Material barriers to change include:

Infrastructure limitations for rural/island communities, resistance to government regulations (such as low emission zones), and scepticism of new technology.

The Individual, Social, Material (ISM)⁴ model of behaviour is a framework developed by the Scottish Government that highlights three interacting factors which influence behaviour:

- **Individual factors** – which includes personal values, attitudes, beliefs, emotions, skills and habits.
- **Social factors** – which includes established norms, social networks, relationships, personal roles and identity.
- **Material factors** – which includes time and schedules, wider infrastructure, rules and regulations.

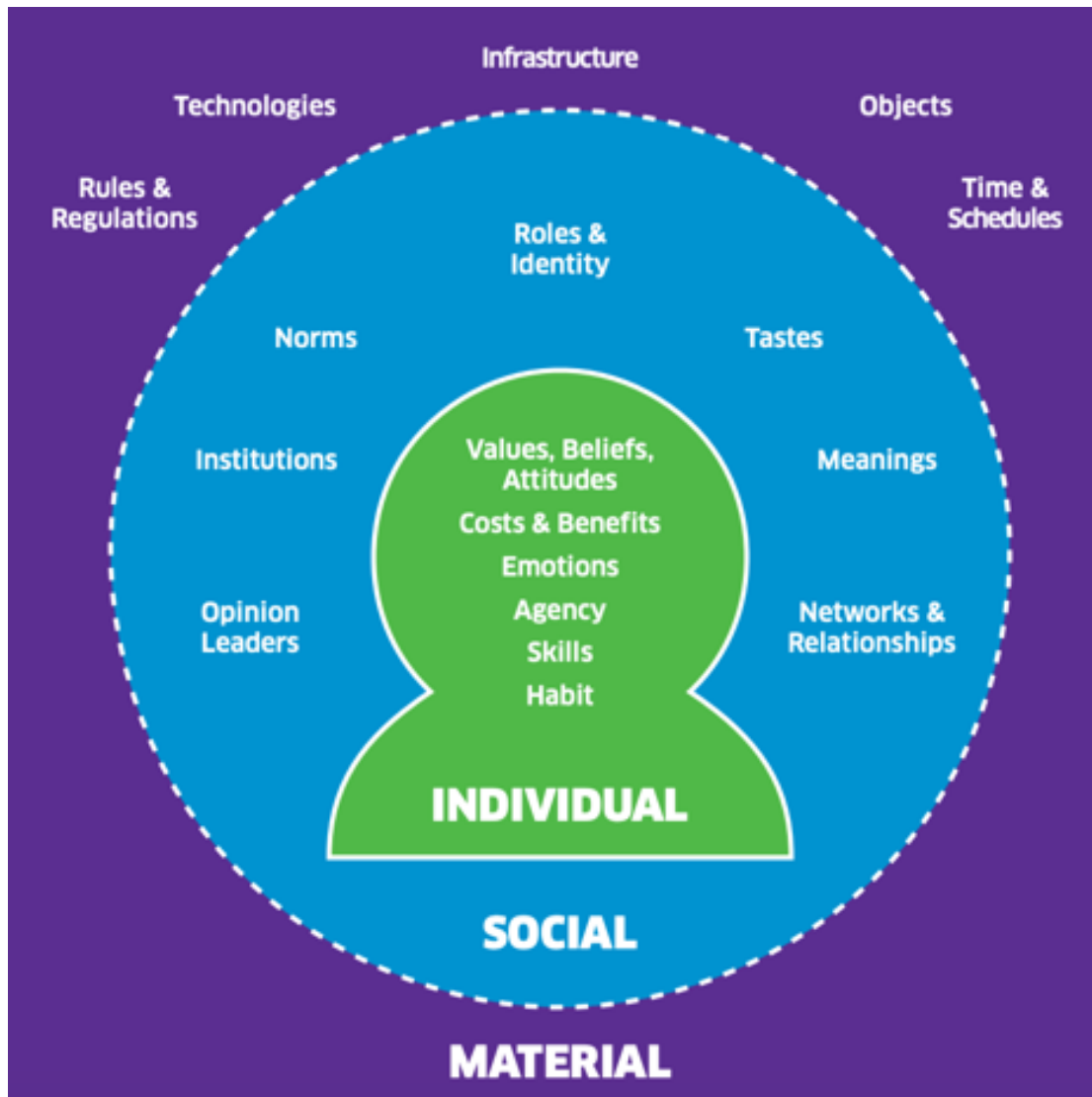
Using ISM encourages us to think more broadly about the range of factors that might be influencing consumer net zero behaviour - beyond just explicitly stated attitudes. By better understanding the context in which consumers are operating, we can

develop more effective 'multi-layered' interventions that address barriers across individual, social and material contexts.

This model is particularly helpful for exploring the full range of barriers that consumers experience in relation to net zero behaviours.

It should be noted that the Individual and Social elements are over-indexed in this report. This is unsurprising in research of this kind, as due to its qualitative nature, where participants are invited to share personal stories, feelings and experiences, we tend to see more insights that relate to participants' attitudes, beliefs, values and perceptions of others. Less emphasis on material elements perhaps indicates that participants are less aware of how external contexts influence their behaviour, a factor that should be considered when designing behaviour change interventions.

⁴ <https://www.gov.scot/publications/influencing-behaviours-moving-beyond-individual-user-guide-ism-tool/>



5.1 INDIVIDUAL FACTORS

Participants value convenience and cost above environmental factors when making consumption decisions.

Cost and convenience are generally the most valued factors for all participants across all five discussed topics, transport, online shopping, circular economy, water use and energy use:

- Cost is a factor in energy consumption, participants are mindful of usage due to concerns about escalating prices, with some claiming they would only consider alternative (low or zero carbon) energy systems if offered financial support.
- In transport, participants opt for affordable and readily available options, despite knowing the carbon implications — but cost can be second-

ary to convenience for consumers in rural areas, who particular emphasis on access to sustainable travel modes and ease of use.

- Convenience is also the primary motivator in circular economy behaviours, especially those that are seen as requiring more effort e.g. repairing broken items.
- While participants are open to adopting more sustainable shopping practices, like grouping parcel deliveries, they prioritise convenience above all else., though online shopping is seen as both cost effective and convenient.

“I’ve done click and collect before. Sometimes it works and is more convenient, but for me it’s what’s easiest that is the priority.”

Male, Eco-reactive, Urban, 18-35

Strong habits and existing routines dictate many everyday behaviours. Larger scale investments require conscious consideration, and often the costs are deemed to outweigh the benefits.

Regular transport behaviours are ingrained in daily routines, closely tied to family and work commitments, therefore making them difficult to change. Occasional journeys, however, are primarily assessed based on cost and convenience, rather than environmental concerns. For example, the decision to travel by plane, rather than train, due to cost-effectiveness:

“I need to rely on flights to go anywhere outside Glasgow because flights are the cheapest option! The train takes 10 hours and is £50+. I’d say price is a big factor.”

Male, Eco-passive, Urban, 36-45

Decisions about investing in ‘big ticket’ energy changes, such as clean heating systems, home insulation or electric vehicles, are made through conscious consideration, factoring in financial but also personal motivations.

“I would be prepared to make changes [to how I heat my home] if more financial assistance was given. I would also like a list of government verified tradesmen as when installing solar panels we encountered many problems with installation companies.”

Female, Eco-active, 36-45, Urban

However, these changes will only be made when the time is right, for example when upgrading a car anyway, renovating a house, or moving home.

“We’ve been doing some works.... when we stripped it all back, we got it insulated properly, I mean the difference has been night and day, and honestly it would make a huge difference to how much people use, but I know how expensive it is.”

Male, Eco-active, Rural, 44-55

Participants often lack accurate knowledge about the environmental impacts of less commonly discussed consumption behaviours.

Beyond some assumptions about potential carbon savings of online shopping, the participants in this research have not considered the link between online shopping and the environment. For example, there is some confusion about whether parcel deliveries are more or less sustainable than personally driving to the shops.

“I get Tesco deliveries here, it would cost me £10 in fuel, so you book a £1.50 delivery slot, it’s saving me a packet, it’s better for the environment and saves me 2/3 hours from my day. It’s one of the nice things you do for the environment but it’s a massive bonus for me.”

Male, Eco-active, Rural, 44-55

Although participants do associate small water saving behaviours like turning on the tap with the concept of water efficiency, they generally do not consider water conservation to be a significant issue in Scotland, citing regular rain.

“I didn’t realise water was the problem. Is water a problem?”

Male, Eco-reactive, Urban, 56-65

Some participants who have a garden or allotment mention that watering is probably the only time they actively consider water use, often if the weather has been warm.

“I’m a gardener as well so I do use the hoses sometimes, so I have thought about that... I have an allotment as well and get water butts in the rain for conserving it. But I don’t think about it a lot. I don’t think it’s a lot of water I use.”

Female, Eco-reactive, Urban, 56-65

5.2 SOCIAL FACTORS

Some net zero behaviours have well-established, widespread social norms. For other behaviours, like water consumption, social norms are less visible.

Circular economy behaviours, such as recycling, and to some extent minimising waste and using charity shops, are generally considered 'the right thing to do'. They are motivated by social expectation, and a sense of guilt or shame for behaving otherwise.

"Unfortunately, I think a lot of people are driven by what the media tells them, they don't want to feel guilty. We recycle because we've been told to for years and years."

Female, Eco-passive, Urban/rural, 56+

There is common consensus that behaviours like fly tipping and irresponsible waste disposal are socially unacceptable. Participants have an 'us versus them' mentality when referring to negative behaviours, highlighting a sense of social stigma.

"I think most people these days do make a conscious effort to recycle although I walk a lot with my dog and I'm always seeing waste being dumped. It's very upsetting. I hate seeing our beautiful countryside ruined by lazy people who can't dispose of their waste properly."

Female, Eco-active, Rural, 46-55

Social norms for transport and online shopping are influenced by location – with active and public transport normalised in city locations, whereas driving and greater online shopping is deemed normal and expected in rural and island locations. There is less social stigma around online shopping or traveling by car in these locations, as the reasons for doing so are felt to be unavoidable.

"Ask my family back on the Scottish island and I'd buy next to nothing compared to them, as I have easier access to more shops."

Female, Eco-passive, Urban, 26-35

Water use, however, is more personal. Consumption is determined by personal circumstances, such as

having a garden, or children. There is lower consideration or understanding of how others behave, for example there was wide variety in estimates of an average length of shower.

"I didn't even know a dishwasher was more efficient than doing it by hand... I thought I was being pretty good on that but maybe I'm not."

Male, Eco-passive, Urban, 36-45

For eco-reactives and eco-passives, the idea of sustainability or 'being green' doesn't tie into a core part of their identity, unlike eco-actives.

Eco-reactives and passives are unlikely to consider broader global, environmental, or social concerns in their daily decisions.

"You know the last thing I think of when I turn on my heating on is the impact on the energy crisis around the world."

Male, Eco-passive, Urban, 65+

Eco-actives are more conscious of the ethical implications of their consumption choices, and their behaviour is more in line with their 'green identity'. They are more likely to want to reduce their consumption in general, prioritise 'green' energy sources, and choose to shop locally from smaller retailers, over platforms like Amazon. This is also driven by moral and ethical concerns, such as worker conditions.

"I have been consciously trying to reduce my consumption and waste for the last 15 years or so. I generally am quite selective about purchases and like to take time to consider whether or not I really need items before purchasing. I have also been avoiding purchasing from Amazon for ethical reasons as I do not wish to give my money to a company that treats their workers so poorly."

Female, Eco-active, Urban, 56-65

5.3 MATERIAL FACTORS

Institutions, such as the Scottish Government and local authorities, are often used as scapegoats through which to express frustration and shift the blame.

Across all participants, there is a sense that governments aren't doing enough to help consumers meet net zero targets. Participants referred to both the UK Government and Scottish Government when discussing net zero policy, though more specific policy issues (e.g. providing sufficient help with clean energy systems) were seen as Scottish Government responsibility, and day-to-day issues tended to be seen as within local authorities' remit. Eco-passives in particular tend to harbour more distrust and cynicism about governing bodies, for example whether local authorities really recycle waste properly.

"I can't be sure but some people are disgruntled as apparently it all gets mixed up again anyway when the local authority disposes of it."

Female, Eco-passive, Urban, 35-44

Government initiatives that are designed to help consumers, such as offering free bus passes or energy grants, are often overshadowed by participants' negative expectations. For example, experiences of buses being unreliable or overcrowded, or difficulty understanding the complicated installation process for a heat pump.

In behavioural science, this is referred to as an 'attribution bias', when people make systematic errors when trying to find reasons for their own, or others' behaviours⁵. This can often have a self-serving motivation, to preserve a positive self-image. For instance, when someone chooses not to use public transport, they may attribute it not to their own preferences, but rather to the government's failure to provide a reliable or convenient service.

Infrastructural limitations create barriers that mean certain net zero behaviours are not possible or felt to be appropriate choices, even for the willing.

The ability to make changes to transport, shopping, and energy behaviours feels out of reach for those living in rural and island locations, limited by infrastructure, accessibility, and higher energy costs or limited options being available to them. Despite the willingness of participants to consider changing their behaviours, they experience limitations beyond their control.

"Public transport is almost non-existent in our local area. We would have to drive to the closest 'bus stop' which is around 5 miles away."

Male, Eco-reactive, Rural, 56-64

For the small number of participants who are interested, and financially able to consider heat pumps, a perception of a shortage of skilled labourers for installation can prevent this intention translating to action.

"There is a massive shortage of the specialist contractors needed to install things like air source heat pumps. There are a lot of people who will say it's not an effective way of heating your home, but that's because we don't have the work force to install it properly."

Male, Eco-active, Urban, 36-45

Government regulations and support do impact consumer behaviour, but can be met with some resistance.

Low emission zones (LEZ) and high parking charges in city centres are encouraging urban participants who are also car owners to consider public or active transport methods more. However, some older participants react unfavourably to this, feeling penalised and 'driven off the roads'.

"Scotland intends to demonise and penalise car users. They

5 Jones, E. E., & Harris, V. A. (1967). The attribution of attitudes. *Journal of Experimental Social Psychology*, 3(1), 1-24.

have already effectively abandoned road repair in Glasgow and have inflicted bus, cycle, and taxi routes on major roads... coupled with the increased costs... it is clear that the intention is to make car ownership unaffordable for all but the very wealthiest and most important in society."

Male, Eco-passive, Urban, 56-64.

While participants are aware that government support (e.g. grants or low-cost loans) for heat pumps and solar panels exist, they lack accurate knowledge about what they involve and how to go about applying, leading to expectations that these changes are still unaffordable.

"We have not done this and have no plans to do as it would be too expensive for us even with government grants."

Female, Eco-active, Rural, 26-35

Eco-passives are more sceptical of new technology, such as electric vehicles and clean energy.

Eco-passives are wary of the effectiveness of heat pumps, with concerns relating to a disconnect between government policies and people's lived experience.

"It's all very well people like the government telling [you] to change [your] heating, but you have to have the financial back up. In the real world its all about what real people can actually do... Also it's very different to the south of England,

you know there are decisions being made in Westminster, when really up here we have different requirements to down there."

Female, Eco-passive, Urban/rural, 65+

Electric vehicles, whilst appreciated in cities due to less petrol and diesel fumes, are met with reluctance from eco-passives who enjoy driving and wouldn't consider a change like this.

"I don't truly believe that electric cars are the best solution. I have a well-maintained old car. The average electric vehicle takes on average eight years to break even on the manufacturing emissions, so it's just a money maker as far as I'm concerned, but it looks like we're all being forced to go in that direction."

Male, Eco-passive, Urban, 36-45



6. OPPORTUNITIES FOR CHANGE

KEY INSIGHTS



Individual opportunities for change include:

Informational interventions, measures to boost consumer motivation, and increased affordability of net zero products and services.



Social opportunities for change include:

The normalisation of new net zero behaviours, and the use of trusted messengers.



Material opportunities for change include:

Raising knowledge of policies that support consumers transition to net zero and measures to improve infrastructure.

Using the ISM model enables us to view the full range of individual, social and material barriers experienced across the three eco-attitude groups. While the most nuance exists at the individual level, with vastly different attitudes about net zero and how to respond to it, there are some consistencies in how barriers are experienced by the different eco-attitude groups across the social and material levels. This suggests to us two things:

1. Positive eco-attitudes at the individual level aren't always necessary. Social factors (such as norms, networks and relationships) and material factors (such as infrastructure accessibility and the choice architecture of purchasing decisions) are a core determinant of net zero behaviour uptake.
2. Positive eco-attitudes aren't always sufficient - those who want to act may still face genuine and significant structural and everyday barriers, for example access to products and services in rural/island communities, or time or prioritisation challenges.

To explore the potential for behaviour change, we can again use ISM to systematically group individual, social, and material intervention opportunities. A consideration of these factors is presented below, and a longlist of intervention ideas from the co-creation workshop is presented in Appendix 7.3.

6.1 INDIVIDUAL LEVEL OPPORTUNITIES

Informational interventions

At surface level, many participants, particularly those who have high levels of concern about climate change who already report making sustainable changes in their day-to-day lives, express interest in receiving more information about the carbon impacts of their consumption behaviours. This information is mainly related to behaviours already associated with environmental impact – such as recycling and home energy investments.

“I’d like some clearer instructions on packaging regarding the recycling of it, I have noticed with some packaging it isn’t very clear what is recyclable and what isn’t and also how to recycle it.”

Male, Eco-active, Rural, 26-35

However, there is also scepticism about the effectiveness of informational interventions. Participants are conscious that there is already plenty of recycling information in existence. They also doubt whether people would be willing to make the extra effort to recycle, or if recycling is even properly processed by their local authority. There is also concern that recycling guidelines across Scotland would have to be standardised and remain the same for long enough for people to feel confident about them, for any recycling information campaigns to work.

Regarding environmental labelling as a specific informational intervention, eco-actives and eco-re-actives are most likely to view this idea positively. It is thought of as helpful for raising awareness about the carbon implications of regularly bought items.

“Maybe positive labelling rather than negative things, ‘this is a low carbon product’ that would encourage me to buy something rather than negative labelling. Because you’re wanting to make a positive impact.”

Female, Eco-active, Rural / island, 36-55

However, the consensus is that labelling interventions alone are unlikely to trigger sustained behaviour change. Participants express a view that this information could be ignored and misunderstood, or that it would make those who could not afford more sustainable products feel guilty, which would in turn deter them from engaging with it.

The wider conclusion we can draw around information provision is that participants don’t know what they don’t know. To highlight this, it is apparent that participants are not looking for more information about the impacts of online shopping, or water efficiency, as these are behavioural areas where environmental concerns are not top of mind. Participants tend to believe there there’s not much

more that they could be doing to behave sustainably within these areas. This suggests that relevant, timely and accessible information about these newer, or less frequently mentioned net zero behaviours, could be helpful to close the gap in awareness and concern. This would be more beneficial than simply providing more information across all categories for all groups, as we know that this doesn’t work in sustaining behaviour change.

Boosting consumer motivation

A central tenet of the behavioural science literature is that information rarely changes behaviour at the individual level, without associated motivation, and environmental facilitators (for example, systems and structures in place to make the desired behaviour easy and attractive to do).

A challenge that exists is the disparity between the perceived ease and impact of net zero behaviours. Participants in the online community ranked behaviours that were deemed to be easy (such as reducing shower time by two minutes, and repairing or recycling products), as having low impact. Whereas they ranked behaviours that were deemed to have a big impact, as being more difficult (such as changing home heating or using public transport).

This therefore suggests that, to trigger consumer behaviour change on a wider scale, there may be a need to increase motivation, by helping consumers realise the combined impact of smaller individual behaviours.

Increasing affordability of net zero products and services

We know from behavioural science research that sometimes objective evaluations of what people care about, and what they intend to do, don’t always translate to behaviour in practice⁶. For example, while cost might be expressed as a key determinant of choice in research settings (when participants are in a ‘cold’ state), behaviour in the moment, in real life (a ‘hot’ state) is subject to the influence of emotions, context and timing. This is referred to as

6 ElHaffar, G., Durif, F., & Dubé, L. (2020). Towards closing the attitude-intention-behavior gap in green consumption: A narrative review of the literature and an overview of future research directions. *Journal of cleaner production*, 275, 122556.

the hot-cold empathy gap⁷, the tendency to underestimate the impact of varying mental states on behaviour.

For routine behaviours, where decisions are made in the 'hot state', interventions focused on affordability might not work unless they are able to take into account contextual factors, emotional states and existing routines. For occasional behaviours or larger investments, which are more likely to be made in the 'cold state', with a considered cost-benefit analysis, there is greater potential for rational interventions. For example, energy decisions are likely to be based primarily on price, meaning that steps should be taken to ensure that the more sustainable option is framed as the more affordable, or having the best lifetime value.

6.2 SOCIAL LEVEL OPPORTUNITIES

Normalising new net zero behaviours

On a social level, to build a more environmentally conscious and sustainable culture, there is an opportunity to create positive social norms around the behaviours that are less commonly associated with net zero, for example online shopping or water efficiency. Role modelling desired behaviours through respected influencers, or creating a sense of 'emerging norms', that more and more people are behaving sustainably, could be avenues to explore in communications campaigns.

Considering messenger, as well as message

It is important however to be conscious of who the messenger is for information campaigns, given the distrust and scepticism surrounding the government for some participants.

“Most information comes from politicians, energy companies with vested interest and salespeople. I don't trust any of them. I would like to see an independent body (not linked with government etc) to make enforceable, difficult and pragmatic choices based on the conditions in Scotland.”

Male, Eco-reactive, Rural, 46-55

There is an opportunity for independent bodies, such as Consumer Scotland, to promote sustainable consumption and ensure that any strategies, campaigns or engagements are in the consumer interest, and don't unwittingly disadvantage consumers.

6.3 MATERIAL LEVEL OPPORTUNITIES

Policies and regulations

On a material level, while certain policies do exist to facilitate positive behaviour change, for example grants and low cost loans for heat pumps, it's clear that these aren't cutting through to participants doing enough, or aren't being communicated in a way that's compelling enough, for our research participants to actually take action on.

There is an opportunity for governments and other stakeholders to raise knowledge, and address misinformation about heat pumps, for example by helping consumers feel confident about the real and perceived costs, the installation process, and how to better able to spot scams.

“You seem to hear all the time about schemes that help you put in an air source heat pump, but when you dig in, it's really hard to find out what is a scam and what's legit. And I'm reasonably competent, it must be really hard for those not used to digging around through contractual information.”

Male, Eco-active, Rural/island, 36-55

Action at the material level also create the conditions where it's easier for consumers to make the most of these incentives, for example by signposting to approved suppliers and highlighting the key stages involved in installation.

Infrastructural change

A further example of opportunities at the infrastructural level is specifically related to participants in rural and island areas and those residing in less well-connected cities. These individuals find

⁷ Loewenstein, G. (2005). Hot-cold empathy gaps and medical decision making. *Health Psychology*, 24(4), S49-S56.

the lack of accessible public transport an obvious, significant and seemingly immovable barrier. To facilitate more sustainable travel in these locations, there needs to be better public transport infrastructure for this to even be considered as a viable travel option.

“I mean public transport would be huge, for a year we didn’t have a bus service. Even now it doesn’t go to the train station, so I think an integrated transport network would be amazing.”

Female, Eco-passive, Urban/rural, 56+.

In addition, infrastructure change will also be central to facilitating more sustainable online shopping, for example by setting up systems where grouped parcel deliveries and returns are the easiest option for consumers would require greater collection point accessibility, as well as communications to bring this to consumers’ attention.

6.4 CONCLUDING SUMMARY

The opportunities presented above only just scratch the surface of the full range of changes that would be needed to help consumers contribute to achieving net zero by 2045. At the individual level, while

informational interventions hold promise, we know that there are limits to the efficacy and stickability of such approaches. To be successful we must recognise the importance of making net zero behaviours feel relevant and motivating for consumers. As well as facilitating greater affordability and convenience of sustainable options. Socially, there’s a need to normalise new behaviours as shared social practices and consider trusted messengers for communication that facilitates individuals to think about taking action as a collective endeavour. Further, at the material level, government policies, regulatory arrangements and infrastructural changes create the conditions for an enabling environment that are vital cornerstones that will drive tangible and sustainable consumer shifts towards net zero.

Our research was able to build a nuanced view of consumers’ attitudes, needs, behaviours, barriers and drivers. While the research is not itself generalisable to the wider population, it nevertheless gives a detailed and nuanced insight into the participants attitudes and behaviours. In doing so it is overwhelmingly evident that for consumers in Scotland to be supported in making net zero behavioural changes, a one-size-fits-all approach will be unlikely to lead to sustained changes that last. The ask of consumers needs to be both relevant and reasonable in order to be credible.



7. APPENDIX

7.1 FULL SAMPLE BREAKDOWN

Category	Online community	Focus groups	Total
Gender			
Female	17	13	30
Male	13	14	27
Age			
18-25	5	5	10
26-35	5	4	9
36-45	6	4	10
46-55	5	6	11
56-65	7	4	11
65+	2	4	6
Location			
Rural	6	7	13
Urban/Suburban	18	16	34
Island communities	6	4	10
Income			
Low income	12	13	25
Middle income	11	6	17
High income	7	8	15
Employment			
Full time / part time	19	18	37
Not working	5	4	9
Student/Retired/House person	6	5	11
Housing tenure			
Rent privately	8	10	18
Social housing	10	3	13
Own	12	14	26
Ethnic Minority			
Minority ethnic background	5	1	6
Disability			
Disability / LTHC	6	7	13
Attitude towards climate change			
Eco-active	14	10	24
Eco-reactive	12	8	20
Eco-passive	4	9	13

7.2 DEEP DIVE INTO NET ZERO BEHAVIOURS

Consumer behaviours, as well as the motivations and factors that drive them, differ according to different behaviour areas. While cost and convenience tend to underpin all areas, some behaviours are also largely determined by infrastructure, such as energy systems and transport, while others, such as circular economy and online shopping behaviours rely on awareness and understanding that many consumers simply do not have.

This section outlines the various factors impacting each of the behaviour areas explored in this research in more detail.



7.2.1 Transport

The impact of transport on the environment is well understood, however choice of transport is more personally motivated – determined primarily by practical issues of convenience and cost.

Participants primarily decide their modes of travel based on convenience. Perceptions of convenience are driven by availability and reliability, meaning cars are seen as most convenient for a wide range of lifestyles and needs due to the flexibility and autonomy they offer, particularly for those with mobility issues or who often need to transport shopping or people. In contrast, there is a general perception of public transport as increasingly unreliable where it is available, and unavailable in some areas, particularly urban ones. Infrastructure underpins convenience, acting as a barrier where it is insufficient. Owning an electric vehicle is also seen as inconvenient, even by eco-active participants, due to a lack of charging points.

Cost is also considered when weighing up different modes of transport. Participants who have public

transport available to them assess how expensive it is compared to running a car, taking into account fuel, insurance, parking, opting for the cheaper option when not too inconvenient. Participants similarly weigh up costs when buying cars, with the primary barrier to seriously considering electric vehicles being their perceived high cost.

To a lesser extent, personal enjoyment also plays a role in transport behaviours. For example, participants who use active travel tend to be more active anyway, seeing this as another way of fitting exercise into their routine.

Concerns about safety did not come up spontaneously, and the creation of safer active travel networks and cycle routes was not a front-of-mind factor in consumers' day-to-day transport decisions.

In general, participants feel they travel in a similar way to others in their location and circumstances, especially considering everyone's reliance on the same shared infrastructure. Across all eco-attitude groups, they do not feel there are any major feasible changes that could be made to their routines.



7.2.2 Online shopping

Environmental concerns are unlikely to be top of mind, as they are not mentioned as a factor influencing participants' choice to shop online, and most feel it is a matter of convenience and accessibility.

Online shopping behaviours are driven by accessibility and availability of products locally, with participants often looking online for variety and a wider range of options. This is particularly the case for those living in rural / island locations or in areas with limited local high street options, especially for buying clothes. However, even urban participants

are in consensus that the selection online tends to be broader, as well as providing additional benefits in terms of cost and convenience.

Ordering online is seen as more efficient, especially for people who are time-poor, as browsing online is less time consuming than travelling to the shops and browsing in person. Online shopping offers the ability to have items delivered directly to the home or to be picked up at a location that suits them, as well as to buy items in bulk and reduce time spent replacing them as needed. This allows them to more easily fit shopping around their routine and makes it a much smoother experience than going to the shops, where items may be out of stock (and ordering them directly online is usually faster than ordering them to the shop).

Participants also see online shopping as a way to save money, for example by ordering in bulk, being able to more easily compare costs, or simply by taking advantage of free deliveries and returns. Participants weigh up the additional shipping costs against fuel costs (if driving to the shops) and find shopping online is more cost-effective. This is particularly the case if participants are driving to the shops rather than taking public transport and is a bigger concern for participants living further away from shops, such as those in rural or island locations.

“There is limited choice in Wick and Thurso. The distances are fairly substantial to get to them, it’s £10 in fuel to get there and back. So an online delivery, many of which are free delivery, it’s a bit of a no brainer really.”

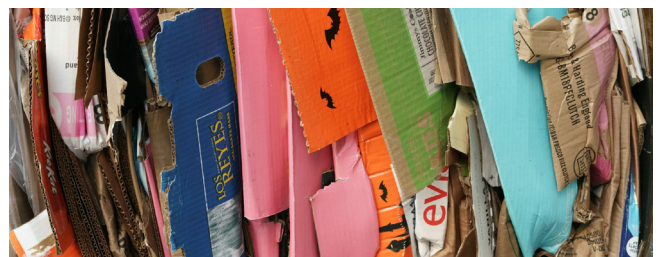
Female, Eco-active, Rural, 46-55

Those with higher awareness of the potential environmental impact of online shopping are conscious of how they shop online, but most participants are unaware of what counts as sustainable behaviour in this space.

Eco-active and some eco-reactive participants, who have higher awareness of the environmental impact of online shopping, report choosing greener delivery options (such as grouping deliveries) when available, or using click and collect / drop off points for deliveries. However, even these participants

express uncertainty about the positive impact of such behaviours, questioning whether these small changes really make much difference. While these behaviours are chosen when presented as an equal option, most do not see the environment as a top-of-mind concern when shopping online.

Participants assume that online shopping is inherently more sustainable than multiple people making individual trips to the shops, as it means fewer vehicles on the road. They are unaware of other ways to make online shopping more sustainable, such as by grouping deliveries (for example when retailers, like Amazon, provide options to group ordered items into as few deliveries as possible, rather than simple shipping items as soon as they become available). This suggests that participants do not know what sustainable online shopping behaviour would look like. When these options are presented online, they are often unexplained and participants are uncertain about the positive impact choosing them would have, leading to some reluctance to opt in to them without more information.



7.2.3 Circular economy

Recycling, reusing and buying second-hand are considered very normal commonplace behaviours, and participants claim that they don’t know what more they could do to reduce their environmental impact.

Recycling tends to be the most routine behaviour that participants do. While seen as primarily driven by environmental concerns overall, on an individual level it is approached by most as a social norm that everyone is expected to carry out. Participants recycle despite having some misgivings about its impact, for example suspicions that it won’t have much impact or mistrust of local authorities. The basic infrastructure is in place, making recycling an easy behaviour that does not require too much

effort from participants, making it easy for even eco-passive participants to do.

Re-using items and buying second-hand are also not new to participants. However, in both cases, they are more likely to be driven by cost concerns than a commitment to sustainable behaviour, with participants aiming to maximise value for money rather than to reduce waste (for example buying easily repaired items “to last”). Even when these behaviours are a regular part of participants’ lifestyle / routine, environmental concerns are not front-of-mind, and waste is not a consideration when purchasing products.

Eco-actives are motivated by a desire for mindful consumption rather than active concern about waste disposal, when faced with barriers to re-using or buying second-hand items, they are unlikely to spend time considering alternatives that might require more effort. For example, they might give up on green behaviours such as return posting specific waste items and buying second-hand electronics if they are seen as too time-consuming or complex, without worrying much about the waste produced.

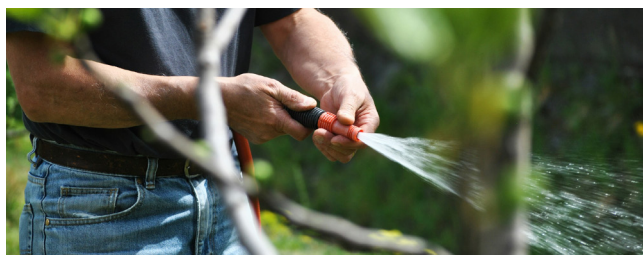
While the more achievable green behaviours are routine and almost all participants engage in them, making an additional effort is seen as difficult due to lack of information and inconvenience.

Participants who recycle paper and plastic report not knowing what else can be recycled and how, and not making the effort to search for this information themselves — though some who have found that guidelines are inconsistent, leading to more confusion. There is a sense that sorting through different materials to correctly identify what can be recycled and how is time-consuming and not worth the investment, especially from those who recycle as a social norm rather than due to an active commitment to net zero. Participants broadly tend to be aware of the need to visit recycling centres for some items, which for eco-reactives and eco-passives feels like an inconvenience with little pay off. Similarly, re-using and repairing old and broken items is judged to be less efficient than simply replacing them, especially when buying new items is cheaper than paying to get them repaired, and a lot faster than learning how to repair or re-purpose them at

home.

Participants believe they are already fairly conscientious about their waste and make an effort where they can, not seeing the need for further effort.

The routine nature of these behaviours means most participants feel they - and the people around them - are already behaving sustainably. Participants of all eco-attitudes think everyone is broadly “doing the right thing”, though eco-actives in particular are likely to assume that while they and their social circle are sustainable, “people” more widely might not do these behaviours. Visible evidence of unsustainable waste disposal such as fly-tipping or litter reinforce these beliefs, while reassuring consumers that they are being more careful about their waste that others are.



7.2.4 Water efficiency

Participants generally do not consider water conservation to be a significant issue in Scotland, citing regular rain. They also do not believe their current water usage to be wasteful, and are unsure as to how it could be reduced.

Water consumption is habitual and tied to daily routines, with participants only considering it through the lens of necessity. Participants see water use as an unavoidable part of daily routines and family life, regardless of their level of water consumption or efficiency. Their use is driven by needs and habit, rather than any consideration — or even awareness — of the need to use water efficiently. Concerns about cost were not mentioned as a factor driving water efficiency. This might be because most participants’ water bills are included with their council tax and so do not fluctuate according to use.

Participants are unaware of any potential impact on the environment their water use could have. Although there is a general consciousness to take minor steps to avoid wastage, such as turning off taps when brushing teeth, this tends to be driven by a vague awareness of the need for mindful consumption and unexamined sense of responsibility to not waste water. They assume that water is plentiful in Scotland due to regular rain — with many expressing incredulity that it could be an issue that needs to be addressed — and so do not consciously think about their day-to-day water behaviours beyond small habits such as turning off taps.

Water scarcity does not feel like a personal concern, meaning most are currently unlikely going to be prepared to change their behaviour, particularly eco-passive and eco-reactive consumers who don't believe their current water usage is at all wasteful. The lack of current awareness or concern means consumers are highly unlikely to seek out information about water efficiency or to see it as relevant to them or Scotland generally.



7.2.5 Energy

Energy behaviours are largely driven by cost and ability to implement the changes, particularly whether someone is or is not a homeowner.

Eco-actives report actively trying to reduce their energy consumption through small everyday behaviours such as switching off lights when leaving a room or using energy saving lightbulbs, with most motivated by a desire to reduce costs. Though some participants acknowledge the environmental benefits of behaviours that minimise energy use, this is seen as secondary to primary concerns about cost.

Bigger decisions about switching to alternative

energy sources are also primarily driven by cost, both upfront installation costs and the short and long-term pay off of any investment via heating costs. For participants who report looking into installing heat pumps, they are often deterred by the investment needed, despite awareness of grants and lowcost loans that could offer support (though some thought they were sufficient). This is paired with an assumption by some that their bills are also likely to increase due to inefficiency of clean heating systems compared to gas boilers, as well as awareness from a few of the need for other home adaptations to maximise value, for example investing in insulation alongside heat pumps.

Where cost is not felt to be a significant factor, participants report being hampered by an inability to implement the changes they would like (due to not being a homeowner) or poor quality of information about the process. Participants who sought out quotes or assessments for heat pumps reported that online information felt biased and in-person information was uninformed. This led to a reluctance to make these changes due to a high level of perceived risk involved. Where information is lacking or seen as untrustworthy, participants are likely to rely on assumptions or word-of-mouth, with negative experiences being granted salience in the absence of concrete reassurance. Lack of trust in providers and a sense that there are not enough well-trained engineers is compounded by the perceived novelty of this technology. Participants see installing heat pumps in particular as a big financial and life change with little certainty about the outcome. This decision is therefore high risk, and more likely to be put off.

For a small number of middle-high income participants for whom cost is not as prohibitive a concern, energy usage is driven in large part by considerations of personal comfort. For example, feeling like they have to keep their house a certain temperature for dependents or other more vulnerable household members, such as their children or elderly parents. This can be seen as a necessity that does not outweigh concerns about cost or the environment. Eco-passives on the other hand simply lack eco-motivations for changing their behaviours, emphasising personal comfort, especially if cost isn't a concern, and expressing reluctance to change

their behaviours if it inconveniences them.

There is little spontaneous focus from participants on other clean heating systems or energy-saving measures that could be taken, such as installing solar panels or insulating homes.

7.3 INTERVENTION IDEAS LONGLIST

A co-creation workshop, involving members of the Thinks research team and Consumer Scotland project team, was held at the beginning of April 2024.

The aim of this session was to use the ISM model to collaboratively develop behaviourally informed recommendations that could drive meaningful and sustained changes in consumer behaviour – at both an individual, social and material level. Following the session, Thinks Behavioural team refined and developed the workshop output to produce a longlist of intervention ideas.

These ideas are intended to be Thinks’ suggestions for Consumer Scotland to consider taking forward if they are deemed appropriate to be pursued internally or recommended to others.

ONLINE SHOPPING		
Barrier	Behavioural Opportunity	Intervention Idea
Habits to choose the quickest delivery option	Defaults We tend to go with the flow of pre-selected options ¹ .	Changing the choice architecture of online shopping platforms to prompt consumers towards more sustainable shopping behaviours, e.g: <ul style="list-style-type: none"> ▪ Most environmentally friendly delivery option is the default ▪ Pop ups suggesting they buy in store after entering their address if product is locally available, and with any savings if relevant. ▪ Show how many other shoppers ordered the item with sustainable delivery
Lack of knowledge about the impacts of deliveries	Framing People react differently to information depending on how it is presented ² .	Communications campaign to raise awareness of the carbon cost of online shopping (e.g. creative showing the “carbon cost” of product/ delivery option alongside the actual cost at checkout.)
Lack of social norms around delivery collection	Social norms Our decisions are strongly influenced by the behaviour of others ³ .	Community delivery days <ul style="list-style-type: none"> ▪ Limits the amount of time delivery vans are present ▪ Creates sense of community ▪ Makes it clear if anyone is getting deliveries outside of the community day. Work with providers to hold back deliveries days for all non-urgent goods.
Lack of awareness about more sustainable options	Salience Information that is noticeable or relevant draws most of our attention ⁴ .	Highlight local collection points including messages from others stating why they like to use the service.

1 Goldstein, D. G., Johnson, E. J., Herrmann, A., & Heitmann, M. (2008). Nudge your customers toward better choices. *Harvard Business Review*, 86(12), 99-105.

2 Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American psychologist*, 39(4), 341.

3 Croson, R. & Shang (2011). Social influence in giving field experiments in public radio.

4 Bordalo, P., Gennaioli, N., & Shleifer, A. (2013). Salience and consumer choice. *Journal of Political Economy*, 121(5), 803-843.

Lack of collection convenience	Ease We prefer actions that don't make us work hard ⁵ .	Increase the availability of collection points – for example, local parcel lockers on each street, community/retail park lockers
Ease with which to overbuy	Friction Obstacles that increase the effort required to perform a task will make them less likely to be completed ⁶ .	Develop policies that limit excessive delivery <ul style="list-style-type: none"> Remove free delivery to reduce overconsumption – set minimum requirements for businesses Cap unlimited next day deliveries

ENERGY		
Barrier	Behavioural Opportunity	Intervention Idea
Lack of consumer motivation to change	Framing People react differently to information depending on how it is presented ⁷ .	Communications campaign / or working with energy providers to frame large investments, such as heat pumps, in terms of cost savings and performance, rather than environmental impact.
Lack of consumer knowledge and awareness	Concreteness We process words with solid, unambiguous meanings easier than abstract words ⁸ .	Provide more accessible and reliable information to consumers regarding support for heating/energy transitions. Raise awareness of government grants, using easy to understand and specific comparisons.
Lack of time / lack of consumer priority to invest	Timely moments A prompt at the time of behaviour is an effective way to promote change ⁹ .	Target consumers with information and support about larger home heating changes at timely moments. For example when they are moving house, or having building work.
Lack of consumer confidence about suppliers and the process for installation	Enablement Facilitating opportunity, capability and motivation to promote behaviour change ¹⁰ .	Encourage technological advancements so that installing heat pumps is as simple as installing a gas boiler. Signpost reliable service providers.

5 Unkelbach, C. (2006). The learned interpretation of cognitive fluency. *Psychological Science*, 17(4), 339-345.

6 Domurat, R., Menashe, I., & Yin, W. (2021). The role of behavioral frictions in health insurance marketplace enrollment and risk: Evidence from a field experiment. *American Economic Review*, 111(5), 1549-1574.

7 Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American psychologist*, 39(4), 341.

8 Monnier, A. & Thomas, M. (2022) Experiential and Analytical Price Evaluations: How Experiential Product Description Affects Prices. *Journal of Consumer Research*.

9 Bhamra, T., Lilley, D., & Tang, T. (2011). Design for sustainable behaviour: Using products to change consumer behaviour. *The Design Journal*, 14(4), 427-445.

10 Michie, S., Atkins, L., & West, R. (2014). *The behaviour change wheel. A guide to designing interventions*. 1st ed. Great Britain: Silverback Publishing, 1003, 1010.

CIRCULAR ECONOMY

Barrier	Behavioural Opportunity	Intervention Idea
Lack of consumer knowledge about the impacts of consumption behaviours	Framing People react differently to information depending on how it is presented ¹¹ .	Increase consumer knowledge about their consumption and waste disposal decisions. For example: <ul style="list-style-type: none"> ▪ Labelling 'green' products in an accessible way, e.g. equivalent to trees saved. ▪ Clearer information on recycling & reusing on things that are seen as hard to recycle, such as furniture or electronics.
Buying second hand is not the norm	Social norms Our decisions are strongly influenced by the behaviour of others ¹² .	Communications and influencer campaigns to normalise the reuse and purchase of second-hand clothing, as well as renting clothing options.
Infrastructural limitations	Environmental restructuring Changing the environment to boost opportunities ¹³ .	Increasing local authorities' capacity to recycle wider range of items. Or encouraging local production and manufacturing e.g., 3D printing if financially feasible.
Encouragement of excessive purchasing	Friction Obstacles that increase the effort required to perform a task will make them less likely to be completed ¹⁴ .	Changing policies to limit food waste – for example investigating the impacts of 'buy one get one free' offers, and if they lead to more food waste, considering switching to 50% off discounts instead.
Inability to align packaging recycling instructions with localised standards	Cognitive Ease We prefer actions that don't make us work hard ¹⁵ .	Create unified and consistent recycling standards across Scotland.
Lack of consumer motivation to recycle	Incentives Our behaviour can be driven by extrinsic rewards ¹⁶ .	Explore further the viability of bottle deposit return schemes – where monetary rewards are provided for returning used items.

11 Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American psychologist*, 39(4), 341.

12 Croson, R. & Shang (2011). Social influence in giving field experiments in public radio.

13 Michie, S., Atkins, L., & West, R. (2014). *The behaviour change wheel. A guide to designing interventions*. 1st ed. Great Britain: Silverback Publishing, 1003, 1010.

14 Domurat, R., Menashe, I., & Yin, W. (2021). The role of behavioural frictions in health insurance marketplace enrolment and risk: Evidence from a field experiment. *American Economic Review*, 111(5), 1549-1574.

15 Unkelbach, C. (2006). The learned interpretation of cognitive fluency. *Psychological Science*, 17(4), 339-345.

16 Adams, J., Giles, E. L., McColl, E., & Sniehotta, F. F. (2014). Carrots, sticks and health behaviours: a framework for documenting the complexity of financial incentive interventions to change health behaviours. *Health psychology review*, 8(3), 286-295.

TRANSPORT

Barrier	Behavioural Opportunity	Intervention Idea
Consumer inconvenience	Environmental restructuring Changing the environment to boost opportunities ¹⁷ .	Create policies to: <ul style="list-style-type: none"> ▪ Improve electric vehicle charging infrastructure (e.g. make chargers easy to use, same kinds of leads, predictable spots to charge, etc.). ▪ Encourage in-city active travel, e.g. cycle lanes, pedestrianising, etc. ▪ Focus on joining up infrastructure, e.g. public transport and active travel
Lack of consumer awareness	Social norms Our decisions are strongly influenced by the behaviour of others. ¹⁸	Communications campaigns that celebrate new transport norms e.g, publicising success stories of electric buses to normalise electric vehicles.

WATER

Barrier	Behavioural Opportunity	Intervention Idea
Lack of consumer awareness and motivation	Saliency Information that is noticeable or relevant draws most of our attention ¹⁹ .	Awareness raising campaign providing information on making more sustainable choices in areas that consumers are not aware there are opportunities to do so. For example more information on water saving opportunities such water butts and benefits of a dishwasher.

17 Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American psychologist*, 39(4), 341.

18 Croson, R. & Shang (2011). Social influence in giving field experiments in public radio.

19 Bordalo, P., Gennaioli, N., & Shleifer, A. (2013). Saliency and consumer choice. *Journal of Political Economy*, 121(5), 803-843.

