Citizen Engagement on the Environment

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Executive Summary

Introduction

The environmental threats and challenges facing the UK are wide ranging and include climate change, air pollution, soil and water degradation, threats to biodiversity and waste. The Government has committed to tackling these issues and reversing environmental decline. Their response includes drafting the first Environment Bill in 20 years and publication of the 25 Year Environment Plan, which sets out clear and ambitious targets for improving the environment.

Implementing these policies and achieving targets will require support and action from the public. Insights into public attitudes, values, and behaviours, as well as how the public might balance benefits and trade-offs, are therefore imperative. Furthermore, the Government is committed to a holistic approach to environmental policy making and recognises that public participation and engagement are crucial to solving complex environmental problems.

It is in this context that The Department for Environment, Food and Rural Affairs (DEFRA) commissioned the National Centre for Social Research (NatCen) and a consortium of expert partners[1] to deliver a two-year project titled Citizen Engagement on the Environment (CEE). The project combined a review of the existing evidence with a series of citizen engagement events to explore and understand citizens' views and priorities in relation to the environment. In doing so the study sought to answer three specific research questions:

- **In what ways do publics conceptualise and attach value to the environment?**
- **What are the factors influencing public attitudes to environmental issues?**
- **What are the different ways publics can engage with environmental issues and policy making?**

The approach

To answer these questions the project took an evidence review and qualitative approach using a range of methods across two key phases of data collection. The first phase of the project was focused on scoping and gathering evidence: we conducted a Rapid Evidence Assessment (REA) that systematically explored both public attitudes on the environment and approaches to public engagement on environmental issues.

The second phase included a programme of dialogue-based public engagement events designed to collect robust data from a diverse range of citizens on environmental attitudes, values, and priorities. The following took place:

- Three in-person and two virtual Distributed Dialogues involving 1500 members of the public; and
- Three in-person Public Dialogues and one virtual summary workshop involving 86 members of the public.

[1] National Coordinating Centre for Public Engagement, Involve, Natural History Consortium, Incredible Oceans, Marine Biological Association.

These two different citizen engagement methods were chosen to enable depth and breadth in terms of the issues explored and the people engaged in doing so.

Summary of findings

This report presents the findings from the Public and Distributed Dialogue events which sought to explore and understand citizens' values and priorities, their visions for the future, and how these could be achieved. This summary focuses on the range of priorities people had for the environment, highlights the factors underpinning these, and concludes with describing participants' hopes for the environment looking towards 2045.

Environmental values and priorities

Both the Public and Distributed Dialogues invited people to share what mattered to them about the environment – their key priorities – through which insight was also gathered on underlying values. A range of data collection activities were used, including asking participants at the Public Dialogue workshops to bring along an object representing something they cared about and taking part in a range of sensory and game-based activities in some of the Distributed Dialogues.

Participants in all our fieldwork demonstrated awareness of a wide range of environmental issues and had a strong sense of current threats to the environment. Particular priorities emerged in the Public Dialogues **on clean air and water, protecting ecosystems and natural spaces, and reducing waste and carbon emissions**. There were also a range of cross-cutting issues that were important to the public:

- **Seeing the environment as valuable:** both in its own right (intrinsic value) and for the benefits it provides (functional value), including tangible services, such as air and water, and less tangible benefits for mental health and wellbeing.
- **Environmental threats**: participants were highly aware of threats to the environment and viewed the environment through a 'harm reduction' lens. Their specific concerns revolved around many of the issues included in the 25 YEP, such as clean air, water, and waste reduction. The latter was a prominent issue which arose across the dialogues and featured in many of the objects brought along to the Public Dialogue workshops (plastic bottles, alternatives to plastic). Discussions about issues such as biosecurity were more exceptional, perhaps reflecting the technical nature of the topic.
- **Changes in the environment, such as weather patterns and climate change**: participants reflected on changes that they had experienced in their lifetime, as well as extreme weather events that were current at a range of spatial scales, such as wildfires (happening in Australia at the time) and flooding (recently affecting Hull).
- **Solutions** to the issues identified were high on participants' agenda**. Education** was considered a top priority, as it was seen to be an effective way of addressing the public's attitudes and behaviour.

Underpinning all the priorities expressed was concern about the future and the impact of environmental damage on future generations.

Factors influencing environmental priorities

In addition to understanding what mattered to people, the project sought to explore the factors underpinning participants' priorities for the environment. Views on the

environment were situated in the context of the individual, wider society and the material environment (i.e. physical objects, resources, and spaces).

At the level of the individual, personal beliefs, values, and experiences informed priorities in different ways:

- Competing worldviews on the environment (ecocentrism vs anthropocentrism) were evident, especially in relation to policy areas which involved difficult trade-offs, such as housing development.
- The belief that humans were responsible for protecting the environment and failing to do so drove recognition of the need for change.
- Social attitudes and beliefs about equality and social justice were fundamentally intertwined with participants' views on the environment, underpinning the view that there should be equal access to clean air and green space.
- Personal experiences, and the ways in which the environment featured in people's everyday lives served as a filter for how participants saw the environment. As has been established in previous research, there was evidence that people prioritised issues that were "closer" or more visible. Priorities were often related to participants' identity, with occupations having a strong bearing on what was important or of concern.

Priorities were also deeply rooted in the **social and material realms**.

The visibility of environmental issues, which depended on geographic location, shaped what was discussed at the dialogues. At the Public Dialogues, this manifested itself in discussions about recent flooding in Hull which had affected participants personally. At Chesterfield and London, participants expressed views about the development of housing on green spaces which were seen to be pertinent local issues.

Participants also spoke of the importance of more "distant" issues and aspects of the environment that did not directly affect them. They saw the environment as interconnected and global, in some cases due to the knowledge that they had acquired at the event or through the media.

Social norms and culturally constructed ideas underpinned what participants felt to be important. The strong focus on plastic waste for example, can be explained by social norms on sustainability - there was collective dislike of waste and what was described as an increasingly throwaway society. Culturally constructed ideas of the environment can also explain why participants associated the environment with beauty and cleanliness and were thus concerned about issues like pollution which threatened this ideal.

Visions for the future

The dialogues invited participants to reflect on the future, by developing visions for 2045 (Public Dialogues) or responding to pre-formulated scenarios (Distributed Dialogues).

In the Public Dialogues, participants chose policy areas from which to develop visions, which covered many of the areas of the 25YEP. These cut across four themes:

- *Public awareness and education*: these visions emphasised the importance of lifelong environmental education. There was a total of three visions on education, which had in common the goal to use education as a tool to stimulate long-term changes in environmental attitudes and behaviours.
- *Sustainability and preservation*: there was a specific focus on reducing waste at all three workshop locations, reflecting concerns about an increasingly convenience driven and wasteful society.

- *Mitigating/reducing undesirable changes in the environment:* the focus of these visions was at the household level, in terms of cause (household emissions contributing to climate change) and impact (of flooding on residents in affected areas).
- *Environmental quality*: Several visions related to improving and maintaining quality of different aspects of the environment, including water, air, and green spaces. These visions were underpinned by a belief in the importance of equal access to a high-quality environment.

In the Distributed Dialogues, participants were given scenarios to explore 'future utopias'. Several key themes emerged from the discussions:

- *Co-existence between people and nature*: having green spaces integrated into their city, through re-wilding and green design, for example.
- *Participatory decision-making:* participants wanted to see decentralised forms of governance on responding to environmental issues and referred to citizens' assemblies as a way of achieving this.
- *Community living:* for example, community sharing and borrowing schemes to cut down on waste.
- *Sustainability*: low carbon transport, renewable energy sources and transition towards a circular economy.

Achieving change

The dialogues also sought to understand participants' suggestions for how changes might be achieved. The Government was felt to be responsible for taking a leading role, but participants also placed value on holistic decision-making and the involvement of a range of actors.

At the Public Dialogues, participants were presented with a selection of tools (policy levers) available to the government in the context of environmental policy making. People discussed how effective they perceived them to be as well as their view that some were 'harder' and some 'softer' in generating change. There was a tendency for groups to focus on introducing 'soft' policy levers initially, and subsequently introduce 'harder' levers if change did not occur.

Out of the options discussed, legislation was perceived to be the most effective tool for ensuring behavioural change, particularly as it could be targeted and enforced. Voluntary agreements and policy statements, on the other hand, were seen as less concrete. The pros and cons of financial policy levers were also discussed, with participants considering it to be fair to tax individuals or companies who contributed to environmental damage. Infrastructure was seen as important for enabling new technologies, such as electric cars.

Conclusions

This research has sought to understand the public's environmental attitudes, values, and priorities and how they could be involved in informing environmental policy making and implementation in the future. It has also explored perspectives on who might need to act and how to achieve change on the environmental issues identified. Whilst we wanted to ensure we could explore public views across the range of goals set out in the 25YEP, we started our work in most cases from participants' own priorities. Their discussions and deliberations demonstrated several interlinked agendas between environmental topic areas or themes, which in turn relate to a range of specific policy agendas. This means that in many cases the work has illuminated what people think on specific aspects of the environment, alongside a more cross-cutting set of issues of the factors that influence how people think about environmental policy and decision making.

The specific areas of policy the public thought most important were **clean air and water, protecting ecosystems and natural spaces, and reducing waste and carbon emissions**. The similarities between these priorities and 25YEP goal areas suggests that the government and public views share some alignment.

Our evidence suggests the need for increased attention to how messages, choices and interventions can be differentiated across publics. We have captured a range of factors that drive attitudes and beliefs and think bringing these together through work that can segment groups further on cultural values lines would be promising. What was also clear is that there is appetite for government to drive change at a systemic level and make use of a range of policy levers with key stakeholders. We also learned that localising and contextualising issues to support changes in awareness will be important as well as mobilising 'action' rather than 'concern' frames in giving agency to citizens to change behaviour.

In taking next steps in addressing public priorities for the environment, the areas that have been identified by our research may be good next candidates for future engagement. We think it is important to invest in public participation that might vary in breadth, time, and cost as a means of identifying public attitudes on specific policy areas and to ensure diverse perspectives in decision making. Designating specific policy options or pathways for such engagement will be helpful in exploring public perceptions and feasibility of future choices.

1 Introduction

1.1 Background

The Government has committed itself to an ambitious environmental agenda in its 25 Year Environment Plan (25YEP)[2], with a vision to 'help the natural world regain and retain good health'. Based on this work, the Government has also drafted its first Environment Bill in 20 years[3]. These actions come at a moment in time when the UK also leaves the EU and gains more direct responsibilities for environmental policy. This context therefore provides rich opportunities to reshape policies on a host of environmental issues – including agriculture, land use, biodiversity, woodlands, marine conservation, fisheries, pesticides, chemicals regulation, animal welfare, habitat management, waste, water purity, air quality and others.

This is also a moment in time when the Covid-19 pandemic continues to have significant implications for the context of people's lives and their relationship with the environment. In July 2020, within six months of the first government restrictions, almost half of the population said they were spending more time outside than before Covid-19 and 45% reported that visiting green spaces has been even more important to their wellbeing[4]. As Quéré et al (2020)[5] note, government policies (globally) during the Covid-19 pandemic have drastically altered patterns of energy demand around the world particularly in transport and consumption, with as much as a 17% decrease in daily global CO_2 emissions by April 2020 (compared with the mean 2019 levels). The same authors suggest government actions and economic incentives post-crisis will likely influence the global CO_2 emissions path for decades.

Developing environmental policy in this context is a complex task. Policy makers must navigate between scientific evidence, economic concerns, political pressure, local, national, and international law and policy, and the concerns and interests of diverse groups of stakeholders to find policy solutions to complex and urgent issues.

However, there are also opportunities here that would benefit from direct engagement with a range of stakeholders, including citizens, in navigating these challenges. In order to inform and achieve the Government's objectives, policy development, implementation and delivery will also require good understanding of public attitudes, values, and behaviours. Public participation, when done well, can help with achieving the goals of the 25YEP in several ways.

It can help to build trust between the public and decision makers, contribute to solving complex problems, introduce innovation and diverse perspectives, improve public understanding of how policy gets made, and encourage active citizenship beyond those who traditionally engage with decision making on environmental issues.

In recent years, public participation in UK policy making has led to an increase in spaces that allow policy makers and citizens to come together in a range of ways. This has included expert panels, consultations, online engagement, and forms of shared governance. Notably, in 2020, the UK Parliament commissioned a Citizens' Assembly

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/"-year-environment-plan.pdf
[3] https://www.gov.uk/government/publications/environment-bill-2020
[4] https://www.gov.uk/government/statistics/the-people-and-nature-survey-for-england-monthly-interim-indicators-for-july-2020-experimental-statistics/the-people-and-nature-survey-for-england-monthly-interim-indicators-for-july-2020-experimental-statistics#the-role-of-green-and-natural-spaces-for-health-and-wellbeing
[5] https://www.nature.com/articles/s41558-020-0797-x#citeas

on Climate Change that brought a section of the public together to discuss how the UK can reduce greenhouse gas emissions to net zero by 2050 and a similar assembly also began in Scotland[6]. This activity also represents an important shift in improving the quality of decision making and trust in public institutions and as Fox and Stoett (2016) identify, top-down translation, without widespread public input, can lead to policies that disregard local priorities and specific contexts. Forms of public participation can support not just policy development but also be valuable in mediating policy controversies (see for example, Walker et al. 2018). They also offer the opportunity to understand how the public can or want to be involved in related decision making.

In environmental policy making (see Berry et al. 2019; Devine-Wright 2005; Eden 1996; Fischer 2000 for useful summaries), particular reliance on scientific experts as vital sources of evidence can obscure other considerations from public debate, such as accountability, equity and other values. Participatory processes can also mobilise non-scientific perspectives on issues that can offer social legitimacy to policy decisions (Fischer 2000). The UK National Ecosystem Assessment (NEA) and NEA Follow On study are both important examples of this. The NEA's 'naturally speaking' Public Dialogue[7] made it clear that pluralistic forms of evidence should be used to inform future management of UK ecosystems. The National Ecosystem Assessment Follow On work has produced a novel 'balance sheet' approach to work with evidence in policy processes; allowing for the incorporation of a range of analyses that consider the impacts of policy choices at different spatial scales[8].

In line with this context, this report shares the findings of a project that sought to put citizen engagement at the center of exploring citizen's attitudes, values, and priorities with reference to the scope of the 25YEP and to reflect further on what potential there could be for an ongoing or gradually expanding programme of citizen engagement in future implementation.

Accompanied by a range of analogous terms and practices, including both citizen and public engagement – the terms we have adopted for our project, it is important to recognise that different approaches reflect different circumstances and possibilities for engagement – from consultation to co-production. They can also be delineated by whether the engagement is being used as a tool to inform policy or in developing data/research evidence. We deal further with these distinctions and uses in a separate briefing[9].

1.2 Citizen Engagement on the Environment

Citizen Engagement on the Environment (CEE) has been a two-year project of research and citizen engagement commissioned by Defra to respond to this context; to understand the public's environmental attitudes, values, and priorities and how they could be involved in informing environmental policy making and implementation in the future. To do so, the programme combined a review of the existing evidence in these domains with a series of citizen engagement events (see Figure 1.1 for a summary of the main stages of the programme) to answer three overarching research questions[10]:

1. **In what ways do publics conceptualise and attach value to the environment?**
2. **What are the factors influencing public attitudes to environmental issues?**
3. **What are the different ways publics can engage with environmental issues and policy making?**

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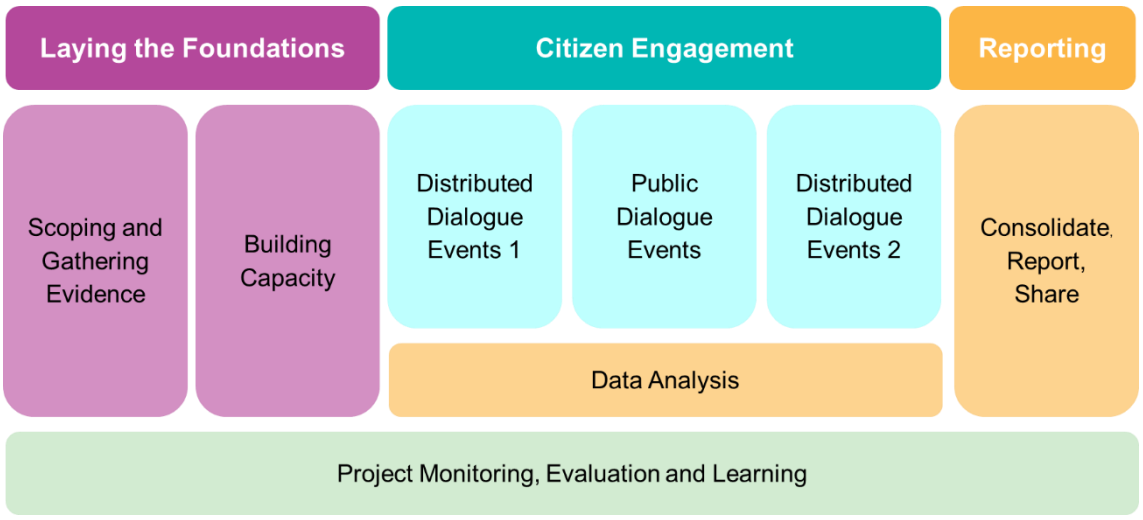
[6] See: https://www.climateassembly.uk/; https://www.climateassembly.scot/
[7] https://valuing-nature.net/sites/default/files/documents/NEA_Dialogue_Final_Report_final.pdf
[8] http://uknea.unep-wcmc.org/LinkClick.aspx?fileticket=5L6%2Fu%2B%2FrKKA%3D&tabid=82
[9] Available at: http://sciencesearch.defra.gov.uk
[10] See Appendix A for full list of research questions

A fourth line of enquiry exploring where citizens saw responsibility for change to sit, as well as how people see the role of government, and the extent to which they are prepared to change their own behaviours was introduced for the citizen engagement phase.

Figure 1.1: The CEE programme (2018-2020)



The scoping review was designed to examine evidence related to our initial three research questions by conducting a Rapid Evidence Assessment. This was supplemented with wider literature provided by our expert partnership on some of the points that emerged. This stage was also intended to help us identify any priorities for the environmental issues we would explore in the engagement phase. To further assist this, we also ran two questions on the NatCen Panel in February/March 2019[11].

The review demonstrated that the public have a broad understanding of the environment and did not highlight individual topic areas that would benefit from further qualitative exploration over others. On this basis our subsequent work has taken a flexible approach to which issues were the subject of our fieldwork, but we did plan for topics to correspond the 10 goals of the 25YEP:

1. Clean air
2. Clean and plentiful water
3. Thriving plants and wildlife
4. Reducing the risk of harm from environmental hazards
5. Using resources from nature more sustainably and efficiently
6. Enhancing beauty, heritage, and engagement with the natural environment
7. Mitigating and adapting to climate change
8. Minimising waste
9. Managing exposure to chemicals
10. Enhancing biosecurity

The review also indicated two important implications for our fieldwork. The first was that in the exploration of a broad set of topics, it would be useful to explore cross-cutting questions about policy levers – tools that government and its agencies have at their

[11] The NatCen Panel is a research panel of nearly 4,000 people in Britain, recruited via the British Social Attitudes survey, using a random probability sampling method. One question asked the public to prioritise three environmental issues they considered most important and one question asked them to what extent they thought different actors – including government and business – took their views into account when making decisions about the environment. The results of this survey are reported on in the scoping report, available here: http://sciencesearch.defra.gov.uk/Default.aspx?Module=More&Location=None&ProjectID=20061

disposal to direct, manage and shape changes in policy measures - and tradeoffs that are relevant to the implementation of the 25YEP. For example:

- what should government do vs other actors?
- how ambitious should government be?
- how do people feel about market mechanisms vs regulation?
- what are priority areas for investment vs other policy areas?

These were then incorporated into the content of our planned engagements.

The review also underlined the value of designing deliberations to begin with local issues where possible and including the provision of a variety of sources of information with an interest to test how these are received and interpreted.

In addition to the scoping review, the project has also led to the production of two further documents: (1) A practical guide – aimed at policy makers and commissioners – to engaging citizens in environmental policy, (2) a summary evaluation report which explores how effective our project has been at capturing public insight and the impact of the project on everyone involved[12].

1.3 Format of this report

This report focuses on the findings from the citizen engagement phase of this project which involved:

- building capacity with 48 environmental experts (practitioners and policy makers) on public engagement
- three in-person and one virtual Public Dialogues involving 86 members of the public
- three in-person and two virtual Distributed Dialogues involving 1500 members of the public.[13]

The reporting of qualitative findings deliberately avoids giving numerical values, since qualitative research cannot support numerical analysis. This is because purposive sampling seeks to achieve range and diversity among sample members rather than to build a statistically representative sample, and because the questioning methods used are designed to explore issues in depth within individual contexts rather than to generate data analysed numerically (Chapter 2 provides a detailed summary of the methodology used in this study). Verbatim quotes, drawn from across our participants, are used to illuminate findings. Quotes are designated by event type and location. Further information is not given in order to protect the anonymity of research participants.

Whilst the programme of engagement carried out for this research varied in design, the process of reporting these findings has enabled us to look across the results in relation to our research aims and provide a reflection on the purpose and potential of our different approaches in engaging publics.

The report begins with a detailed citizen engagement methodology and we have included various appendices with further detail on sampling and event content.

[12] These are available at: http://sciencesearch.defra.gov.uk

[13] This figure represents the total number of people who took part in event activities and from whom we captured data. The footfall of the public who visited face to face events associated with the project was 12,800.

Chapter 3 offers a descriptive overview of what mattered to participants about the environment and the types of issues they wanted to prioritise for discussion. This is followed by a chapter exploring the factors that influenced their choices.

Chapter 5 presents the detail of visions participants created for selected environmental issues towards 2045 as well as what they thought was necessary to get there. It also explores how participants approached the trade-offs and tensions presented by these visions.

We conclude by considering the implications of this evidence for our key research questions, including what this means for how government and others might act to respond to citizens' views. We also consider the impact of deliberative approaches on participants' experiences and the utility of dialogue-based approaches for future policy relevant work.

2 Citizen Engagement Methodology

Approaches to citizen engagement with policy issues that use deliberation and dialogue are well suited to issues that are complex, contentious, moral, and/or constitutional. Most environmental issues will fall under at least one of those and such approaches can produce a number of benefits for decision makers. One of these is that the opinions of participants after taking part in deliberation are typically considered judgements that they held prior; therefore decision-makers can trust them as systematically thought-through. Deliberation also encourages people to think in a less self-interested way and can help them become more informed about how public institutions work, improving trust. There are also a range of methods that can be selected that vary in scale of participation, timescale, budget, and geographic spread as well as being valuable at different stages in a policy cycle.

The qualitative research presented in this report has made use of two different citizen engagement methods chosen to enable depth and breadth in terms of the issues explored and the people engaged in doing so.

A **Distributed Dialogue** is a decentralised approach to deliberation with the aim to develop dispersed ongoing, embedded discussions around a given policy issue. A Distributed Dialogue approach is based on the idea that complex issues need to involve a range of conversations that happen in different spaces. It therefore entails several dialogue events organised by interested parties (rather than centrally planned), which are held across different geographical areas and, potentially, through a range of different media including on-line forums. This is intended to give multiple entry points for citizens and other stakeholders to take part. While the overarching policy questions are the same, the groups or individuals organising dialogues enjoy a high degree of autonomy over who is involved.

The final sample is unlikely to be reflective of the wider community because groups are self-selecting. However, the aim is to involve a diverse range of perspectives[14].

Public Dialogue provides in-depth insight into the views, concerns and aspirations of citizens. It is a process during which members of the public, recruited to be reflective of the wider population, interact with subject matter specialists, stakeholders, and policy makers to deliberate over a relatively extended period of time on issues which are often complex or controversial. Public Dialogue is mainly conducted through a series of workshops over the course of at least two days. Often workshops are held in different parts of the country. They normally follow the same broad outline. They start by providing participants with an opportunity to learn from and engage with specialists and policy makers about the key issues under discussion. Participants then have an opportunity to deliberate about the implications of what they have heard, before deliberating over the key policy implications of this discussion.

Participants normally are not asked to deliver specific recommendations, but rather invited to explore their informed reactions to the questions which are posed to them.

[14] Whilst we designed our project on these formats, our eventual delivery also reflected a further approach - pop-up democracy - that refers to the use of temporary, site-specific installations that provide opportunities for increased local political and civic participation (e.g. pop-up libraries and museums; activist spaces; pop-up food stalls etc.). The Covid-19 pandemic meant we could not repeat or continue our original intentions with these dialogues. Further details of these changes are explored further in this chapter.

The use of Public Dialogues is well established – particularly on science and technology issues[15], giving us confidence that it would be an effective design for our research aims, particularly in generating depth of views. Distributed Dialogues are less established but offer an innovative opportunity to examine whether larger scale, but shorter, dialogue-based engagements could generate robust insight into people's views and perspectives, holding promise for future use.

These methods both rely on expert input to support participants to learn about the issues under discussion or design activities they can participate in. We took a dual approach to finding those experts who attended our events. The first was a short programme of Public Engagement training that was offered to a range of academic, policy and third sector participants working in a wide variety of environmental areas. The training supported these experts to design activities that could be used in the first set of Distributed Dialogues and a selection of experts from each training attended in person to deliver them. We also worked through the networks of our partnership and Defra and Natural England colleagues to identify people who could attend the Public Dialogues. The nature of expert input here was more tailored and topics pre-determined (to ensure coverage of the 25YEP and to offer further detail of policy levers and their use).

2.1 Fieldwork Overview

The aim of our proposed programme of citizen engagement events was to ensure we collected robust data from a diverse range of citizen perspectives on environmental attitudes, values, and priorities.

We planned to deliver:

- four Public Dialogues (PDs) involving up to 30 people each across England which would culminate in a fifth workshop of representatives from each of the prior dialogues to consider the findings alongside policy and research colleagues.
- six Distributed Dialogue events (DDs), delivered across two rounds, involving up to 900 people.

Our first consideration was how to use the strengths of each of our selected methods to inform a sampling strategy[16] that would incorporate:

- different locations in England that would provide a mix of environmental areas to situate our Public Dialogues
- a range of demographics reflective of the general population[17]
- an emphasis in some events on groups from the general population that we know are less likely to engage with the environment. For example, people living in areas of urban deprivation and ethnic minority groups[18]
- the opportunity to hold some events in, or close to, natural spaces.

With the onset of the Covid-19 pandemic in March 2020, we had to make some changes to our original plans. We discuss the nature of these changes in the sections that follow but the net result on our plans was the delivery of:

[15] See: https://sciencewise.org.uk/. A public dialogue was also used as part of the NEA.
[16] Full sample details can be found in Appendix B.
[17] We selected: age, sex, ethnicity, qualification level and whether somebody had children or not.
[18] https://www.gov.uk/government/collections/monitor-of-engagement-with-the-natural-environment-survey-purpose-and-results

- three in-person Public Dialogues and one virtual summary workshop involving 86 members of the public
- three in-person events in 2019 and two virtual Distributed Dialogues in 2020, involving 1500 members of the public[19]

Figure 2.1 summarises how we implemented our sampling strategy across fieldwork.

Figure 2.1: Engagement Events

	Events	Target Group
2019	Distributed Dialogues R1	
	Bristol	Young people
	Liverpool	Ethnic minority groups
	Plymouth	Urban deprived
2020	Public Dialogues	
	London	General public – urban/suburban
	Hull	General public - coastal/farming/fishing
	Chesterfield	General public – market town/national park/moorland
	Final online workshops	Representatives from previous PDs
	Distributed Dialogues R2	
	Two Virtual Workshops	General public - online

The locations chosen for the PDs offered us variation in geographical characteristics to ensure we were drawing participants located in proximity to different environmental landscapes. This also allowed participants to talk about local issues and contexts. We were aiming for a representative demographic sample of the public across Public Dialogues. However, these demographics are not evenly distributed across England – with some areas likely to have higher or lower populations of key groups. Rather than recreate a profile in each workshop, we instead sought for workshops to be reflective of their local region or area and set quotas accordingly. This meant we could achieve a cumulatively representative sample across all workshops.

The locations for DDs were chosen because they were places in which existing festivals or events were being delivered by our expert partners and had demographic reach likely to attract our key target groups.

2.1.1 Citizen Engagement Delivery

Public engagement training

We began in April and May 2019 with a programme of public engagement training – a capacity building opportunity for 48 people, predominantly drawn from academic and practitioner networks[20]. 42 of these subsequently went on to join our Distributed Dialogue events to support their delivery. These environmental experts received training in effective public engagement techniques in either Bristol, Liverpool, or Plymouth on a two-day programme.

[19] This figure represents the total number of people who took part in event activities and from whom we captured data. The footfall of the public who visited face to face events associated with the project was 12,800.

[20] Including attendees from Defra, Natural England, the Environment Agency, academia and third sector organisations.

Built on a tried and tested approach[21], core elements of the training included:

- awareness of the intersection between environmental research, policy, and practice,
- the roles that different stakeholder communities play in public engagement and policymaking and
- how to create engaging activities and effective dialogue around environmental issues

Experts also developed data collection tools and plans to support the capture of public views from participation in their activities which they would use at Distributed Dialogue events (see Appendix C for examples). As the training was delivered sequentially to each event, feedback on content and the experience of experts at each was fed into each subsequent training.

Distributed Dialogues 1

This activity was followed by the first round of Distributed Dialogues, which were delivered at three public events in June and September 2019. The aim of the Distributed Dialogues was to capture the opinions, values and priorities of audiences who are typically less engaged with the environment, namely young people, ethnic minority groups, and urban deprived publics.

Bristol and the Festival of Nature: The Natural History Consortium ran the first event as part of the Festival of Nature. Five different teams of trained experts ran activities on topics including plastics, landscapes, and wildlife. The festival had around 9,800 visitors to the area of the event where the NHC's engagement activities were taking place.

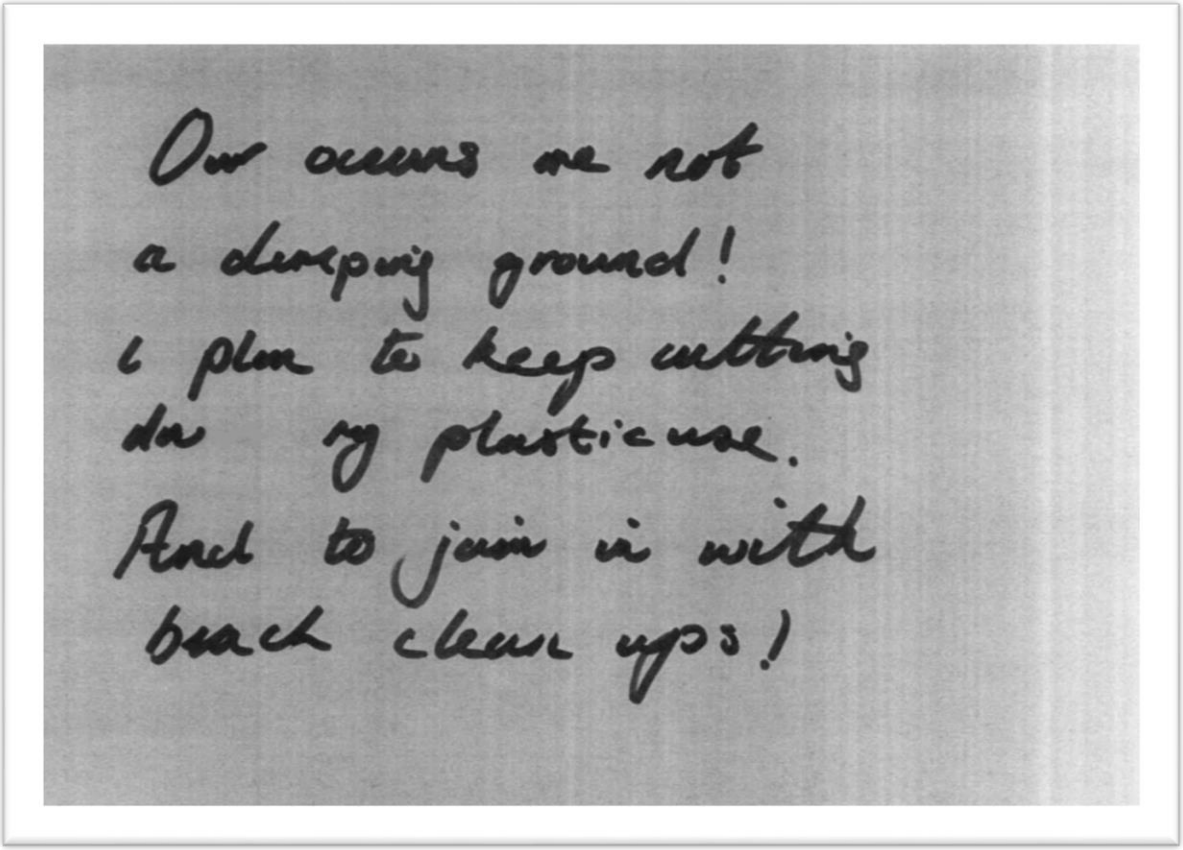
In **Bristol,** 400 people took part in a range of sensory and game-based activities, mostly aimed at children. The activities asked participants to learn about and engage with different aspects of nature (e.g. landscapes, habitats, wildlife) through a range of sensory, artistic, and game based exercises.

For example, people were invited to draw a farmer and discuss on what their perception and knowledge of farming was based. In doing so, attendees highlighted the importance of soil, farmland, and urban green spaces for both commercial and individual production of food.

[21] After being developed in 2014 for the UCL Policy Commission on the Communication of Climate Science, this training has been refined to engage citizens on environmental issues through being delivered many times in a range of contexts, including doctoral training partnerships of the Natural and Environmental Research Council (NERC), two NERC Engaging Environments projects (one focussing on climate change and one on the marine environment), and in a training programme in co-production practices for flood experts.

Liverpool and the Africa Oye Festival: Incredible Oceans delivered the second event in Liverpool, which was held at the Africa Oye Festival – the UKs largest free celebration of African music and culture**.** Topics covered included plastic pollution, recycling of plastics and rivers. Incredible Oceans and experts were able to engage approximately 2,500 people over two days.

In **Liverpool**, over 800 people got involved in a range of educational and practical activities centered on rivers, plastic, beaches and responsibility for environmental priorities. For example, in one activity, participants were invited to write personal pledges and urges to government about their local river (the River Mersey) and about the future of the planet in general. As the pledge below reads: '*Our oceans are not a dumping ground! I plan to keep cutting down my plastic use. And to join in with beach clean ups!'.* In another activity participants were invited to take part in a 'mini beach clean' and to share their thoughts on how issues of plastic pollution can be tackled.



Plymouth and the BioBlitz event: The Marine Biological Association held their engagement activities at the BioBlitz event in Plymouth. Topics covered included marine environment, plastic pollution, and ecosystems. Across two days, there were approximately 300 registered attendees to the event.

In **Plymouth,** there were a number of educational, practical and sensory activities centered on the sea and plastic. In similar fashion to the Liverpool event, participants were asked to: engage in 'beachcombing' exercises; share their thoughts on who should be responsible for tackling plastic pollution; reflect on what the sea means to them; and comment on how they thought the sea should be looked after.

People were also invited to create an ecosystem beneath the waves in order to reflect on what was important about good ocean health.

Through the activities described above it was possible to collect data about participants' perceptions of the environment – including what they like about the environment and which aspects of the environment they engage most with. It was also possible to gather some data about who participants thought should be responsible for environmental problems and how such problems should be addressed.

At each event, participants were not pre-selected but rather free to engage in the data collection and with consent have that information shared with the research team. Whilst in this first round, data on demographics of participants and that available from the content of the exercises varied. It is worth mentioning that as data collection for each activity was often limited to one simple format (e.g. tally voting, sticky note comments, children's drawings), the findings are not as extensive or in depth as they were for later rounds of dialogue. We based analysis on data from around 1,500 respondents which we thematically analysed against our research aims. Around a quarter of these responses were captured through more dialogic means, with the remainder the result of a tally or creative approach with short explanatory text.

Public Dialogues

The Public Dialogues were used to allow for in depth exploration of environmental views and visions for the future, as well as how those visions might be achieved. Our three dialogues were held in London (n=28), Hull (n=29), and Chesterfield (n=29) in February and March 2020.

Table 2.2 below shows the profile of participants who attended, as well as screening questions on beliefs about climate science, any professional or activist background on environmental matters and interest level in environmental issues. We sought to screen out anybody who held the opinion that the world's climate is not changing to avoid introducing a dynamic to the workshops where this might become the subject of the debate. Responses to the other questions were used to ensure we recruited people with general levels of knowledge about environmental issues and varying levels of interest in order to have a range of perspectives present.

Table 2.2: Profile of participants at Public Dialogues

		Location of event		
Sampling characteristics		London	Hull	Chesterfield
Age	18-29:	12	3	5
	30-49:	9	9	2
	50-69:	9	10	4
	70+:	3	6	4
Ethnicity	White British:	9	25**	9**
	Black British:	10		
	British Asian:	5		
	White European:	1		
	Mixed:	3	1	2
	Asian:	5	2	4
Gender	Female:	17	14	9
	Male:	16	14	6
Highest Qualification	Above GCSE:	18	13	11
	At/below GCSE:	15	15	4
Children*	No:	18	15	10
	Yes:	15	0	18
Total		33	15	28
Screening questions		London	Hull	Chesterfield
Do you think the world's climate is changing?				
Definitely changing:		28	8	17
Probably changing:		5	7	10
Definitely not changing [screen out]:		0	0	0
Don't know:		0	0	0
Refusal:		0	0	1
How interested are you in environmental issues that the government is trying to tackle?				
A little:		10	9	11
A lot:		13	1	12
Not much:		10	5	5
Have you ever personally worked on environmental matters?				
Yes:		0	0	0
No:		33	15	28

*If participants identified as having children (any age).
**Labelled as 'white' only.

A fourth PD was scheduled to take place in Kendal, to be followed by a fifth event in Manchester, drawing a sample of up to 30 participants from the previous sessions together with wider policy stakeholders to consider the findings and form shared conclusions.

These plans were impacted by the government guidelines on social distancing with the onset of the Covid-19 pandemic. At this point in our study (mid-March 2020) we had delivered three of the four planned Public Dialogues, with preparation for the final workshop and the remaining Distributed Dialogues in development.

In discussion with Defra we took the opportunity to explore whether we could adapt our approach to moving the remaining fieldwork online. We thought this would be a positive way to take advantage of the increase in use of online communication to connect with others and a way to introduce different engagement techniques to our programme of work.

Whilst this meant moving the final PD workshop online, we also decided not to proceed with the fourth planned PD. A number of considerations informed this choice: one was to minimise impact on the project timeline by trying to re-schedule the fourth event which was already booked and planned, as well as the costs associated with recruitment and researcher time to do so. We also thought we would encounter comparability issues with PDs delivered in-person and one online, not least because the delivery of an online PD would likely mean breaking up workshops into shorter sessions which might also impact feasibility of participation.

Workshop Overview[22]

Face to face Public Dialogues were two days long and held on a weekend. They used a mixture of plenary, small group discussions and expert informant input to explore the following questions:

- what aspects of the environment do participants value?
- what are participants' visons, futures, and priorities for the environment?
- how do participants value and prioritise the environment in relation to other policy areas?
- what do participants take into account when they respond to the trade-offs and tensions in environmental policy making, and between environmental issues and other priorities?

We invited expert informants from relevant policy and topic areas to give a series of short presentations on the goals in the 25 Year Environmental Plan and explain the policy levers government might use in future implementation[23]. These presentations were followed by a question-and-answer session. These informants were then available on both days to answer participant queries as they discussed their views and priorities in small groups and to answer questions as they developed their visions.

Day 1

Participants were asked prior to the workshops to bring an object or image along with them that represented what they valued or what mattered to them about the environment. This was the starting point for the dialogues, and we wanted them to begin by exploring their own relationship to environmental issues.

The first section of Day 1 involved sharing objects with each other and inviting responses. A summary of these objects and themes are given in Chapter 3. These discussions were carried on in small groups to further explore what mattered to people about what they and others had brought.

Following this was an introduction to the 25 Year Environmental Plan through a short presentation by an informant. This was intended to introduce participants to the goals and environmental issues the plan covered.

The second half of Day 1 was dedicated to helping participants define their environmental priorities. They heard from informants about the 10 goals in the 25YEP and then spent time in small groups exploring their thoughts on these areas and why they might be important to them and others.

By the end of the day, participants had been asked to come up with a list of the priorities they thought were the most important to continue discussing further. These areas were to form the topics for the visions participants were asked to create on Day 2. Suggestions were collated across groups and a vote was taken in a plenary session to select up to five subject areas[24].

Day 2

The focus on Day 2 was to create visions for the future in selected topic areas and hear about steps that could be taken by government and others towards achieving these sorts of environmental goals and changes. This included an informant presentation on policy levers, which participants were then invited to share their views and impressions on. This helped participants have some sense of what government could do to improve the environment through the use of these tools.

Following this, participants selected one of the top voted priority areas from the previous day to spend the remaining time working up into a vision for 2045. They were

[22] The agenda for workshops can be found in Appendix D.
[23] A list of expert informants to the Public Dialogues can be found in Appendix B.
[24] Details of these visions is the subject of Chapter 5.

given a template to help frame their deliberations which set out core areas of consideration to help them identify challenges, key actors, and policy solutions to achieve the change they had identified (see Appendix E). As on Day 1, informants were on hand to answer questions – for example on the possible limits of a particular policy lever to ensure their ideas stayed realistic.

Before the workshops concluded, participants were also invited to express an interest in being involved in the final workshop (which at the point of dialogue delivery was set to be in Manchester in May 2020). We were seeking 7 or 8 people per workshop, and where more than that volunteered, the group voted for who they wanted to attend to represent them.

Final Workshop

This section of fieldwork finished with a final – online – workshop that was designed to provide participants with the opportunity to hear about the headline findings and visions from each place and share these with policy stakeholders.

With the move to online, we faced recruitment and design changes. We re-contacted those previous participants who had agreed to come to the workshop to share this change in plan. It was important to explain what technology and internet access would be needed to participate as well as the change in format. Some of our participants were less enthusiastic about this online shift and in a few cases did not have the right technology or confidence to participate in this way. Some had also simply changed their minds about further participation since we originally asked. We had thought the move to online held potential for making it easier for some people to now participate, as for example they did not have to factor in a long journey, but we still had to consider how we could include those who were still keen to participate with a limited technological set up. For example, ensuring we could post hard copies of presentations and materials ahead of time for those who had devices with small screens (e.g. mobile phones).

We went back out to our reserve list of participants in cases where we had withdrawals and 23 people from the face-to-face workshops attended the final event alongside seven policy people (from Defra, BEIS and Natural England). Table 2.3 shows the breakdown of participants by location and demographic characteristics:

Table 2.3: Profile of participants in final online workshop

Criteria		Totals
Face-to-face workshop location	London Hull Chesterfield	10 7 6
Age	18-29: 30-49: 50-69: 70+:	10 5 8
Ethnicity	White British: Black British: British Asian: White European: Mixed: Asian:	8 3 2 10
Gender	Female: Male:	10 13
Total		23

In terms of design, we took the decision to split what was originally a one-day session into 1.5 days, one week apart. We anticipated that people might need more breaks engaging in online sessions which would make the day longer. We also wanted to incorporate a short session on participants' views on how Covid-19 might impact the 25YEP. The first session was also principally to reconvene research participants after

some time had passed and share what we had made of their discussions. This gave them a chance to connect with each other and help remind them of the scenarios they had worked on and invite them to think about which they would want to work on further as part of the second session.

This was followed one week later with a day-long event which focused on participants sharing their scenarios with stakeholders and engaging in discussions about how or why they might be refined or changed. This also enabled stakeholders to hear what was important to participants and the reasons for their choices and visions and how they wanted to make them a reality. We also wanted to further explore what emphasis participants put on the different policy levers, the routes to decisions on achieving their visions and what was most important to them.

In all Public Dialogues, with participants' permission, small group discussions were audio recorded (to be transcribed verbatim) and facilitators' notes along with flip charts used in small group and plenary discussions were also gathered for analysis. These data were then charted and analysed following the Framework approach.

Distributed Dialogues 2

The second round of Distributed Dialogues were originally planned to extend discussions on the findings from the Public Dialogue series through targeted public sessions and events that allowed greater demographic reach within our target groups. This was no longer possible due to restrictions on social distancing.

We instead took on the challenge of re-imagining this second round of events online. Partners worked to design a new approach that sought to explore whether a short workshop intervention would enable reliable data to be collected from the public, delivering two workshops in August 2020 that aimed to:

- engage priority participant groups, e.g. ethnic minority groups and young people
- support understanding of public views on environmental decision making by using pre-defined scenario based approaches
- understand the effectiveness of light touch dialogic processes in drawing in robust data for policy making.

Government restrictions on social distancing placed an unfortunate restriction on our original intentions with this method, which were to explore dialogue at scale in public spaces. As this was no longer possible, prior to the workshops – and as a means to maintaining a degree of 'public' rather than purposive recruitment – we ran a social media invitation (which was circulated amongst networks) under the banner of 'what next for nature?' to invite people to share their ideas and express an interest in the workshop sessions. Within the time available this had relatively limited reach – into the hundreds. This resulted in 36 workshop sign ups and Table 2.4 demonstrates the sample achieved:

Table 2.4 Profile of participants at Distributed Dialogue workshops

Round 2		
Sampling characteristics		**Online workshop**
Age*	<18: 18-24: 25-29: 30-44: 45-59: 60-74	3 5 5 11 10 1
Ethnicity	White British: White Other: Mixed *(White & Asian)*: Prefer not to say: I prefer to self-identify as:	30 2 1 1 1 *(Arab)* 1 *(Anglo Caribbean)*
Gender	Female: Male:	28 8
Sexual orientation**	Heterosexual: Lesbian: Bisexual Prefer not to say:	26 1 3 5
Total		36

*= One participants age not recorded.
**=One participants sexual orientation not recorded.

The workshops used the principle of future utopias and scenario development, to give participants the task of exploring what was important to them about the environment as well as prioritising any adaptations or trade-offs to potential changes or interventions. After an introductory discussion on what environmental futures they would like to see, participants were put into three small groups and asked to imagine a utopian city in 2045. Each team was given a fictitious location to work with, which could be a coastal community/ town/ rural/ tourist spot. Participants were invited to come up with a name for their city, choose a mayor (fictional, alive, or dead), and think about what they would like their place to be like in 2045.

Groups came back together to share their cities with each other. Each 'city' then received a radio announcement that would require them to decide how to respond. For example – a University city heard the following and spent time in their small groups deciding how to respond and facilitators noted key decisions and considerations[25] :

Wildlife conservators have stumbled on a major deposit of gold in the local national park. Initial estimates value the gold to be worth more than £1 billion pounds. Experts agree that this could prove a vital investment for local infrastructure and has the potential to improve the lives of local people. However, excavating the gold cannot be done without significant damage to the national park, its landscapes, and habitats. Biodiversity experts warn that this damage would take years to repair. The Mayor's office are meeting today to decide what to do next.

Participants were also given time at the end of the session to discuss what advice they would want to give to Defra about environmental policy making.

[25] Descriptions of cities and announcements can be found in Chapter 5 and Appendix D.

This approach positioned participants slightly differently to those in Public Dialogues in that the scenarios were pre-set rather than self-generated – but this allowed participants to explore our research aims on priorities and trade-offs in a shorter timeframe.

Workshop sessions were audio recorded with participants' permissions, they also used padlet[26] to collect thoughts and ideas and facilitators took notes to capture their reflections. Audio recordings were transcribed and with this other material were subject to thematic analysis against project aims.

2.2 Analysis

As indicated above, our two different methods gave rise to different data sets. The Distributed Dialogue data was a mixture of text, tally, and creative formats – e.g. drawing. Public Dialogue data was audio captured and transcribed verbatim. We therefore adapted our approach to analysis accordingly.

Distributed Dialogue data was subject to a mixture of descriptive and thematic analysis dependent on the data. Tally based or questionnaire data was collated for simple frequencies. For text-based data we developed a thematic coding framework that reflected our key research questions and accounted for the points participants made, for example on their priorities and concerns. Coded data were grouped into themes which were shared for reporting.

Public Dialogue data was managed using the Framework approach, similar to thematic analysis but with a more distinct data management phase in which data is organised using matrices to enable analysis both within and between cases (Spencer et al, 2014)[27]. Initially read against the workshop outline, key topics, for example initial environmental priorities, informed the framework. Based on familiarisation with transcripts and facilitators' notes, a topic will contain a number of sub-headings, for example positive or negative framings of environmental issues, and these can be further added to as data is coded. Once coded, data is further analysed to build categories of interest, drawing out the range of experiences and views, identifying similarities and differences and interrogating the data to seek to explain emergent patterns and findings. We work in NVivo 10 allowing data to be hyperlinked to the verbatim transcript, for more ease of access to, for example, resolve ambiguities.

[26] https://en-gb.padlet.com/

[27] Spencer L, Ritchie J, Ormston R et al (Eds) (2014) Qualitative Research Practice: A Guide for Social Science Students and Researchers. Second edition. Sage, London.

3 Environmental Values & Priorities

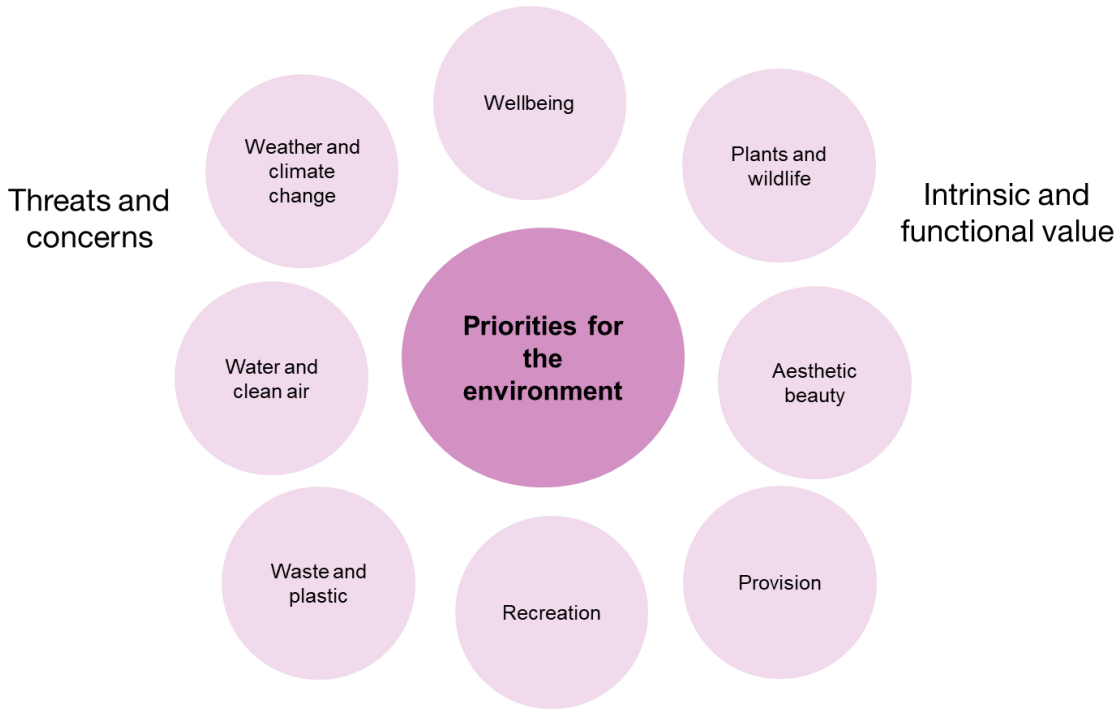
This chapter details the values and priorities of the public that emerged across our fieldwork. As we explore in more detail in our scoping report, environmental values can be understood in several distinct ways and the concept of value can often have at least a dual meaning for people – *what* is important to them and the belief system that underpins *why* it's important to them. For the participants in our research, we simplified the idea of values to invite people to identify what mattered to them, using the design of our fieldwork to further explore the meanings beneath this.

An overview of the key priorities people identified through our fieldwork is summarised below. We then present findings about what mattered to people thematically – built from findings across different modes of data collection.

3.1 Overview of priorities

Across the three strands of data collection and methods used to engage the public, a wide range of priority themes emerged, providing us with an overview of what mattered to people about the environment. As expected, participants responded to the questions we asked them in diverse ways, which in some cases involved reflections on what they appreciated about the environment (whether for its intrinsic or functional value) and concerns about threats posed to the environment. Some of these priorities, discussed further in section 3.2, are represented in Figure 3.1.

Figure 3.1: Priorities for the environment



Inevitably, as well as conversations about what mattered about the environment, there were discussions about the future and desired actions for change, with a strong focus on the perceived need for education (discussed later in this chapter). It is also important to note that the priorities shown in the diagram were expressed by participants across the different types of dialogue events.

The priorities that emerged are reflected in the Government's 25 Year Environment Plan. However, some areas received more discussion than others and through the Public Dialogues in particular, where the goals of the 25YEP were introduced to people, we were able to see where conversation was focused. Drought and coastal erosion were not given much explicit focus – however, in the Public Dialogue in Hull, recent flooding events were a priority topic of conversation. Biosecurity and managing exposure to chemicals was generally omitted in participants' discussions. This is a more technical area and a less visible issue for many participants as lay people.

In contrast, some policy areas, such as waste, were particularly prominent and remained at the top of the agenda at two Public Dialogue workshops from start to finish. The prevalence of waste was a top priority, and the similarities between many of the visions in this area and the goal to "achieve zero avoidable plastic waste by 2045," suggests that the government and public's priorities in this area are potentially well aligned.

3.1.1 Objects that represented the environment at Public Dialogues

As detailed in Chapter 2, through the Public Dialogues, one of the ways we wanted to explore what people cared about in the environment was to allow them their own starting points – which in themselves indicated people's top of the mind concerns and was a means to support deeper discussion.

Participants were asked to bring an object to the workshops with them to represent what mattered to them about the environment. Table 3.1 summarises what these were. In spending time responding to what others had also brought, participants reflected on the similarities in objects which reassured them that the concerns people had were along the same lines. They also said it highlighted the UK's key environmental problems at the moment, such as waste culture, plastic packaging, and lack of alternatives for consumers.

Table 3.1: Summary of the objects people brought with them

London objects	Hull objects	Chesterfield objects
• **Plastic objects** *e.g. plastic bag, plastic bottle, photo of a turtle wrapped in plastic* • **Alternatives to plastic** *e.g. reusable water bottle, paper straw* • **Items representing waste** *e.g. picture of child surrounded by ocean waste* • **Climate change** *Photo of Australian wildfires* • **Objects about sustainability** *e.g. picture of an electric car, smart meter*	• **Plastic objects** *e.g. plastic bottle, carrier bag, picture of a carrier bag at the bottom of the ocean* • **Items representing waste** *e.g. magazine article about wet wipes, Amazon packaging* • **Plants and wildlife being under threat** *e.g. feather, article about polar bears* • **Changes to weather, including flooding** *e.g. photo of snow, newspaper article about flooding* • **Pollution** *News article about pollution* • **Spending time in nature** *Sea shell*	• **Plastic objects** *e.g. plastic bag, plastic bottle* • **Alternatives to plastic** *e.g. recycled battery box, metal straw* • **Climate change, burning fossil fuels and greenhouse gas emissions** *e.g. aerosol can, pit check from job as a coalminer* • **Plants and wildlife being under threat** *e.g. seeds, picture of parrot*

The key priorities that emerged at each workshop were a combination of participants' pre-workshop reflections about what they felt was important to them (expressed via their objects) as well as priorities that emerged through the course of the workshop. Although we could not track the journey that each individual person went on through the course of the workshops, generally speaking, the things people were most concerned about stayed the same, even after they had heard from expert informants about a host of different environmental challenges. This is exemplified by the fact that in each location, the majority of people's pre-workshop reflections and concerns – expressed by the objects they brought – progressed through to being selected as top priorities by table groups. Engaging in discussions with others did however lead participants to consider new perspectives. This process of learning was apparent during the first session on Day 1 where participants listened to each other describe the importance of their object and had the opportunity to view and react to the range of objects brought in by everyone.

3.2 What was important to people about the environment?

This section draws insights from all fieldwork events to explore the themes that emerged in relation to the environmental priorities identified. This range of themes draws on specific topics, values and benefits people associated with the environment, as well as concerns that in some cases drove what was important to them. Not every theme within this chapter was observed at every event.

3.2.1 Intrinsic and functional value

Participants identified several aspects of the environment that were important to them. They either viewed the environment as having intrinsic or functional value (value in its

own right or value based on the services it provides. These perspectives are explored further in Chapter 4).

Wellbeing. Across all events, a key finding was that participants valued the environment as a source of wellbeing. As illustrated by the quotes below, we saw participants discuss the wellbeing benefits they obtained from a range of different places, including **urban green spaces** (e.g. parks, gardens) and **natural landscapes** (e.g. rivers, coasts, woodlands).

> *"I feel that it's medicine when you go in the countryside and you walk." (Public Dialogue, Chesterfield)*

Feelings in response to the environment were at the forefront of the data collected at the Distributed Dialogue events, with attendees asked to describe how the environment they were actively experiencing at the event made them feel. They used words such as relaxed, happy, healthy, energised, and clear-headed. More so than urban green spaces, attendees valued natural landscapes for being open and empty of other people. They appreciated the sense of freedom, discovery and restoration that comes from being in their favourite natural landscapes. Attendees also reported an appreciation for multi-sensory engagement with the environment, for example, the feeling of breathing in salty air, walking bare foot in the sand, or listening to the ocean waves.

In designing their "utopia" as part of the second round of Distributed Dialogues, one set of workshop participants wanted access to **green space** for everyone in the community, mainly for the wellbeing benefits it provides.

Aesthetic beauty. Attendees to the first round of Distributed Dialogues appreciated the environment for its aesthetic beauty. In particular, they appreciated the colour and openness that can be found in natural landscapes.

> *"The colours, the wildlife, the fauna, the flora; everything. I think we tend to forget, when we live in cities, how beautiful nature is, and I think everybody needs to be reminded." (Public Dialogue, London)*

Whilst some participants implied that for them, nature was something they experienced away from the urban areas, others spoke about their experiences of places in the city which they valued and perceived to be beautiful. There were different views about "what counted." For example, one participant at the London workshop commented on the lack of trees and flowers in their local park.

> *"There's not a lot of trees there, anymore. Anything attractive. There's no flowers." (Public Dialogue, London)*

Plants and wildlife. Participants displayed both fascination and appreciation for the diversity of plant and animal life that can be found in nature. They also highlighted the role that wildlife plays in contributing to local and global ecosystems.

At the face-to-face Public Dialogues, **trees** were identified as an environmental priority. Participants described trees as playing a vital role in taking in CO_2 and giving out oxygen, preventing flooding, increasing wildlife, enhancing human health and wellbeing, and assisting with food production.

During the first round of Distributed Dialogues, various activities invited participants to identify, or find, objects they considered appealing. Participants tended to choose natural objects over man-made ones, for example picking out plant matter (e.g. leaves, flowers) or animal matter (e.g. crabs' claw). When asked why they chose their object, participants expressed an appreciation for their look, shape, texture, or the function they play within their ecosystem.

At the Bristol event, one activity asked children to describe their feelings towards “soil creatures” (e.g. worms, insects). Their answers tended to reflect a sense of respect (e.g. cool, cute, wonderful) or gross fascination (e.g. weird, ugly) towards the look and shape of the creatures. Some answers reflected an awareness of the utility such creatures have in contributing to the production of soil (e.g. useful/helpful).

Recreation. Attendees to the first round of Distributed Dialogues appreciated the environment as it presents opportunities to engage in the physical activities or hobbies they consider fun. The environment in general was considered a good place for activities like walking and photography. In river and coastal landscapes, examples included swimming, water sports, fishing, rock pooling, and crabbing. Children were especially interested in playing both around and in water (e.g. paddling, splashing, getting wet).

Provision. Attendees to the first round of Distributed Dialogues identified a number of ways in which the environment provides for humans. At Bristol, attendees highlighted the importance of **soil, farmland, and urban green spaces** for both commercial and individual production of food. At Plymouth, attendees too highlighted the importance of **coastal landscapes** as a source of food, but also indicated employment, heritage, and even national identity. When asked “what does the sea mean to you?”, one attendee described a sense of belonging whilst another participant felt that the sea defines Britain as a nation.

3.2.2 Threats and concerns

There were also a range of priorities that were identified in relation to aspects of the environment people were worried about or thought were threatened.

Environmentally harmful activities. Participants in the face-to-face Public Dialogues outlined a number of ways in which human activities are damaging to the environment. Since the production of **waste and plastic** was discussed extensively, they have been included as separate themes.

Participants valued the earth’s forests because: they are an essential part of the earth’s ecosystem; they provide habitats to unique species; and they give out oxygen which contributes to the production of clean air. *“[The] South American rainforest is the lungs of the earth.” (Public Dialogue, Hull)*. The destruction of ecosystems through **deforestation** was therefore identified as a priority for action because it threatens to prevent humans and wildlife from continuing to fully benefit from the earth’s forests.

Water was seen as central to sustaining life on earth and oceans were viewed as a crucial ecosystem within this. There was concern that human activities affect the quality of water, whether through pesticides, plastic, or other pollutants. Participants were particularly concerned about the effect of ocean waste on coral reefs and about fish ingesting plastic which in turn are eaten by humans. At the Distributed Dialogue event in Bristol, participants also expressed concern over river pollution.

As with water, participants described clean air as the very foundation of life itself. It was also described as being pleasant to breathe. **Clean air** was considered an environmental priority because it is under threat from polluting activities such as transport and deforestation. Pollution was considered harmful due to the effect it has on the environment and on people's health, especially for children. Several participants in Chesterfield had respiratory diseases and were personally affected by poor air quality. Electric cars were discussed as one cleaner alternative to traditional cars.

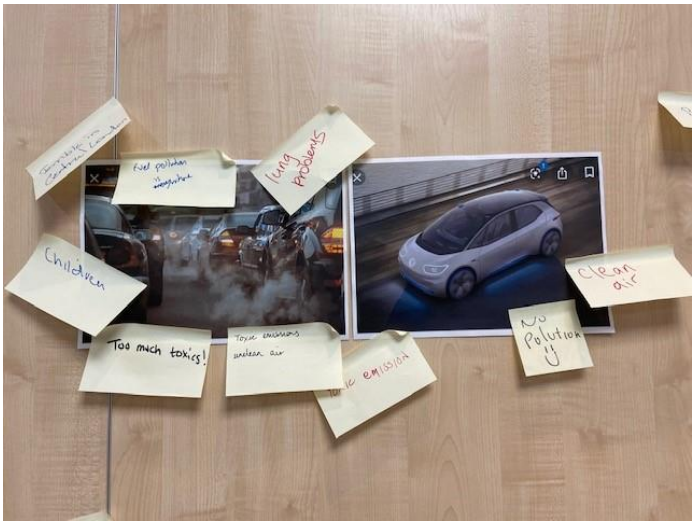


Figure 3.2: Images of an electric car and petrol cars; sticky notes placed by participants reveal their reactions (London)

One participant brought an aerosol can to the event, expressing concern about humans destroying the ozone layer with emissions. High air miles were singled out as a significant source of pollution and importing food from overseas was therefore chosen as a further priority. Eating seasonally produced and locally-sourced food was considered an important part of the solution to this.

When discussing food, participants were also concerned about the management of farming land – especially the use of pesticides, the effect pesticides have on soil and in turn on the quality of produce we eat. **Soil quality** was therefore seen as important.

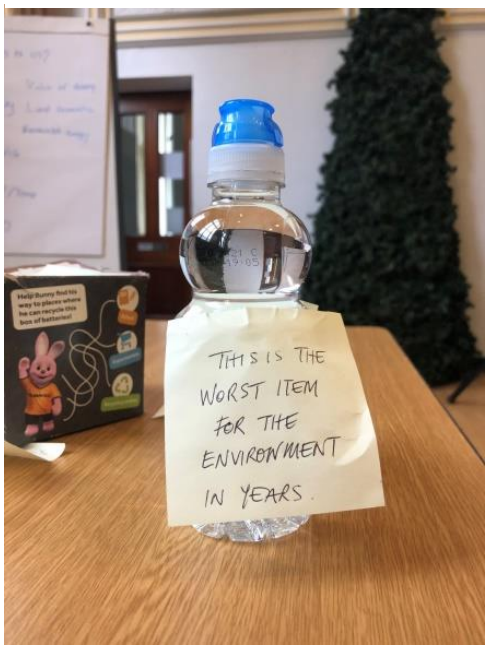
Production of waste. At the face-to-face Public Dialogues, participants were concerned that today's society is dominated by "consumer culture." We consume more and unlike in the past, we now throw items out rather than repairing them, which was seen as wasteful. It was considered important that humans live more sustainably as waste affects various aspects of the environment, including land, oceans, water quality, and food.

Some participants expressed a strong dislike of seeing litter in urban green spaces (especially plastic), whilst others stressed the importance of having a clean, untouched natural environment, not spoiled by litter. There was some concern about the environment being used as a "*dumping ground*." For example, by sending recycling to other countries and letting plastic enter the ocean. Participants also noted a perceived lack of knowledge among the general public about how to recycle, especially since recycling is not always easy to understand or do.

The objects people brought with them indicated that **reducing waste** was a key concern. In all three locations, it continued to be a key concern right through to the final vote.

Production of plastic. At the face-to-face Public Dialogues, concern about plastic was widespread. Participants at each workshop, and every table, brought along plastic items (e.g., plastic bottles) or alternatives (e.g., metal straws). They were dismayed at the volume of plastic they saw in the world; they felt that it was "*everywhere*," even at the bottom of the ocean. Concern was expressed about the impact of plastic on wildlife, particularly ocean wildlife. There was anxiety about plastic ending up in the food humans consumed. Participants were concerned that there was too much plastic packaging used in supermarkets but felt forced by corporations to buy items packaged in plastic; and therefore, there was a sense of a lack of control:

Figure 3.3: Plastic water bottle (Chesterfield)



> *"It seems that we're not in control… you're forced to buy all things in plastic, covered in plastic…you're forced to buy teabags with plastic… it's like probably not the government, [but] more like, the companies. They're just doing what they want to do and we, the consumers, have to put up with it." (Public Dialogue, London)*

In the follow-up online workshop, participants commented that it is easy to care about plastic because it is so visible around us, and that solutions appear relatively straightforward compared to some of the other priorities:

> *"I think the plastic stuff seems like a bit of a quicker win." (Public Dialogue, Online workshop)*

Plastic was also a key concern during the first round of Distributed Dialogues. When attendees of the Liverpool event were asked what motivates them to care about plastic, concern for animals was the number one answer (30% of votes), closely followed by concern for the future of children/humanity (28% of votes).

3.2.3 Changing weather patterns and climate change

Changing weather patterns & weather events. Participants at the face-to-face Public Dialogues were concerned about recent changes to weather patterns and the discussed significance of major weather events. Some participants attributed these weather changes to climate change while others did not. For this reason, climate change is discussed as a separate theme.

Participants in Hull felt that weather patterns had changed: snow was less common nowadays and there had been a loss of "normal" seasons. Participants who were parents said they wanted their children to experience seasons as they had:

> *"It's important to me, my children and grandchildren, and children after that, that we keep our four seasons." (Public Dialogue, Hull)*

Figure 3.4: Newspaper article about flooding (Hull)

Participants also commented on major weather events. One participant brought a picture of the Australian wildfires and this prompted a conversation about the impact of flooding in Bangladesh. In Hull, flooding was also a major concern. Participants said the River Don was flooding more often than it had in the past and had recently caused extensive problems locally (Figure 3.4). While some participants thought increased flooding was caused by climate change, others blamed poor river management. Participants feared that, without proper management, river flooding will cause inconvenience, disruption, and economic damage. **Water management** was therefore identified as a priority, and a top voted priority in Hull, where participants reflected on the salience of local flooding in their daily lives.

Climate change. Many of the objects brought along to the face-to-face Public Dialogues had multiple meanings and represented not just a single issue. Whilst it was less common for participants to bring objects that they explicitly described as being related to climate change, many of the objects and subsequent discussions represented concern about the many effects of climate change. The fact that the issue of climate change underpinned many of the key themes illustrates its interconnected nature.

Those who brought objects they described as representing climate change, or who otherwise attributed weather changes to the phenomenon, were concerned about the impact it could have in the UK and around the world, if not tackled. For example, there was concern about the polar ice caps melting, which would affect sea life, rivers, sea levels and coastal areas. Some participants also stated that climate change was causing flooding and affecting the seasons. Greenhouse gasses were cited by some as a key cause of climate change, but there was a degree of disagreement and uncertainty about whether climate change was man-made. However, these discussions nonetheless indicate an awareness of the interconnected nature of environmental issues – with action taken in one place having an effect in another.

The only location where climate change was not voted as a top priority was in London, where participants were encouraged to treat the weekend as an opportunity to express what they felt was important to them about the environment, without feeling limited to discussions about topical issues such as climate change. Nevertheless, participants in London highlighted that many of their priorities were fundamentally connected to climate change.

Climate change was also key concern at the second round of Distributed Dialogues, where participants called for it to be tackled by **lowering carbon emissions** to net zero, which among other things would help mitigate flooding. Some participants said that climate change needed to feature more prominently in the list of priorities as it was so important for the entire world, particularly the global south. They also stressed the interconnectedness of climate change with other environmental issues, saying that it would be impossible to fix many environmental issues (for example, flooding) without also tackling climate change. In addition, some participants raised the link between

climate change and poverty, drawing attention to the potential cost implications of green adaptations:

> *"It's like, how do we reduce our carbon footprint if you can't afford to put new windows in, can't afford a better central heating system? There needs to be money made available to prevent these problems... money does come into it, in a big manner." (Public Dialogue, Online workshop)*

3.2.4 Education

Education emerged as a strong priority at the face-to-face Public Dialogues from early on, even though it was not related to a specific environmental issue. This was sustained right through to the final vote in London and Chesterfield (indeed, in London, education received so many votes that it was allocated for discussion on two tables on day two). Interestingly, this was the only "priority" that was a policy solution rather than a concern.

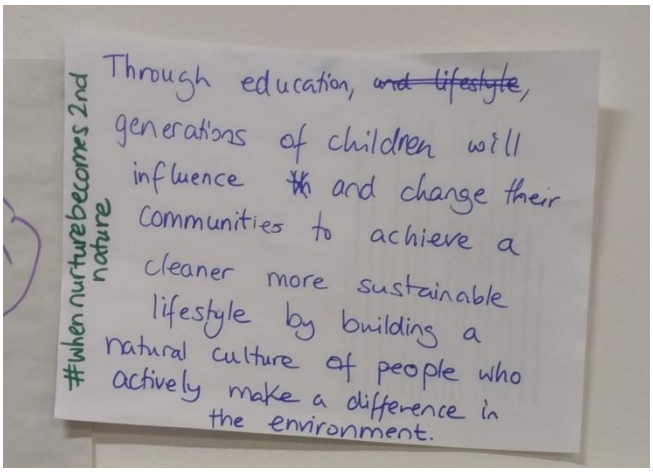


Figure 3.5: one table's 'vision statement' about education (London)

There was a widespread view that education had a very important role to play in changing attitudes and behaviour and preventing further environmental harm. Adults and children needed to be educated; Chesterfield participants stressed that children's education should involve practical field trips and could lead to green careers. Some participants believed that education would lead to a change in attitude – a greater *"commitment"* to the environment – from which positive behaviour change would flow.

Others felt people were already enthusiastic about helping the environment but needed access to information about what they could do to make a difference.

Participants commented that plastic was likely to be front of mind for many people due to the success of Blue Planet, the enormously popular BBC documentary series about ocean wildlife. Participants also described the event itself as being an educational experience. Reacting to the objects that others had brought, some said that their awareness had been raised of sustainable products such as the menstrual cup and recyclable alternatives to cling film. Others said they had gained new understanding about greenhouse gasses.

The importance of education was emphasised again in the online follow-up workshop. Participants felt that by raising awareness, this would lead to a much-needed culture shift in society. Education was viewed as crucial not only for children in schools but for people of all ages. However, some said that while education was very important, it would not be a silver bullet on its own; action by corporations was also needed. In addition, one view was that even with education, some people might still fail to take action and would face additional barriers, both related to themselves as individuals (not caring or feeling motivated) and wider structures in society (such as not being able to afford reusable items or organic produce).

3.2.5 Reasons for wanting to protect the environment

Desire to protect nature. Across events, participants showed a desire to protect plant life, wildlife, and green spaces from further harm. This was motivated by a sense of concern about threats posed to specific animals (e.g., polar bears, bees) and to wider ecosystems (e.g., forests, coral reefs). Nature was not only considered important due to the wide-ranging benefits that humans draw from interacting with it, as outlined earlier in this chapter, but it was also seen as worth protecting because of its intrinsic value.

In the first round of Distributed Dialogues, there was a sense that now is the time to act, before irreversible harm is reached. For example, at the Bristol event, when asked to reflect on what they know about soil, one child recalled learning from Countryfile that if the UK government does not make changes, there will only be 30-40 years of arable land left in the UK.

In both rounds of Distributed Dialogues, attendees felt that urban green spaces were at risk, and stressed the need for protecting and growing them further. At the face-to-face Public Dialogues, **preservation of green spaces** was given as a top priority that encapsulated many concerns that had been raised at the start of the workshops, including: the importance of spending time in nature, deforestation, protecting wildlife, and dislike of litter. In one discussion, at the Chesterfield event, participants focused on the need to preserve and protect land, referring to farmland and its importance for food production, as well as the nearby Peak District. In the second round, attendees also felt that humans should protect wildlife by increasing biodiversity, protecting habitats, and developing more self-sufficient modes of food production.

Future generations. Underpinning all of the environmental themes from across each event was the concern about how current issues would impact future generations. There was a desire among participants to **preserve the environment** for today's children, and their children too, otherwise they might not be able to enjoy nature in the same way that current generations do. At the Plymouth Distributed Dialogue event, when commenting on "what the natural environment means to me," participants expressed fear at a sense of inaction – on a business, governmental and societal level.

3.3 Connections between priorities

Participants from across the locations emphasised that the various priorities should not be viewed in isolation and were interlinked and overlapping. Deforestation, for example, was seen as related to climate change and the destruction of wildlife. The basic elements of the environment, such as clean air and water, were also prioritised as participants acknowledged their fundamental importance in sustaining life on the planet. That these connections and interlinkages were recognised by participants suggests that there is appetite among the public for "joined-up" policy solutions that seek to address a number of issues holistically. What these could be became clearer when participants discussed policy levers and future visions, which we explore further in Chapter 5.

There were some key themes connecting the discussions across places. When asked what mattered to them about the environment, participants expressed what they valued or enjoyed about it, which included both tangible services (such as breathing clean air) and less tangible benefits, such as contributing to mental health. They were thus concerned and worried about the potential impact of damage to the environment, for themselves and future generations, and were aware that the way that humans are currently using and treating the environment is a threat. We saw many participants respond to these concerns and their view of the environment through a 'harm reduction' lens by expressing their desire to protect the environment, and they posed a

range of solutions which they felt would be successful in doing this. Participants did, however, cite barriers to these changes, including, for example, consumers' lack of choice around packaging which they felt has prevented the issue of plastic waste being tackled effectively.

3.4 Conclusion

This chapter has described what mattered to people about the environment. It is clear from the findings that people are highly aware of threats to the environment and thus viewed it through a 'harm reduction' lens. Simultaneously, we saw people talk about the things they valued. Therefore, the way that people understand the environment relates to both aspects that are important to them and concerns about damage, demonstrating that there is an understanding of the importance of the environment to our lives, but also its fragility.

Chapter 4 will explore these issues in more detail through a discussion of the range of factors underpinning participants' priorities for the environment.

4 Factors that influence environmental attitudes

4.1 Introduction

Chapter 3 demonstrates that the aspects of the environment that the public value, and think are important, are wide ranging. Our project also aimed to reach beneath the surface of peoples' views and explore the reasons underpinning these values and priorities.

This chapter identifies the range of factors influencing what matters to individuals about the environment and their attitudes towards environmental issues and policy changes and concludes with a discussion about how the framework on Individual, Social and Material factors (ISM) can help us to understand how these interlink.

4.2 Personal values and beliefs

4.2.1 Environmental worldviews

It was clear from the range of priorities, and how these were expressed at the workshops, that the public's environmental attitudes are influenced by deeply rooted values and beliefs. As discussed briefly in Chapter 3, people differed in how they saw the environment. One such example of this was the extent to which participants valued the environment in its own right (seeing it as intrinsically valuable) or viewed it as a service to be used[28]. These opposing perspectives came to the surface when discussing environmental policy areas where trade-offs between human/nature are particularly relevant.

An **eco-centric worldview** underpinned some concerns about environmental damage. There were participants both at the London and Chesterfield Public Dialogue workshops who strongly disagreed with housing development and impacts of this on green spaces in their surrounding areas. They stated that it was fundamentally wrong to prioritise human need for housing over the environment and saw natural habitats as of equal value to human homes:

> *"I don't know why we seem to think it's okay that we can just chop down a tree and replace another one. Every tree is obviously a habitat for someone, so why don't we think of it like that?" (Public Dialogue, London)*

Anthropocentric values came into play during discussions on the topic of animal extinctions and debate about why animals should be afforded protection. One view expressed was that efforts should be focused on only protecting species that serve an important purpose, such as in the food chain, because it would not be possible to "*save them all."* Others felt they deserved this regardless and did not want to see animal extinctions for moral reasons. For some participants, the fact that the environment provides us with vital services meant that it should be afforded protection. There was a sense of appreciation of what we get from nature, and in turn an obligation to act.

[28] Thompson and Barton (1994) https://www.sciencedirect.com/science/article/abs/pii/S0272494405801689

> *"The water gives us life, so it is something that should be looked after." (Public Dialogue, Hull)*

Debates on priorities and sacrifices (such as allowing the extinctions of some species and saving others) illuminated these opposing values, however, we also saw participants who valued the environment for both its intrinsic and functional value. This was evident where participants stated that ocean waste needed to be addressed because of the impact of plastics on *both* human and marine life. In a similar way, some recognised the role of trees as a habitat for wildlife, as well as a source of clean air for humans.

Where participants spoke of a link between services from nature, this aligned with the 'natural capital' approach which defines nature as set of assets that benefit people and underpins the 25YEP. This suggests that this approach to decision making can be an effective way of evoking a sense of responsibility amongst some members of the public and indicates the importance of ensuring the public are well-informed about the multiple benefits the environment provides.

However, as has been discussed, there are a range of ways in which people attach value to the environment, and so there is a need to differentiate framings on such central policy ideas for different issues and groups of people. For those who ascribe more closely to ideas on the intrinsic value of nature, the policy implications of a natural capital approach are more complex. This indicates the importance of considering the role of 'the individual' in environmental policy making, firstly in policy areas where individual behaviours are important for achieving change, for example, carbon emissions and consumer choices. Also, in policy areas such as "thriving plants and wildlife" which invoke these debates and where public support for actions is important.

4.2.2 Beliefs about responsibility and failure

Across all the data collection for this project a strong theme was the belief that humans were failing in their role to protect the environment.

> *"Humans are supposed to be guardians of the planet and we're doing a really crappy job at it." (Public Dialogue, London)*

As illustrated in this quote, participants tended to use the broad language of "humans" to describe their dissatisfaction with society as a whole. Across the Public Dialogues in particular this failure of humans to protect the environment was expressed in relation to different aspects of the environment, particularly animals and wildlife.

> *"You see pictures of turtles tied up in plastic on the news - it's terrible, we have to protect them." (Public Dialogue, Hull)*

Concerns about failure also related to the future, and preservation of the environment for future generations. Participants who attended the first phase of the Distributed Dialogues spoke about their concern for future generations when asked what motivated them to care about plastic waste pollution. Similarly, at the Public Dialogue workshop in Hull, participants expressed concern and frustration about the increase in waste and packaging.

Some participants' concerns related to the future of humanity in general, whilst for others this was a personal worry about their children and grandchildren. One example of the latter can be drawn from the Public Dialogue workshop in Hull, where a participant concerned about changing weather patterns recalled playing in the snow

during the winter months as a child and felt it was important for these seasonal variations to continue for her grandchildren.

> *"It's of snow, just a picture of snow. Well, in the north we haven't had snow. Christmas Day - we haven't had snow for a while now, and it's because of climate change. We have to go abroad to go skiing to get a bit of snow. Not like the horrible snow we get like that, and I was just reminiscing, when I was younger we were near the coal fire getting warm. We used to put socks on our hands because we didn't have mittens, getting dry and going back out again. Stick them on our feet, put our boots on. Our grandkids don't get it. It doesn't snow when it should snow…It's important to me, my children and grandchildren, and children after that, that we keep our four seasons." (Public Dialogue, Hull)*

Concern about the future was tied to feelings of responsibility as participants stated that it was important to take action immediately to ensure this longevity, especially when talking about the futures of their own children or grandchildren.

> *"I feel quite responsible because it's my generation that has destroyed this planet or destroyed - we were using the resources too much, we don't care." (Public Dialogue, Chesterfield)*

These perceptions of failure and dissatisfaction with action suggests that the public are acutely aware of the need for change and are keen to do more. Negative attitudes towards progress to date could present an opportunity for stimulating action or fostering support for difficult environmental policy decisions if it is presented to the public as an opportunity to succeed and fulfil this stewardship role.

In the second round of Distributed Dialogues, we saw participants talk more specifically about the actors they felt were responsible for long-term, systemic change to achieve a greener future. They wanted to see government leading on this (with close working between different government departments) but felt that listening to other actors, such as communities and NGOs, was also important. The quote below from a participant at the second round of Distributed Dialogues highlights this:

> *"Break down the silos between different disciplines and policy areas, thinking much more long-term with an integrated vision and then work backwards. There are technologies we know we will need to create a cleaner greener future. We should be heavily funding the research and development of those now, so we have the right tools when we need them. Be bolder, braver and more visionary than we are now." (Distributed Dialogue, online workshop)*

At the Public Dialogues, participants said that legislation was an important lever that the Government could use in response to crises, such as plastic waste in the ecosystem, for example, by banning bottled water. Further discussion about key actors and policy levers is included in Chapter 5.

4.2.3 Social values and attitudes

At both the Distributed and Public Dialogue events, participants were invited to discuss and debate their visions and priorities for the future. A prominent theme across these was the desire to live in a more equal society and with equal access to different aspects of the environment, such as green space and clean air.

Universal access to green space was a key feature of the "utopian cities" developed by participants at the Distributed Dialogue workshops. Green spaces were felt to be particularly important components of cities to improving the health and wellbeing of citizens. This sense of 'equal access' was also reflected at one of the Public Dialogue workshops in a discussion about the importance of attaining air quality of the same standard across the UK.

> *"If I go to Sheffield, I want to be breathing in the same air as the Highlands of Scotland, the purity of air." (Public Dialogue, Chesterfield)*

Participants' beliefs about equality and social justice led them to discuss their concerns about the costs associated with pro-environmental behaviour. Amongst participants from the Public Dialogues, who were reconvened online and asked to reflect on their visions for the future, there was concern that actions required to successfully tackle climate change would incur an increased cost of living, potentially unaffordable for some groups.

> *"this idea of sustainability is only affordable by a small bunch of people who can afford it, and I think that is very, very problematic in our culture." (Public Dialogue, Online workshop)*

These findings highlight that the public's environmental attitudes should not be seen in isolation from social values/attitudes as the two are fundamentally linked. In both sets of Dialogues discussed here, individuals' beliefs and aspirations about what society should look like shaped their attitudes towards environmental actions, particularly the type of policy changes they would be willing to accept. This is exemplified where participants stated that it was important to ensure that environmental changes or policies would not have disproportionate impacts on lower income groups, and for sustainable lifestyles to be affordable and accessible to all groups in society. This suggests that a key consideration for the public when faced with policy changes will be perceptions of fairness and awareness of the potential for disproportionate impacts on some groups, even when making positive environmental choices.

4.3 Personal experiences

The environment was also seen through the filter of personal experiences, including habits and behaviours, and memories. Our findings support existing research[29] (explored in our scoping review) that suggests that visibility and proximity of the environment, and specific environmental issues, play an important role in determining attitudes, particularly in terms of level of concern.

4.3.1 The environment in everyday lives

Habits and behaviours

At the workshops many of the objects brought along by participants related to actions they took in their daily lives, such as reusing and recycling (represented by items such as re-usable coffee cups, a metal straw or shopping bag). Participants discussed why they used these items and cost (e.g., being eligible for a discounted coffee) was one factor that was mentioned. Previous research such as that included in our project's scoping report on environmental attitudes and behaviour have found that partaking in

[29] See p28 of our scoping review. Relevant references include Ipsos MORI, 2013; Rissman, 2013; Benham 2017; Steentjes, 2017; Turner and Struther, 2018.

"pro-environmental" behaviours is not necessarily motivated by reasons related to the environment[30].

However, we also saw participants whose choice of objects appeared to relate to perceptions of self-efficacy – the degree to which people feel they have the means to make a difference. Across the series of Public Dialogues, waste was seen to be an area in which people could see change occurring, especially through public actions such as recycling. For one group at the final Public Dialogue, plastics were described as a "*quicker win*" for this reason. However, some participants said they felt restricted in their ability to make a difference, or that the responsibility for taking action was unfairly distributed. They cited, for example, the role of businesses in perpetuating the problem by producing unnecessary plastic packaging. A key theme from across our fieldwork was calls for key actors, such as the government and industry, to fundamentally change the way consumer goods are produced. For example, at the online Distributed Dialogues, participants called for wastefulness to be addressed through large scale, structural changes, such as transitioning to a "circular economy" which would see a move away from the consumption of finite resources as a means to economic growth.

> *"Completely rethinking our approach to product design and consumption so that we think of how that product can be disposed of and recycled first and then work back." (Distributed Dialogue, online workshop)*

Participants who agreed with this saw the government as playing a key role in legislating on standards for packaging and incentivising businesses to reduce their wastefulness.

Some participants also saw their own behaviour as ineffective without accompanying government action.

> *"Then again, it's no good us changing our behaviour, if the government won't change theirs." (Public Dialogue, Chesterfield)*

These findings suggest that the public see government action as important for facilitating large scale, structural changes, such as with a more circular economy. In addition, whilst individuals may be aware of how to behave in an environmentally friendly way, a key barrier for some is being unable to associate this with positive change. This is an area where the public's preference for strong government action, such as with the plastic bag charge[31], is important for encouraging individuals and showing how they can make a difference in their everyday lives.

These concern-based discussions served to illuminate underlying values, as people were concerned about how environmental changes would affect the things they cared about and enjoyed. For instance, a participant who grew their own food said that they were concerned about climate change and the effects of changing temperatures on being able to continue doing this in the future. And when talking explicitly on what they cared about, participants referred to positive experiences based in the environment. This was represented in the objects that some participants had brought with them, for example, at the workshop in Chesterfield someone brought along a packet of flower seeds to symbolise their love of gardening. Similarly, participants said they valued green space, and this was linked to accounts of spending time in them, such as at the park or the countryside, whether to spend time with family or for mental health benefits.

[30] Turner and Struthers (2018).

[31] As of 2015, large retailers (retailers with 250 or more full-time equivalent employees) are legally required to charge a minimum of 5p for single-use plastic carrier bags in England. This is intended to reduce the use of single-use plastic bags, and the litter they can cause, by encouraging people to reuse bags. https://www.gov.uk/government/collections/carrier-bags

"…personally, if I'm taking my grandkids out, I like to take them on walks and to feed the ducks and things like that. It's good in that sort of way." (Public Dialogue, Chesterfield)

The findings presented here underline the potential of drawing on this connection between people's everyday lives and the environment to drive individual action or achieve support for otherwise unpopular policy changes. For example, through messaging that focuses on the positive benefits obtained from having a clean and healthy environment and the detrimental impacts of environmental damage on people's everyday lives (the things they like to do and care about), if no action was taken.

Roles and identity

Participants' priorities and values were bound up closely with their role (as an employee or parent, for example) and identity (how they saw themselves) within society.

Most notably, participants' occupations, both past and present, had a strong bearing on what they felt was important. In many cases this was due to visibility and salience – where participants had been exposed to particular environmental issues through their work, these were often at the forefront of their minds. For example, a participant in Hull, who used to work in rubbish tips and scrap metal yards, expressed a desire for more recycling, having seen first-hand the volume of waste being produced. Similarly, a participant in Chesterfield, who was an ex-miner, reflected on the coal industry, and the fact that we are still using fossil fuels for economic reasons, despite the damage being done to the planet.

"We don't want the coal now, it's dirty, but we're still burning fossil fuels in gas-fired boilers." (Public Dialogue, Chesterfield)

For many participants, identity and occupation were interwoven and underpinned what they valued through their own/their relations' personal experience. Feeling emotionally attached to an aspect of the environment, such as the ocean, was in some cases linked to participants' family heritage (such as coming from seafaring family, as illustrated in the quote below).

"The one that really hit me was this, because I come from seafaring, deep sea fishing; my dad was, my uncles was, their dads was. This is a plastic bag found at the bottom of the Marianas Trench. It's the deepest place in the ocean, it's not something you would expect to find there. You'd expect to find life, but not find a plastic bag at the bottom. To me, that's just showing that the sea is basically just turning into a dumping ground, when I don't think, well, it shouldn't be." (Public Dialogue, Hull)

There was a link between prioritising education and certain professions, as many participants who talked about education said that they worked in education related jobs (such as teachers) or with children (social workers).

Another theme was how participants considered their children or grandchildren and brought this into the discussion on environmental priorities. There appeared to be a strong relationship between parenthood and concern about environmental impacts, particularly those that would have a long-term impact on future generations.

> *"Being completely honest, that's what concerns me more about pollution, with air pollution that we're putting out, the health of me, health of my kids, health of everybody around." (Public Dialogue, Hull)*

Some participants saw their role as a parent to protect the environment and said that having children or grandchildren motivated them to take certain actions, such as recycling. They also spoke about their experiences of the environment in relation to having children or grandchildren, suggesting that their role as a parent or grandparent, and what they valued about the environment were closely linked.

> *"personally, if I'm taking my grandkids out, I like to take them on walks and to feed the ducks and things like that. It's good in that sort of way." (Public Dialogue, Chesterfield)*

Participants at the Distributed Dialogue event in Liverpool were asked what motivated them to care about plastic pollution. A key factor was concern for future generations. Participants wanted their own children to be able to enjoy the environment in the same way that they had.

4.4 Geographic location and psychological distance

4.4.1 Proximity to environmental issues

Environmental challenges exist at a range of spatial scales and the Dialogues (both Distributed and Public) reflected the ways that the public think about environmental issues that are proximate and those which are more distant. Existing research, collated in our scoping review, suggests that the public tend to care, or feel more concerned about, environmental issues that they perceive to be closest to them[32]. There was evidence of this "psychological distance" – a concept which expresses how "close'" an issue is felt to be - at play during the workshops where participants prioritised issues that they saw as "closer" to their everyday lives as follows:

Air pollution: first-hand experiences of the effects of air pollution on health, whether through a job in the medical profession or having a health condition (such as respiratory disease) were explicitly discussed by participants to convey why they attached importance to this particular environmental issue. At the Public Dialogue in Chesterfield, participants were influenced by the personal stories that others shared regarding the impacts of air pollution and poor air quality on either themselves or their family members, due to having a health condition. The importance of air quality for vulnerable groups was not something they had previously considered, but having heard about the impacts, they felt it was vitally important to ensure that everyone had access to clean air.

> *"I've worked as a nurse all my life and I have seen people; I know there's smoking-related diseases, but it's more […] it is actually on death certificates, caused by pollution, deaths. We're all born with lovely, pink lungs. By the time*

[32] Turner and Struthers 2018; Steentjes 2017; Benham 2017; Defra 2013. Whilst movements such as the school strikes of climate and Extinction Rebellion seem to suggest concern for issues which do not necessarily have immediate impact, these were not raised as a strong theme in our research. This may be in part because our sample was designed to be reflective of the general public whose levels of interest in environmental issues were general.

we're about five, getting speckles of dust, of filth in your lungs" (Public Dialogue, Chesterfield)

First-hand experiences were also influential in the way that participants processed the information they received during the Public Dialogues. At the London Public Dialogue workshop, informants reported that national air quality has been improving in recent decades. Some participants questioned this on the basis that they perceived air quality in London to be poor (their own lived experience) or referred to anecdotal evidence that they had heard which highlighted a different situation (such as that there was an increase in the number of people with asthma due to air pollution).

"…she mentioned that in general, air quality was getting better. I wanted to know what the evidence was, because where I live, or in London, especially, I've found that the opposite's probably true." (Public Dialogue, London)

Waste and plastics: people talked about this issue because it was so visible in their day-to-day lives (seeing a lot of litter in their local area or images of rubbish and waste ruining "beauty spots" in the media.) Participants themselves recognised that directly seeing this issue had prompted discussion and agreement about the importance of plastics:

"It was easier to talk about plastic and pollution because it is so visible in our lives." (Public Dialogue, online workshop)

"It all seems, in a way, we're all in agreement, especially about the plastics and the waste. Everyone's speaking with one voice really..." (Public Dialogue, London)

One of the reasons why waste was selected as a priority related to participants' perceptions of the adequacy of waste and recycling facilities in their local area. Some persistent concerns in the group discussions were scepticism and distrust as participants said that councils across the country were disposing of waste and recycling in different ways and could not be trusted to be doing the right thing. Seeing improvements in this area was thus important for those who held negative views of waste infrastructure.

"Sometimes, I have… It's hard to find a bin to throw something in, isn't it? My handbag's full of rubbish. No bins around because I don't think anybody collects them anymore." (Public Dialogue, Chesterfield)

Flooding: here, perceptions of distance were tied to actual proximity. Hull was the only location where flooding and water management was designated as a top priority. This reflected the fact that the area is prone to flooding and had recently been affected at the time of the workshop (February 2020). Concerns about floods featured in the discussions from the start of the workshop and in many cases the objects participants brought with them reflected this issue, such as photographs of flood scenes. Participants spoke about past flood events and shared their concerns about the future with the group.

"We've got Jennifer, brought a photograph with a flood scene on it. Something that struck me personally as well because I live in an area that is increasingly becoming at risk. It hasn't in the past - I've lived there 20-odd years, never been in the past, but increasingly it's becoming more of a fear for us where I live." (Public Dialogue, Hull)*

As well as risk itself, some of the discussions about flooding focused on what was being done to prevent or mitigate impacts (management of rivers). There was agreement among participants who had been personally affected, that not enough was being done, and that there was a need for actions such as dredging of rivers. One view was that a lack of river management was the cause of flooding, rather than climate change.

> *"We're blaming all this global warming, which is taking place, but there's not the measures in place to prevent flooding. That's really what it comes down to." (Public Dialogue, Hull)*

Housing development and green spaces: At both the Chesterfield and London workshops participants discussed the impacts of housing development in surrounding urban areas, and how this could be managed to reduce environmental damage. Participants' concerns about development and loss of green spaces were not exclusive to these workshop locations. However, they reflected issues of importance in urban areas and appeared to be of particular importance to the public in these places.

In Chesterfield, there was discussion about housing development issues in the surrounding areas. There was a group of participants who shared these concerns about development and criticised the local council for cutting down trees to make space for housing.

In London, a similar theme emerged as participants who lived in the city shared their experiences of losing valuable green spaces to housing developments, particularly high-rise buildings, as well as being residents in such places where green space provision was minimal. These participants said it was important to them to preserve green spaces that were left:

> *"'green means green', so as in keeping our current green land green instead of concrete and then re-greening, so green actually means green.*" *(Public Dialogue, London)*

These concerns about the impacts of housing development on access to the environment were prominent in London, which led to the development of the 'housing' vision, motivated by the desire to *see how urban housing and sustainability can go hand in hand.* This vision is discussed in more detail in Chapter 5.

Indeed, where housing development on green spaces was discussed there was acknowledgement of the need to balance and weigh-up options to meet human needs whilst protecting the environment.

> *"The population's getting bigger and we're not building enough homes for people. Green space is so important, and we need it, but it's hard to weigh this up against the need for homes." (Public Dialogue, Chesterfield)*

The examples from the Public Dialogues above demonstrate that there is a tendency for people to focus on aspects of the environment or environmental issues that feel more immediate and closer to their everyday lives, which highlights the relationship between the external, material world and personal experience. Similarly, at the Distributed Dialogue events (Round 1) participants' contributions often related to their local environment. At the Liverpool event, for example, some attendees who said they were concerned about plastic waste and water pollution linked this to being in close proximity to their local river (the Mersey) where they saw the effects first-hand.

Furthermore, the fact that people may respond to science through the lens of personal experience (and may refute evidence if it does not chime with this) highlights the

importance of recognising and valuing lived experiences, particularly where individuals and communities have been negatively affected by environmental issues. Also, in policy areas where issues are highly visible or tangible (different forms of pollution e.g., waste, air) it may be important to raise awareness of existing efforts to tackle these problems. People prioritise these issues as they come across them directly in their everyday lives, thus they need reassurance that action is being taken. And because of the visibility of these issues appetite for supporting them is high.

4.4.2 Psychological distance

As this section has discussed so far, many of the public's priorities tended to be proximate to their everyday lives. However, there were instances where we also saw participants talk about the importance of more "distant" issues and aspects of the environment that did not directly affect them.

Whilst flooding was only discussed in detail at the Hull workshop, participants at the final workshop from different areas reflected on the fact that whilst flooding may be more urgent for some communities, it was in fact a national issue affecting everybody:

> *"I think all these issues affect everybody... water is a thing that if you block it in one place it's got to go somewhere hasn't it?" (Public Dialogue, Hull)*

One example of this was at the workshop in Hull, where a group debated the relative importance of two priorities (clean water or clean air) which were both considered to be equally important and interconnected. One argument was that clean water may not be as relevant to the group's lives as access to clean water is not an issue, yet this does not mean it is not important for people elsewhere:

> *"If we lived somewhere where it wasn't clean water, then we'd realise the importance of it." (Public Dialogue, Hull)*

There was the view, therefore, that environmental priorities should reflect what is important globally, not just in the places we know, and that actions to resolve environmental issues should be international to reflect the global nature of these problems. Some participants responded to informants' presentations on the 25YEP by asking questions about the environment at a global scale. These questions were particularly related to the impact of the UK's actions and the 25YEP on other parts of the planet, and a consideration that environmental policy making should be joined up:

> *"I would like to talk about the national and global responsibilities, so yes, if they are thinking about it at a national level, what are the implications outside of the nation? So it's all right to say Britain should be all pristine and we should look after our landscape. But are the policies you are making actually harming it on a different part of the planet?" (Public Dialogue, London)*

Participants suggested that international agreements and plans to address environmental issues were important here. Policy levers are discussed in more detail in Chapter 5.

Despite being a significant environmental challenge, climate change was not as high on the agenda at the Public Dialogue workshops (at least not explicitly) as the more visible and salient issues that many participants had personal experience of, such as waste and plastic. Previous research has explored the concept of "psychological

distance" in relation to climate change (for example, Spence et al. 2012[33]) and this may explain why climate change was not discussed as much as might be expected.

However, where raised, participants referred to its causes and impacts at multiple spatial scales and locations. This included both in the UK (floods, use of fossil fuels) and further afield (melting ice, Australian wildfires). Climate change was therefore seen as simultaneously proximate and distant, as illustrated by the following quote from the workshop in Hull, where one group developed a scenario for "tackling climate change":

> "*we've had two extremes, haven't we? Climate change, we've had all the fires that you see in America and Australia, and we've had floods in this country." (Public Dialogue, London)*

Furthermore, where climate change was selected as a top priority, it appeared to be based on the recognition of it as a broader threat encompassing lots of other things:

> *"I think that's got to be in there because that affects everything doesn't it?" (Public dialogue, online workshop)*

At the online workshop participants had the opportunity to step back and review the outcomes of their previous discussions. One reflection from participants was that climate change was currently missing from the list of collective priorities. Another was that climate change was, in fact, represented in linking all the priorities, as they were all in some way related to climate change.

4.5 Current issues and the media

Current issues at the time of the fieldwork were reflected in discussions, highlighting the relationship between public priorities and the media. In the Public Dialogues, for example, plastics were a prominent topic and a commonly brought object. Whilst this shows us that plastic is currently a high priority among the public, it also highlights the influence of the media (for example, through TV documentaries such as Blue Planet) on what people think is important.

Another current issue reflected in the discussions was threats to wildlife, as participants with this concern referred to prominent and familiar examples at the time of the Public Dialogue workshops. This included the Australian wildfires that were being reported on in the media at the time, and the loss of polar bears, which has long represented environmental change. Participants at the Distributed Dialogues felt it was a particularly important time for the protection of UK biodiversity, following the UK's exit from the EU and the opportunity to move to a 'public goods' approach in agriculture.

> *"If the current government moves to rearrange our agri-environmental subsidy regimes towards payments for 'public goods' like clean rivers, biodiversity, soil health, natural flood management and carbon sequestration are seriously implemented and successful, it will have an astronomical effect in recovering our devastated and depleted biodiversity." (Distributed Dialogue, online workshop)*

At the online workshops held as part of the Distributed Dialogues in August 2020, increased green spaces were heavily incorporated in participants' visions for the future. This may represent a response to the Covid-19 pandemic and national lockdown which made unequal access to private green spaces more apparent. Participants who were reconvened at the final Public Dialogue workshop in June 2020 particularly highlighted that green space has become more of a necessity since the pandemic, when other types of recreation have been closed.

[33] https://onlinelibrary.wiley.com/doi/full/10.1111/j.1539-6924.2011.01695.x

The fact that participants spoke of issues currently in the public eye when discussing what they felt to be important, shows the role of the media in both reflecting and conveying urgency of environmental issues. The types of media sources that participants referred to during the discussions were diverse and included newspaper/magazine articles, documentaries and TV programmes and radio. Images were particularly influential as they evoked emotional responses (such as shock or concern) from participants.

> *"We discard plastics, and I've seen documentaries on this, where you see these beaches. You think it's such an idyllic place, but then you see the other side, the beach is completely littered." (Public Dialogue, London)*

These examples again highlight that visibility is a strong influencing factor, as public priorities related to environmental issues where harm is visible and tangible. The media is one seemingly effective way of increasing visibility and thus raising awareness of issues which may not be physically close by. As discussed in Chapter 2, there were some policy areas which received less attention across the Dialogues, such as biosecurity. Key to generating awareness of these less high-profile policy areas is to make the harms associated with these more visible and tangible to people.

4.6 Social norms

Social norms around environmental behaviours, such as using sustainable products and recycling, can help to explain the choice of many participants to bring along plastic items, alternatives to plastic, items representing waste and objects about sustainability. Participants were likely influenced by norms and societal expectations around sustainable living and the rejection of waste culture, and perceptions of what others would think, when selecting their objects.

Aspirations to live more sustainably came through strongly during the workshops. Participants referred to things they do in their daily lives, such as using alternatives to plastics and reusable items (cotton swabs and menstrual cups), or growing fruit and vegetables.

> *"I think we all have seen that picture of that little seahorse holding that disposable cotton swab… It just sounded like a good idea, to have that as a permanent one, instead of the disposable ones." (Public Dialogue, London)*

One view was that adopting a more sustainable lifestyle has benefits for feeling part of collective action and having a sense of making a difference and achieving something. This suggests that motivations around sustainable behaviours are complex and not solely related to the environment itself, but also broader social norms. The quote below illustrates awareness among participants of social norms around recycling.

> *"I think because recycling is getting better isn't it, or it's more known about now…I do think it is one of the most popular things that people are trying to do." (Public Dialogue, Chesterfield)*

Participants also spoke of their hopes for society becoming more sustainable and a dislike of waste. They described society as increasingly "throwaway" and were critical of wasteful behaviours (such as food, clothing, and electronic devices). Social norms had a strong influence on participants at the Dialogues, which suggests that it may also be possible to raise support/action for other policy issues through appealing to these.

However, whilst participants agreed that reducing waste was important (at the Public Dialogues reducing unnecessary waste was a top priority at all three workshops) this research was not able to provide evidence on whether their everyday behaviours reflected their stated concerns. As discussed in our scoping review, the intention-behaviour gap (the presence of discrepancies between stated intentions and actual behaviour) remains a key challenge for environmental policy/behaviour change. Whilst social norms may go some way to influencing behaviour there is a need for further action to close this gap. This may include setting out clear cut responsibilities for different actors (such as individuals and businesses). Views on roles and responsibilities for action are further discussed in Chapter 5.

4.7 Culturally constructed ideas of the environment

The programme of engagement that we undertook sought to generate rich detail about the public's understanding of "the environment" and their priorities for it. Inevitably, participants' ideas of the environment (what they imagined, preferred, and expected the environment to be like) were bound up with socially and culturally constructed meanings, assumptions, and beliefs.

One such example was ideas of the environment which have traditionally attached value to aesthetic appearance and beauty. For example, at the Distributed Dialogue event that took place in Plymouth, the aesthetic value of the marine environment emerged as important to people. Participants described the sea as "beautiful" and spoke in terms of its main visual components (openness, sand, waves). Furthermore, when asked what the sea meant to them, some participants expressed the link between the ocean and national identity:

> *"We are an island, the sea around one coast defines us as a nation." (Distributed Dialogue, Plymouth)*

At the Public Dialogues, participants reflected on the types of environment they valued and preferred. The presence of litter and rubbish was described as "ugly" and participants preferred the environments they spent time in to be "clean" and visually attractive.

> *"We really feel strongly about, when we go on holiday, we have something or a vision in mind of where this place is, what you want to enjoy. Going out, like me, I like going to the countryside. Yes, I like cycling there. So, see the parks and cycling paths, I expect something a bit cleaner." (Public Dialogue, London)*

Preferences and expectations for the environment to be clean can help to explain why participants prioritised environmental issues that threatened this ideal (things like litter and waste and pollution). Litter and rubbish were seen to be "out of place" in the natural environment and ruining the pristine environment that participants expected.

> *"It's just unbelievable the amount of junk that just washes up on the shore. … You just wouldn't expect it to be there." (Public Dialogue, London)*

Additionally, participants at the workshops spoke of a strong connection between the environment and their health/wellbeing, which was underpinned by both personal experience and the long-held belief that spending time in the environment is fundamentally good for us, something already highlighted in Chapter 2. However, participants also tended to discuss aspects of the environment through a more negative lens, and so despite identifying this connection, more of the discussion was

focused on how different forms of waste or pollution were felt to be unhealthy as a means to bring a contrast with places, such as the countryside or parks which were perceived to be healthier.

> *"if the waste wasn't there, everything would be a lot better to look at. When it's ugly and covered in rubbish, it does affect health and well-being." (Public Dialogue, Hull)*

> *"Just walking in the park, fresh air, with the toxic, the air, you go to the park for the freshest of air, right, so I don't know, yes, I don't know, it's just, it's needed for our health." (Public Dialogue, London)*

4.8 Conclusion

This chapter has set out a range of factors that influence the public's environmental attitudes. In doing so, it illustrates the complex and multifaceted nature of what matters to people about the environment, which is shaped by a number of factors, from personal experiences and beliefs, to wider social norms and expectations.

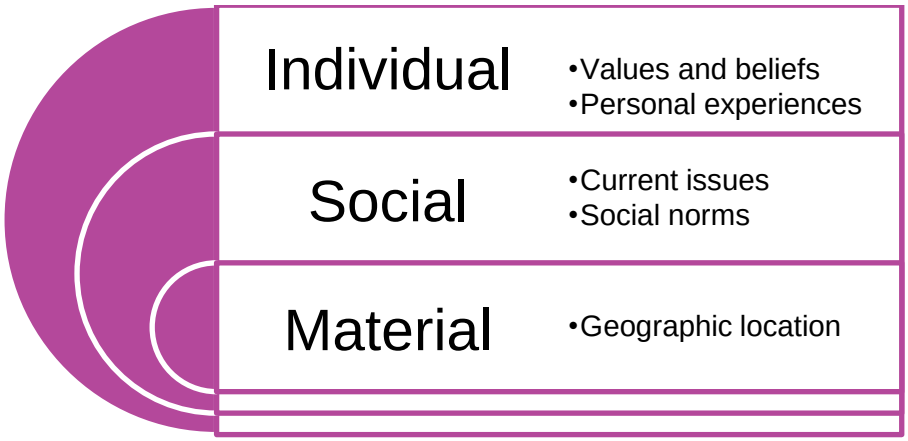
Figure 4.1 below shows how some of these factors map on to the ISM framework, a behavioural theory which was developed through a review of interventions aiming to support lower carbon lifestyles which all used at least one mechanism for behaviour change drawn from the individual, social and material contexts[34]. The model has since been used in the environmental policy area to help to understand the factors driving people's decisions to engage in pro-environmental behaviours, such as recycling[35].

As the diagram illustrates, the three levels are best seen as existing in a nested structure and are fundamentally interlinked. This model is useful for interpreting the findings of the Dialogues as it highlights the different levels of influence on peoples' attitudes and how these must be seen as part of a complex system. Furthermore, by going beyond the individual, ISM signifies the importance of policy considering the social and material worlds that the public exist in when making decisions designed to achieve the goals set out in the 25YEP.

[34] Southerton, D, Mcmeekin, A & Evans, D 2011, *International Review of Behaviour Change Initiatives*. Scottish Government Report, The Scottish Government, Edinburgh. <http://www.scotland.gov.uk/Publications/2011/02/01104638/0>

[35] Darnton, A. and Thorne, J. (2013) Influencing behaviours, moving beyond the individual. A user guide to the ISM tool. https://www.gov.scot/publications/influencing-behaviours-moving-beyond-individual-user-guide-ism-tool/

Figure 4.1: Factors influencing values and priorities



At the level of the individual, participants' underlying worldviews and their personal experiences shaped what they felt to be important. Beliefs and personal experiences were not independent but shaped by the wider social and material world. For example, we saw participants' personal experiences which were linked to environmental issues in their local area influence what they felt to be important.

The findings also illustrate the relationship between the social world and the types of environmental issues that participants were concerned about. High profile issues such as plastics were prominent, which highlights that priorities are fundamentally situated and reflect what is important in society at the time.

The discussion on material factors focused mainly on geographic location, although location and place itself is not solely material but also a social construction. Proximity to specific aspects of the environment, different environmental threats, and different infrastructure, meant that many of the priorities participants expressed reflected the places they knew well. Indeed, if we had conducted the Dialogues in different locations, we may have seen a slightly different array of priorities.

As this chapter has discussed, priorities are deeply rooted in the individual, social, and material realms. The fact that priorities are influenced by such a range of factors means they do not necessarily match up with the evidence on the most pressing environmental issues, which might explain why we did not see participants discuss the topics on managing exposure of chemicals or enhancing biosecurity. The fact these were not discussed should not indicate the public do not think they are important – rather it is about how to connect these issues with the local/personal and make them more visible to the public.

The following chapter draws together the visions and futures participants of our Dialogues identified. This begins to build on some of the findings presented so far on what is important to people about the areas they selected to discuss and who and in what ways different stakeholders need to act towards them being achieved.

5 Visions for the future

This chapter begins by offering an overview of the scenarios and associated visions participants from both the Public and Distributed Dialogues discussed as part of their respective engagements. It then goes on to describe how participants thought these visions should be achieved, including what tools – such as policy levers – would be needed to achieve success as well as exploring the trade-offs that arose as a result. Finally, the chapter sets out how publics engaged with the tension of balancing environmental policy making with other public policy issues and, in particular, explores the extent to which Covid-19 has influenced this.

The construction of visions and their associated discussions draws on the information and expertise participants in dialogues were presented with as well as their existing knowledge and opinions. It may be that particular topics or relationships to other key issues are not represented here if they did not arise from participants. Vision development with different stakeholders would inevitably bring in different areas of expertise and views and such dialogue would be needed to create shared visions between citizens and stakeholders.

5.1 Scenarios and visions

Whilst participants in this research all engaged in envisioning environmental futures – they did so – as explained in Chapter 2 – in different ways. They also did so at different times, with the onset of the pandemic in 2020 bisecting the work done by participants in Public Dialogues (February/March) and Distributed Dialogues (August), which will have had some impact on what was discussed.

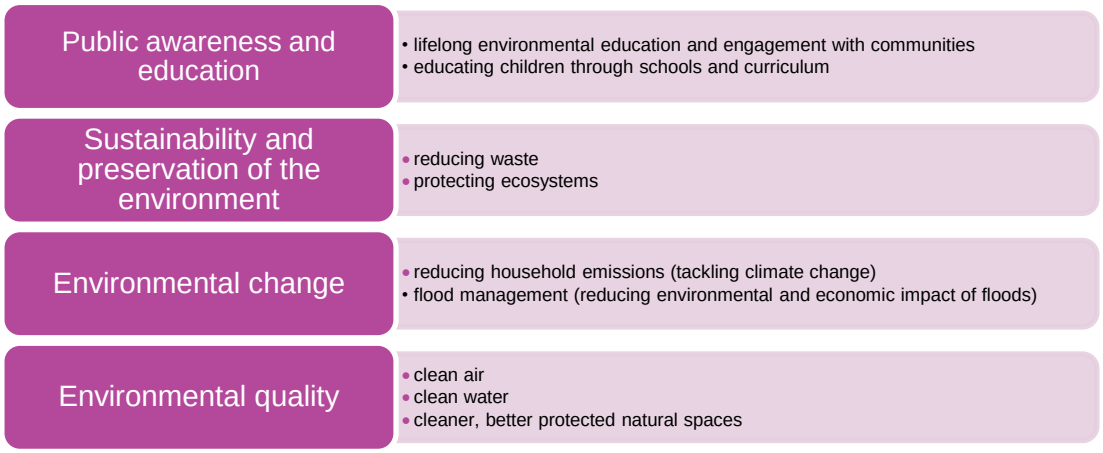
We start here with the development of visions for 2045 from the Public Dialogue workshops, followed by the "hopes for the future" online activity and scenario planning people in the online Distributed Dialogue workshops participated in.

5.1.1 Visions for 2045 (Public Dialogues)

Participants in our Public Dialogues were invited to discuss what was important to them about the environment and then to prioritise a single issue to discuss in greater depth. Each event saw participants develop visions for change in relation to four priority areas, meaning a total of 12 visions were developed over the course of the Public Dialogue weekends[36]. For each vision, groups were given a template to help them 'build' their idea and consider key actors and policy levers in doing so[37]. As outlined in Chapter 3 there were some connections running through these priorities, meaning we were able to identify some key overarching categories in which these visions sit (see Figure 5.1 below).

[36] Whilst a total of 12 scenarios were developed, several of these overlapped (education and waste). To avoid repetition these scenarios are discussed together. See Appendix E for these.
[37] As highlighted in Chapter 2, participants had received information on policy levers government can currently use and made reference to these in the development of their visions.

Figure 5.1: Visions for 2045 - key themes



Mirroring the factors influencing priorities discussed in Chapter 4, there were also a range of factors underpinning vision selection and development. This included personal views and experiences, perceptions of change (in terms of perceived impact or reach) and concerns about current and future public wellbeing and the environment. These were interlinked, meaning in many cases participants' decision to develop a vision was tied to a range of influencing factors.

Public awareness and education

Vision for 2045

Education was the focus of three visions for 2045 selected and developed at both the Chesterfield and London workshops. These visions had in common the goal to use education as a tool to stimulate long-term change in environmental attitudes and behaviours. The drivers around education being a priority were often less about government needing to provide more education, but more a response to people's hopes and beliefs that if others knew enough about a certain issue they could act; this made tangibility of how change might happen outside of formal school curriculums more difficult to imagine. However, there was also some appetite for education to be used over fines to improve long term compliance with rules.

In achieving this goal, groups who worked on these visions targeted different age groups. Participants in Chesterfield concentrated on teenagers, whilst London groups looked across ages. For those in Chesterfield this focus was not solely about raising awareness, but combined with aspects of future careers and creating an economy in which there are lots of green jobs:

> *"In 2045 we want a society in which for children aged 11 to 16 there are a range of regularly funded valuable educational opportunities for the environment, there is a clear pathway between these opportunities and careers, in which children are aware of environmental issues and this feeds into public awareness. A consistent curriculum into which environmental issues are better integrated. To leave a better environment for the future." (Public Dialogue, Chesterfield)*

In London, participants collectively agreed that it was important for education to focus on the public at all stages of life. It was felt to be important for environmental education to begin from a young age, as participants felt this would ensure lifelong engagement with environmental issues, and ultimately lead to people fostering sustainable lifestyles in adulthood.

> *"Through education, generations of children will influence and change their communities to achieve a cleaner more sustainable lifestyle." (Public Dialogue, London)*

How to get there – key actors and the role for government

In order to achieve the vision, groups discussed the benefits of a **multidisciplinary approach** involving a wide range of actors, including **schools** themselves, **local government**, **third sector organisations** and **social workers**. Suggestions included equipping schools with improved access to outdoor spaces and fostering partnerships between schools and **local stakeholders** (businesses, environmental charities, council) to increase opportunities for environmental engagement. The group in Chesterfield highlighted the role of those who influence young people, including peers, teachers and influencers in the public eye (for example, on social media).

Across the groups the **government's role** was seen as integral, mainly in relation to **funding** being distributed downwards through a hierarchy of key actors. For example, there was the view that **third sector organisations** should receive funding from the government to work with communities to facilitate attitudinal and behaviour change. Another suggestion was that schools could receive grants to help them implement changes to the curriculum.

Whilst government funding was highlighted as an important lever to increase availability of education there was discussion about the implications for increasing spending on other policy areas.

> *"Do you focus on environmental education and then ignore - not ignore - but put less money into other things, which I think personally would need more funding from the local authority?" (Public Dialogue, Chesterfield)*

Participants were, however, unsure about what these other areas were in the context of their local authority, which highlighted a desire amongst the group for more clarity on spending. Nevertheless, there was recognition of the long-term gains to be had through **investment in education and awareness campaigns**, for example, through stimulating behaviour change and reducing costs associated with environmental disasters further down the line.

> *"If you're funding these climate change ideas, then if things like flooding is caused by climate change and then that stops, that costs the government hundreds of thousands every time there's a disaster like that. If them disasters are going to start calming down because of the better education, are they not kind of getting their money back long-term?" (Public Dialogue, Chesterfield)*

The groups working towards visions in relation to education also reflected on the key challenges in achieving the vision. This included concerns about the effectiveness of education as a means of behaviour change.

> *"Are people going to be bothered anyway? We could do all this and then people don't actually follow through." (Public Dialogue, London)*

Whilst participants saw education as an important lever through which to effect change, this quote suggests that they also recognised the limitations of education as a means of motivating positive behaviour change.

Sustainability and preservation of the environment

This category encompasses a range of visions which related to improving sustainability and preservation of the environment.

Reducing waste

Vision for 2045

Building a scenario around **reducing waste** was chosen by one group at each workshop location. Groups discussed reducing different types of waste, such as clothes, household goods and furniture/technology as well as specific materials such as single-use plastics. Visions included using "biodegradable materials over plastic" and "for the UK to be non-recyclable plastic free by 2045."

These vision statements were underpinned by concern about increasing use of plastic in a more consumer and convenience driven society, and the impacts that plastics have on ecosystems, and in turn, our health (microplastics in the food chain). A key challenge was felt to be the fact that most consumer goods business models rely on people buying things on a regular basis, meaning goods are sold cheaply and need replacing regularly.

How to get there – key actors and the role for government

Participants centred on targeting both manufacturing and individual use/behaviours. **Manufacturers of plastics** or businesses purchasing the plastic were felt to be at the centre of change, as were the government to enforce legislation to change behaviour. **Local authorities** were also seen as agents of behaviour change through the provision of more ways to recycle any plastics individuals use.

At London, participants wanted to see companies use biodegradable materials over single use plastic which would have knock-on-effects on the amount of single-use plastic being consumed. Among the group in London there were differing views about the key actors involved in achieving a reduction in waste. Whilst some participants felt that the focus should be on manufacturers – as they are responsible for selling products – others felt it was a **joint responsibility between manufacturers and individuals.** There was general agreement that the government should be responsible for ensuring that manufacturers are producing sustainable and biodegradable packaging.

In Hull, the group who selected this vision wanted the government to ban production of non-recyclable plastic packaging. Addressing the supply of plastics was seen as a way of changing people's habits. In Chesterfield, the focus was on ensuring new products last and are repaired rather than replaced.

Whilst the key actors implicated in this vision were mostly **government** and **businesses**, participants did discuss a range of **trade-offs** – such as an outright ban on plastic leading to job losses, as well as how they felt about the consequences of some policy routes. This included low support for taxing individuals but higher support for taxing businesses. Participants also noted that alternatives to plastic production are themselves not environmentally neutral – citing glass production as an example of something that is more expensive and has similar waste issues.

Preservation of ecosystems

This priority area was selected at the London event to reflect participants concern about increasing pressures on ecosystems and loss of habitats as they compete with

other needs, such as housing. Another related priority was around the importance of retaining and maximising green spaces for people who live in cities.

Vision for 2045

The scenario and vision revolved around the tension of needing to build more **housing** in the capital (specifically social housing), but also protect and preserve **green spaces**. Participants wanted the vision to encompass their hopes around humans and the environment living alongside each other, reduction in habitat loss and the development of a new prototype or template for sustainable housing in the future. Participants saw their vision as a blueprint "*to exemplify how urban housing and sustainability can go hand in hand*." The vision laid out three key standards for building social housing:

- requiring old housing to be used before green spaces are utilised
- if green spaces are used, an eco-friendly design is used
- the design has a focus on integrating residents and communities in the ecosystem

How to get there – key actors and the role for government

Key actors in achieving this vision ranged from **property planners**, who hold the key to decision making on building on green spaces to **private developers** and owners who may play a role in decision-making around green property development. Drawing on informant presentations about 'net gain' and the example of carbon offsetting, one suggestion was that developers should take responsibility for reducing the impact of building on the environment, such as by planting trees or replacing green spaces used.

Local businesses were also felt to be important to support the development of an eco-friendly environment. Participants highlighted the role of **technology** in maximising green space, such as with rooftop or vertical gardens, although they recognised that cost was a barrier to such technological solutions. A key policy lever to enable this was felt to be providing **grants** to businesses or providers of sustainable materials/practices to incentivise eco-living.

The **government** was also seen as having a role to play in improving building standards to reduce negative impacts on the environment. A staggered approach to new regulations was favoured, starting with policy statements and eventually followed by stricter bans. Legislation was seen as integral to enforcing change in the longer term.

> *"It's all very well to provide guidelines and recommendations and government policies, but we heard that, it's more often than not, it doesn't achieve anything unless there is a structure below it that supports it." (Public Dialogue, London)*

This scenario prompted discussion and debate among other groups at the London workshop. For instance, whilst there was agreement on the need for more affordable housing to enable people to live in their community, some participants argued that the vision was geared towards building on green spaces rather than preserving ecosystems. The group who developed the vision responded to this by emphasising the importance of having standards that will regulate housing development in the future.

> *"There could be a situation where we have to create on a green space and then in that situation, what do we do to limit that damage?" (Public Dialogue, London)*

Participants who reflected on the scenario at the final online workshop strongly agreed with the rationale for the vision (for all new social housing developed on green spaces to be done sustainably to protect local ecosystems). They discussed the need for green spaces, including for health and wellbeing, and particularly in light of the fact that green space is often not at the forefront of building developments. One view was that building itself does not have to be destructive to nature, and that it is possible for humans and nature to co-exist.

> *"We can all coexist, and therefore those buildings should be built with including as much wildlife and the environment as much as possible, because I believe that we can all coexist. It doesn't have to be either us or them, it can be us and them together." (Public Dialogue, online workshop)*

Environmental change

Visions in this category related to mitigating/reducing undesirable changes in the environment. The focus of these visions was at the **household level**, in terms of cause (household emissions contributing to climate change) and impact (of flooding on residents in affected areas).

Flood/water management

Vision for 2045

This was a vision where **personal experience** of the issue played an important part in its development at the workshop. Whilst based on experiences of flooding in the area, the vision was felt to be applicable to the UK as a whole. The focus of the vision was on reducing flooding in residential areas and was directly formulated in respond to recent flooding events in Yorkshire.

> *"In 25 years, we want less flooding, particularly in residential areas, reduced harmful financial and social impacts of flooding on communities." (Public Dialogue, Hull)*

Participants agreed that there were a range of challenges in relation to flood and water management. They cited some examples of actions that they felt could increase risk, including building on flood plains accompanied by lack of flood management (such as dredging of rivers and flood defences).

Participants hoped that flooding would be reduced to limit the damaging impacts on communities, although they stated that it would not be possible to eradicate completely. Interestingly, the vision focused on the human impacts of flooding (reflecting personal experiences) and there was no discussion about the impacts on the environment itself. When the group presented their visions to the workshop during the plenary session, participants from other groups noted the absence of this aspect of flooding and felt it should be incorporated into the scenario. This reflected the range of different perspectives on flooding as both a social, economic and environmental issue.

In addition to reducing impacts on communities in the event of a flood, the group were also in agreement that it was important to see *"definitive accountability"*, defined as being clear about who was to blame. Participants felt that **accountability** was currently poor, with builders not taking responsibility for developing housing on flood plains, leaving residents having to pay high insurance premiums.

How to get there – key actors and the role for government

Many of the scenarios developed at the public dialogues and discussed in this section focused on how the vision could be achieved through a range of actors, including the government, private sector and public. However, in the case of the flood management vision there was a strong preference for the **government** to take a leading role in reducing flooding, partly driven by the perception that current government action in relation to flood was inadequate.

> *"It should be government led. There's agencies that are already in place." (Public Dialogue, Hull)*

The levers that participants suggested would be important in achieving the vision included **changing infrastructure**. Examples included the introduction of natural forms of infrastructure, such as natural flood plains.

Some of the negative effects of using infrastructure to tackle flooding were noted to be the knock-on effects on other places, suggesting that participants understood the complex and interconnected nature of water systems, as well as the need for holistic and joined up solutions. Although there was limited discussion about the environmental aspects of flooding, the group did note that some river management techniques, such as dredging, might have adverse ecological consequences. They also discussed the fact that flood defences have the potential to be controversial and divisive, particularly as they are often not aesthetically pleasing.

Legislation was felt to be important for ensuring a more **joined up approach** to flood management, such as through national regulations on building on flood plains and flood defences. Conversations in Hull about flood management recognised that the roll out of any new legislation might also have knock on effects on other existing laws, recognising the balance of considerations policy makers take on issues. They also thought a potential barrier to legislation would be that current administrations don't act for fear of others taking credit for their work if there was a change in government. In contrast to the findings on reducing waste, participants felt that people wouldn't mind having their taxes increased if they were "seeing results."

Climate change

Vision for 2045

Participants who chose to work on developing a vision to tackle climate change said that they selected it because of its importance as a global issue, and the fact that it is connected to so many different environmental issues. They also saw this as an area that the UK should be leading on.

As climate change was a particularly broad topic, participants were invited to narrow down their focus to enable them to develop a more specific and manageable vision. They decided to focus on the role of **households** in contributing to UK greenhouse gas emissions.

> *"By 2045, every home in the UK should be more eco-friendly and every homeowner should be conscious and aware of their impact on the environment." (Public Dialogue, Hull)*

This decision was influenced by informant knowledge as an expert informed them that household emissions are one of the main causes of emissions in the UK. Participants felt that they could relate to this in the context of their own households and recognised the different areas that were contributing to household emissions and which could become more eco-friendly. This included **consumption** of energy and water in the house (for example, through heating, cooking and washing) as well as carbon footprints through household products and travel. Fostering greater **awareness** of the role of households in contributing to emissions through these methods was felt to be an important focus of the vision.

How to get there – key actors and role for government

Non-government actors felt to be important were the **public** (sharing information, and in some cases other things like cars) and the **media** (raising awareness). Types of media that they felt would be effective included social media, radio, television, newspapers and magazines.

The role of **government** was related to putting **infrastructure and legislation** in place. Participants spoke about the role of legislation in influencing businesses and manufacturers, but also for conveying the importance of change at the household level.

> *"If people know that the government is actually involved in this, then they'll take it a bit more seriously." (Public Dialogue, Hull)*

Infrastructure was felt to be critical for achieving the vision; examples of this included home technology such as smart meters and the switch to electric. Incentivising households to become eco-friendlier through the use of grants to increase energy efficiency was also identified. There was debate around whether grant schemes were already being offered or had been in the past. On the other end of the spectrum, another suggestion was that households could be fined for not complying with guidelines around recycling, for example. Participants in the group acknowledged that fines should be introduced carefully with consideration of unintended consequences. They were concerned that fines could lead to more fly tipping, for example.

> *"If you start fining people for putting, contaminating their own bin, then in order for that bin to get emptied, they'd have to pay the fine, they'd be at risk of fly tipping." (Public Dialogue, Hull)*

In light of this participants suggested that **education** might be a more effective lever for changing people's behaviour, such as through mandatory courses.

Environmental quality

Several visions related to improving and maintaining quality of different aspects of the environment, including water, air and green spaces. These visions were underpinned by a belief in the importance of **equal access** to a high quality environment.

Clean water

Vision for 2045

This vision was developed by a group at the Chesterfield workshop. Reasons for choosing to build a scenario and vision around clean water stemmed from a range of beliefs and hopes. This included the belief that clean water is important for individuals' health and wellbeing, in particular the negative consequences poor water quality has on food growth and consumption. It was also felt that poor water quality had negative implications for wildlife and was important to combat to improve the environment for animals and plants.

The vision also encapsulated participants' hopes that clean water would be maintained for **future generations**.

> *"We would like to see unpolluted water for generations to come and beyond 2045." (Public Dialogue, Chesterfield)*

Participants defined unpolluted water as being free from waste and chemical pollution. Water quality was seen as a national issue, both in terms of ensuring equality in access to clean water and also because there was recognition of the knock on effects of pollution in one area on water in another:

> *"If they start dumping in Lancashire, it's just going to come down to us, isn't it?"(Public Dialogue, Chesterfield)*

How to get there – key actors and the role for government

The group recognised that water quality was affected by a collection of different actors and called on a range of key actors to implement the vision, including **businesses, farmers and water companies.**

There was debate amongst the group about the extent to which businesses are responsible for polluting water, illustrated in the conversation below. One view was that businesses were ultimately the ones actively contributing to pollution through their actions. Another was that the government was an equally important part of the problem by not regulating this.

M: "The government isn't polluting our rivers with plastic."

F: "No, but they're not helping us by stopping us polluting plastic in rivers, are they?" (Public Dialogue, Chesterfield)

Overall, **the Government** were seen as central enforcers of any changes imposed to improve water quality. Some of the levers mentioned were punitive such as **fines** for companies who discharge waste into water (through a leak, for example). Participants thought that this lever would be effective if used on businesses as it would affect their income and they would therefore be more likely to take notice to avoid being fined. Local environmental groups were seen to have a role in monitoring behaviours and reporting breaches, but participants also valued independent environmental bodies. The group also saw value in grants for local councils to clean up waterways.

Another key actor mentioned was **individuals**. Participants felt that the wider public needed to learn about the importance of water quality with the assumption that knowledge would instigate behavioural changes (such as not littering) and prevent damage. Finally, **voluntary and community groups** were felt to have a role, in the sense that they could raise awareness of the importance of maintaining water quality.

When this vision was presented to other participants at the Chesterfield workshop there was discussion about some of the tensions and trade-offs involved in achieving the vision. For example, improving water quality by reducing use of pesticides in farming presented the challenge of how to ensure food production. One view was that alternatives such organic farming were a solution to this, but that this was problematic in light of industrialisation of farming.

Clean air

Vision for 2045

Much like clean water, clean air was selected because it was seen as a cross cutting issue that influences health, economy and environment. Participants focused on three sources of air pollution – car emissions, plane emissions and industrial emissions. These were seen to be problematic as they were sustaining current consumer lifestyles and preferences. For example, participants noted that we import food from other countries (which travels via plane) because we are accustomed to having access to produce all year round. There was also discussion about the move to electric cars – participants referred to a presentation by informants about the contribution of braking dust to poor air quality.

The vision was bounded in a UK context, as it was felt too unrealistic to tackle a wider remit than this. The vision stated that by 2045 there should be universal clean air for people living in cities, obtained by using cleaner fuel sources and developing new technologies. The most important aspect of the vision for participants was having "*equality in air quality.",* ensuring that all areas of the UK have the same standard of air quality.

> *"By 2045 there should be universal clean air for people living in cities, obtained by using cleaner fuel sources and developing new technologies." (Public Dialogue, Chesterfield)*

How to get there – key actors and role for government

As with other scenarios a range of actors were expected to be important to achieve this vision. The group identified three types of key actor: those causing polluted air e.g**. businesses** who release emissions, the **government,** who is expected to hold businesses who pollute to account, and **influencers and scientists** who are responsible for educating individuals on the issues relating to clean air. Participants referred to existing influencers that they perceived to be able to transmit a powerful message about environmental damage, such as Greta Thunberg. In terms of

businesses, there was discussion about initiatives to switch to cleaner fuel by energy companies and whether there was genuine buy in.

The role of government related to several policy levers. Participants wanted to see the **infrastructure** needed to encourage universal use of electric cars and thus improve air quality. However, they recognised that there needed to be an energy source for these that is effective and doesn't implicate air quality.

> *"If everybody has electric cars in this country, in the UK, then where is the source of the energy? How are we going to sustain the source?" (Public Dialogue, Chesterfield)*

Participants were also supportive of **legislation** used to set targets for emissions. At the workshop there was wider discussion amongst participants about other solutions and levers to achieve the vision. For example, the role of planting trees in improving air quality was felt to be important and currently missing from the scenario.

Cleaner, better protected natural spaces

Vision for 2045

This vision related to hopes for improved quality of the environment in a wider sense. Participants who developed the vision focused on improving and protecting natural spaces, and they predominantly focused on green spaces. This vision was driven by concerns about how safe, accessible and clean the local environment was, and they wanted to ensure that communities were able to use local spaces for the benefit of their mental and physical health.

> *"To have more, cleaner, better protected natural spaces, constantly monitored, being used by our communities to improve all aspects of health and public wellbeing." (Public Dialogue, Hull)*

How to get there – key actors and role for government

There were a range of views about where responsibility for achieving this vision lies. **Communities** and **the public** were felt to be important in taking action to ensure their local environment was clean and safe. However, this was felt to be enabled by the government providing communities and local authorities with the tools they need to do this. This included **grants and funding for maintaining public spaces.**

5.1.2 What's next for nature? (distributed dialogues)

As discussed in Chapter 2, in light of Covid-19 restrictions, the second round of distributed dialogues took place online via two workshops.

Hopes for the future

Prior to attending online workshops participants were invited to think about their "hopes for the environment in 2045" through a social media exercise. These provided an insight into what participants envisioned the environment to be like in the future without the parameters of a scenario or information about government priorities. Broadly, participants' hopes related to the following three key themes.

The relationship between people and the environment

Some hopes related to seeing a stronger connection between humans and nature. Mirroring the discussions seen at the Public Dialogues, participants wanted to see others attached greater value to the environment. It was felt to be important for young people to connect with nature through school based environmental education, both to empower them to protect it, and for the health and wellbeing benefits associated with spending time in nature. Others' hopes were focused on humanity as a whole – there

was a desire for people to live “in harmony with nature,” defined as understanding that our actions have consequences for the environment.

Changes in the way environmental policies are made

Participants’ hopes for nature also related to fundamental changes in environmental policy and decision making. A key theme was the desire for a more holistic and decentralised approach, characterised by community engagement and involvement in decisions (through citizens’ assemblies, for example).

Sustainability at the heart of society and the economy

Sustainability was felt to be relevant to a range of elements, including business practices, consumer goods, housing and agriculture. For example, one hope was that “everything we do should be done with sustainability in mind,” such as farming (rotation of land).

> *“If you're using the land for the same thing over and over, it's not sustainable.” (Distributed Dialogue, online workshop)*

Fictional cities and scenarios

During the workshops, groups were initially assigned a description of a “fictional city” and were invited to collectively to imagine their utopia for this place. Across the fictional cities, participants’ visions focused on some key themes:

- **co-existence between people and nature** – this was a vision indicated by participants’ focus on having green spaces integrated into their city, through re-wilding and green design, for example
- **participatory decision making –** participants wanted to see a decentralised form of governance and referred to citizens’ assemblies as a way of achieving this
- **community living** – for example, community sharing and borrowing schemes to cut down on waste
- **sustainability** – low carbon transport, renewable energy sources and transition towards a circular economy.

What was less evident in these themes were individual environmental issues, such as pollution and climate change, although these did feature in their future city.

Following this initial brainstorm, participants were provided with a trade-off scenario to consider in the context of their city – the corresponding scenarios for each city are shown in Figure 5.2 and described in more detail below. These pre-formulated scenarios were designed to stimulate discussion about the trade-offs involved in environmental decision making. Participants gave consideration to a number of aspects that speak to environmental values and potential trade-offs and their discussions demonstrate a desire to stop thinking about the short term and accept the need for long term, more radical changes with respect to the environment.

Figure 5.2: Fictional cities and scenarios

Fictional city	Scenario they received
A) Coastal city: thriving fishing and tourism industry and busy port	Fish stocks
B) Inland city: scenic city on the outskirts of ancient woodlands	Bikes and ancient woodland
C) Rural city: thriving local farming industry and beautiful countryside	Money
D) Industrial city: thriving manufacturing industry, attracting lots of people to live in the city and its suburbs	Power replacement
E) University city: located near national park noted for its habitat and resources	Gold
F) Tourism city: located near national park noted for its habitat and resources. The city welcomes lots of tourists every summer	Money

Coastal and marine trade-off scenario

The "fish stocks" scenario was applied to one of the fictional cities (coastal city) that participants worked on. Summarised in Figure 5.3, this scenario presented a trade-off between sustaining the city's economy and protecting the marine environment.

Figure 5.3: Fish stocks

Fish stocks are plummeting, and experts warn of imminent economic decline. For many years the local community have relied on a plentiful supply of fish, underpinning the industries the city is famed for. However, scientists have discovered that the current practices have caused significant damage to fish stock levels, which unless acted on immediately, will lead to economic hardship, and an ecosystem that will take many years to recover – if at all. The Mayor has convened a public committee today to come up with radical suggestions for ensuring future seafood production is sustainable, and the future for people and wildlife is secure.

Initially, participants had a discussion that challenged the scenario itself – questioning whether it was essential that their City continued to fish. In this discussion, people were framing the event as an opportunity for change and addressing the current status quo. When sharing these thoughts back in the plenary session – a member of a different group highlighted that thinking outside of the current paradigm might reflect the impact of Covid-19; which has provided us with momentum to re-think things.

This city's main response was to diversify, by turning to other types of seafood and promoting changes in diets as well as looking to set up marine reserves for green tourism. They also thought about using their location on the coast in different ways and looking at opportunities for tidal power – but recognised this agenda risked biodiversity. What their discussions indicate is that people were thinking about the complexity of different aspects of the environment and that what might be favourable for the climate

(e.g. switching to renewables), might have negative consequences on plant and animal life.

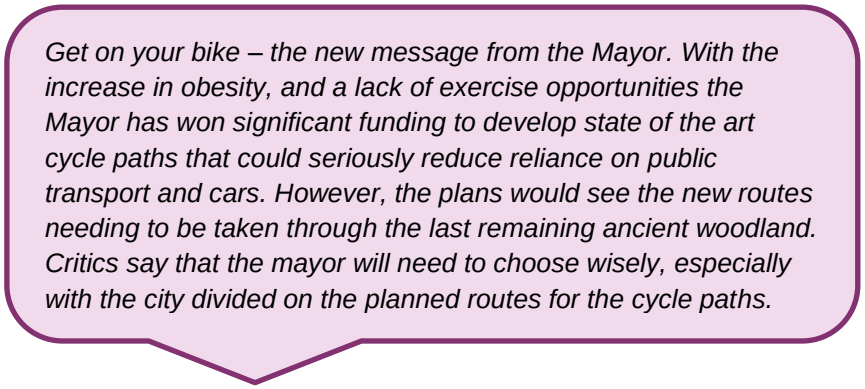
The group also discussed how they would get buy in from people and were keen on participatory decision making. They felt the complexity of the problem called for collective decision making, and they looked to back this up with legislation and enforcement.

The group felt that this scenario made them reflect on the need for long term change with respect to the environment and not always to short term practical solutions.

Environmental damage scenarios

These scenarios, outlined in Figures 5.4 and 5.5 presented participants with a choice that highlighted tensions between protecting/preserving the environment and other areas, such as gains for health or the economy.

Figure 5.4: Bikes and ancient woodland



This city started their discussions by identifying the importance of finding a way to incorporate new cycle paths in a way that wouldn't harm the woodland:

> *"did it need to be an either / or scenario? Or could we think more holistically and sensitively around it? And could we think about, rather than being a trade-off between a sort of natural environment and the cycle route?"*

The group did view the path as a good thing – as it provided a way to connect people to the environment and whilst they did touch on the wellbeing benefits of this, they didn't really discuss the problem of obesity presented in the scenario, so it was difficult to get a sense of how they might weigh up environmental vs health priorities.

However, through recognising the challenges of creating the path without damaging the environment, the group understood the trade-off that the scenario presented, and that there would be a sacrifice or downside whichever option they selected. This led to some debate without resolution and a proposal that perhaps it was better to improve the cycling experience on nearby roads as the rationale for chopping down ancient woodland was not strong enough. This more clearly demonstrated a valuing of nature above other considerations.

Figure 5.5: Gold

Wildlife conservators have stumbled on a major deposit of gold in the local national park. Initial estimates value the gold to be worth more than £1 billion. Experts agree that this could prove a vital investment for local infrastructure and has the potential to improve the lives of local people. However, excavating the gold cannot be done without significant damage to the national park, its landscapes and habitats. Biodiversity experts warn that this damage would take years to repair. The Mayor's office are meeting today to decide what to do next.

The group responded to the tension between protecting the environment and economic gain set out in Figure 5.5 by highlighting the importance of impartiality and evidence. They wanted to go through a process of information and evidence gathering – led by independent experts – before making any decision.

This group also spent quite a bit of time discussing how to balance the financial gain of mining for gold with the potential loss of nature (in economic terms):

> *"…it could be a billion pounds worth of gold, but we could lose 2 billion pounds worth of nature,"*

Without specific input on ideas of natural capital, this group were drawing on them suggesting that people can make use of – and might find helpful – like for like economic comparisons on some aspects of the environment.

The group were also concerned that the gold would have a significant impact on people's lives, and they decided to use a participatory approach (e.g. a citizens' assembly) and have a democratic vote.

> *"Because the National Park is shared with everyone on the island, so everyone would actually have, you know, a potentially a negative effect on them."*

As illustrated in the quote, their reasoning was that there was a range of groups with a stake in the decision. They therefore focused on the process that they would go through in relation to the scenario and did not decide whether or not to excavate the gold.

Power and energy trade-off scenario

This scenario focused on decision making around energy resource in the context of a longstanding source of energy no longer being an option. The scenario described in Figure 5.6 invited discussion about how to meet future energy needs. The group chose to think about this in the context of energy supply and demand as a whole:

> *"we talked about framing the challenge, in a different way, that was more about energy, the energy sources and consumption per se, and balancing that out to make more of a whole roadmap, a whole plan for everything together."*

Figure 5.6: Power replacement

Our city faces a power crisis, as the current power plant fails. The city has enjoyed reliable power for years, but engineers assessing the current nuclear power plant have indicated it will need to be decommissioned in 10 years' time. With a significant demand for power from local industry, the public sector, and individuals urgent decisions need to be made in order to invest in new power provision for the city. The Mayor has convened a public meeting today to explore attitudes to power provision, and the key factors that need to be taken into account. This urgent meeting is a key step to meeting the ever increasing needs for power, and decisions made today will shape the future of the city for a long time to come.

After agreeing on how they would frame the challenge, the city went straight to discussing the actions they would take. The first was an appetite for determining how much energy was needed and investigating other options for energy supply. In doing so they discussed taking into account cost benefits, employment and the environment. The potential impacts of a new source of power supply was considered in detail, suggesting an understanding of the complex and interconnected nature of environmental policy making.

The group also thought through the potential impacts of the existing power plant being decommissioned on areas aside from energy supply. They were concerned that jobs would be lost as a result of the decommissioning, and therefore a key consideration for alternative options was supporting the local economy. One suggestion was that replacing the nuclear power plant with another local option would enable this.

> *"We also talked at the end about how we are decommissioning the power plant and how that would have an impact on local jobs? And that needs to be considered and wherever our alternatives or whatever we're looking at doing next. So, in that way, just tapping into a bigger energy grid might not be preferable, [it] might be better to have some local options that would help the local economy."*

In addition to replacing the decommissioned power plant the group saw this as an opportunity for the city to rethink energy use, including reducing demand by increasing the efficiency of buildings and rolling out solar panels and small wind farms. In this way they thought people could feel more connected to and in control of their energy supply.

Windfall and future priorities scenario

The windfall scenario was designed to stimulate discussion about future priorities in the context of a large sum of money/funding.

Figure 5.7: Money

The Mayor received a huge cheque today from a local philanthropist. The money is available immediately and is to support planning for the future of the city. The Mayor announced this morning that the money will be distributed via a public competition – to encourage new ideas and approaches to building a better tomorrow. Details of the competition, and the selection criteria are being decided today by the Mayor's office. Whilst nothing has been decided as yet, the major said 'We want to see new thinking, new ideas, and new approaches to building a sustainable future. We want to innovate and imagine a new tomorrow. Therefore, we will provide several categories for the competition, and a clear set of criteria to make the decisions by.

The two cities which received this scenario both spent their time talking about the categories they would want to see money invested in.

The rural city selected self-sufficiency as one of their categories, with a focus on energy, food and green spaces. For their second category they wanted to see an emphasis on community projects with a focus on ideas that brought people closer to nature. They felt that these categories would ensure that approaches for the future would deliver environmental benefits whilst bringing people and nature closer together. Prompted by the scenario which asked participants to envisage a "better tomorrow" this group felt it was important to not feel restricted by current norms in deciding what was important or should be valued. They were very keen to be open minded:

> *"I think we need to be a lot more open minded to other solutions, and not keep going along the same road. Because we know where it's going to end. Everything is decreasing, in decline. And so we just can't keep going. We've got to make some sort of change, and quite urgently."*

The tourism city focused on leaving space for nature – this referred to actions to protect the environment from further damage (inflicted by humans). Participants stated that they "don't want humans to take over nature." They also wanted nature to be integrated with human environments - this included changing the way spaces are designed and used to close the gap between nature and the community. Participants spoke about ways of farming, generating energy and disposing of waste.

5.2 Achieving change

As previously discussed, a range of different methods were used to explore what participants thought should be done to tackle the environmental issues they perceived to be important. This section outlines participants' suggestions for actions for change collected from the first round of distributed dialogues, followed by an in-depth discussion of policy levers and decision-making around achieving visions, based predominantly on the scenarios and visions described in section 5.1.

5.2.1 Actions for change

In various exercises across the first round of Distributed Dialogue events, participants were asked to comment on what individuals, governments and other key actors should be doing to protect the health of rivers, oceans and the environment in general.

In Bristol, participants were asked what environmentally friendly behaviours they would adopt after attending the event. In Liverpool, participants were asked to make personal pledges and urges to government about their local river (the River Mersey) and about the future of the planet in general. In Plymouth, participants were asked to comment on what can be done by people in power to protect oceans, rivers and to prevent plastic from entering the system. Figure 5.8 provides a summary what should be done to protect the environment, and by whom.

Table 5.8: Summary of what should be done to protect the environment, and by whom (Round 1 Distributed Dialogues)

INDIVIDUALS		
Behavioural change	**Products/food** • Buy fewer plastic goods • Reduce/stop plastic use • Stop using single use plastic (e.g. plastic wipes) • Use more alternatives to plastic (e.g. paper bags) • Use less chemicals in gardening • Use natural cleaning products • Eat locally/seasonally produced food • Stop eating fish **Energy** • Use alternative transport modes e.g. walking, cycling • Save energy	**Waste** • Dispose of waste correctly (e.g. don't flush litter down the toilet) • Reduce, reuse, recycle • Pick up your litter **Environmentally friendly activities** • Make garden more hedgehog friendly • Engage in local 'beach cleans' • Attend nature friendly events e.g. BioBlitz
GOVERNMENT		
Education /Awareness	**Oceans** • Greater understanding and appreciation for the sea • Education about tangible ways citizens can help • Research about how to protect marine life • More environmental research	**Littering** • Educate about littering in schools
Financial	• Increase funding to monitor water quality nationally • Incentivise proper waste disposal • Subsidise companies that provide plastic alternatives • Foreign aid for overseas projects	
Policy /Legislation /Regulation	• Environmentally friendly policies • Better laws to prevent pollution Regulate shipping waste disposal	• Regulate the use of plastic • Better legislation and enforcement of fishing protections
Infrastructure	• More beach bins • Physical barriers to prevent litter entering drains	• Ban the use of plastic • Harsher littering fines
Punitive measures	• Corporation tax	• Pressure/sanctions on foreign governments

General actions (without mention of how to achieve)	**Oceans** • Clean plastic from oceans • Stop ocean dumping • Stop overfishing • Stop deep sea mining • Better protect wildlife & ocean biodiversity • Make water safer for wildlife and humans • Better control boat pollution • Encourage cleaner boat engines • Control climate change to keep sea levels stable • Better control waste from tourist/commercial boats	**Rivers** • Clean rivers, especially the River Mersey and River Dee • Improve water waste and sewage systems **Other** • Further rewilding efforts
Other	• Greater global collaboration and partnership	
INDUSTRY		
Manufacturing /Technology	• Stop manufacturing plastic • Adopt circular manufacturing • Closed loop recycling alternatives • Create sea cleansing technology	
Supermarkets	• Reduce plastic packaging (especially for fruit and vegetables) • Plastic free stores	
Corporations	• More corporate responsibility	
Fishing	• 'Good fishing' • Put fish back	

5.2.2 Views on policy levers

At the Public Dialogues participants were presented with a selection of tools and options (policy levers) available to government in the context of environmental policy making. These tools are included in Appendix D.

Legislation and enforcing existing laws

Across the board, participants favoured legislation as it was perceived to be an effective tool in ensuring that change would happen. This was driven by the view that legislation can change behaviours as most people tend to follow laws. This assumption related to personal experience as participants referred to examples such as the plastic carrier bag charge. Participants also liked the fact that laws could be targeted i.e. introduced in relation to specific policy areas where change is needed.

Participants were also reassured by the fact that compliance with legislation can be regulated by enforcement bodies. Participants saw enforcement of existing laws as important, which tied into preferences about effectiveness of the 'harder' and 'softer' levers. In particular, there was a preference for legislation to be enforced from central government, rather than by single local authorities as there may be inconsistency in approaches across regions and areas, i.e. to recycling or burning fossil fuels (London). Legislation was felt to be a top-down tool able to compensate for the perceived weaknesses associated with other levers, most notably voluntary agreements.

Policy statements

Participants described policy statements as a "*useful as a show of intention"* but in a similar way to voluntary agreements they were seen to lack commitment. For example, one concern was that statements were less concrete than legislation, and thus easier

to ignore, or overturn by new governments. Participants were provided with an example of a policy statement being commitment to achieving net zero. There was uncertainty about how realistic it is for the government to commit to such a target.

Voluntary agreements

A key point of consensus was that voluntary agreements are good in principle as participants saw value in bringing together companies to work towards a common goal. However, a recurring theme was that they are a 'soft' tool, and participants questioned their effectiveness due to its nature as 'voluntary'.

> *"it's a soft tool, and it's probably something that should be done in tandem with another tool." (Public Dialogue, Hull)*

Underlying this perception was scepticism around compliance, particularly in relation to businesses/companies. Some participants found it difficult to understand what would motivate businesses to sign up to/comply with a voluntary agreement.

> *"What's making them keep doing it if it's a voluntary agreement?" (Public Dialogue, Chesterfield)*

At the workshops in both Hull and Chesterfield participants engaged in discussion with informants about this, as they were interested in how voluntary agreements are made appealing to companies. This led to the view that incentives (such as certification) were an important part of this policy lever. Participants saw a key weakness of voluntary agreements to be the fact that companies who remain outside of the agreement are able to continue operating in a particular way, such as offering a lower-standard production. They recognised that this was where legislation has an important role to play.

Convening

Whilst there was limited discussion about the role of convening in achieving visions it presented an opportunity to bring together people with diverse views or expertise. The downsides of convening related to its voluntary nature (relying on either individuals or groups to participate).

Taxes, fees and levies

Perceptions of fairness were important to participants when it came to financial policy levers such as taxes and fines.

One idea at the Chesterfield workshop related to an 'environment tax' – there were different views about this, but it was clear that for this to work there would need to be transparency about how the income from the tax is used to improve the environment. There was in general a desire for more clarity around what income generated from levies is used for. Participants also suggested that fines for individuals or companies contributing to environmental damage were preferred as a fairer option to a tax which everyone is obligated to pay.

Grants

Where grants were discussed this tended to be in relation to specific policy areas. One example was household energy efficiency. Across both types of engagement participants favoured grants to enable houses to move towards more energy efficient technologies, such as solar panels.

Infrastructure

Infrastructure was felt to be important for policy areas where both new technologies and changes in behaviour were needed to make a difference, for example, the switch to electric cars.

Across the Public Dialogue workshops many participants expressed concern about whether the right infrastructure will be in place to enable policy changes to be implemented successfully.

> *"the fact that if they're telling us to change to electric cars, they've not the infrastructure in place in order for us to do that." (Public Dialogue, Chesterfield)*[38]

Participants agreed that a key barrier to adoption of electric vehicles was accessibility and lack of charging points, but it was recognised that changes in infrastructure came at a cost. There was also discussion about the knock-oneffects of the move to electric vehicles on the car industry, and there was recognition that changes in infrastructure like these would need to be accompanied by other policy changes, such as scrappage schemes. Another example of infrastructure was flood defences which participants saw as important for reducing fears about flooding.

Education

Education was discussed across the Public Dialogues both as a priority and a tool and featured as the subject of visions and scenarios at the public dialogues in each workshop location. Suggestions for types of education included adverts and social media, and participants referred to campaigns they recalled, such as 'Keep Britain Tidy'.

As a policy lever, participants' suggestions also included setting up educational hubs to help to respond to challenges identified. People saw academic expertise/research as a lever they could pull to help them achieve their visions.

Decision making in achieving visions

As part of helping people to build their visions and understand how they viewed these options, a pattern emerged in relation to which policy levers should be used on which audiences and how policy levers should be used.

Using different policy levers on different audiences

It was commonplace across groups to make use of policy levers in a staggered or layered approach in order to influence change. Generally, it was participants' preference to use policy levers that didn't incur a cost to the individual e.g. a tax or a fine. There appeared to be less hesitation to apply the same view to businesses. This appeared to be down to the assumptions that taxes or fines were more affordable for this group as well as the view that in many cases businesses were thought to create or exacerbate a particular issue.

> *"you need to get them where it hurts, like you say, with the tax; it's their money and that's what they're bothered about." (Public Dialogue, Hull)*

In some discussions around taxes and fines participants did not appear to consider that the costs borne by businesses would be passed on to the consumer. There was also

[38] This comment was made in response to this was raised as an additional priority after the informant's speech).

discussion about applying fines to individuals (for example, for littering) but participants did acknowledge that this lever may have undesirable knock on effects. One view was that taxes are preferred over fees as in this way the cost should be borne by everyone – rather than just those who are identified as causing the problem.

Education was one lever which was most notably applied across the visions. This appeared to be related to the perception that there is a general lack of awareness and concern among the wider public about the issues that participants themselves said they cared about. They referred to the TV documentary 'Blue Planet' as an example of how powerful education can be in influencing changes in attitudes.

In other scenarios – such as reducing waste – a 'pecking order' was identified in terms of the sequence in which different actors needed to engage with the solutions suggested in order to achieve change. This perhaps indicates that there are areas where the public see themselves as secondary to other's actions, rather than as agents of change themselves.

'Soft' and 'hard' levers

There was also a trend for groups to focus on introducing 'soft' policy levers initially, to see whether these would influence change and subsequently introduce 'harder' levers if change didn't occur.

Participants were able to reflect on the advantages and disadvantages of both 'soft' and 'hard' policy levers which led to the suggestion that they are most effective when working in tandem. Among some groups there was scepticism that soft policy approaches are likely to be ineffective in influencing change. For example, businesses may not comply with things they signed up to do voluntarily.

Following a discussion on different policy levers and assessing whether participants favoured the use of one (or more) over others, there were several key factors which seemed to be influential:

Perceived impact of lever

There were some levers which participants liked but were concerned that they wouldn't have much effect if used on their own (e.g. it was felt that while levers such as voluntary agreements, policy statements or convening were positive they lacked any 'teeth' and were unlikely to be successful in achieving change). This was predominantly due to concerns that change was less likely if not mandatory but there was also doubt, for example, that the outcomes of a process of convening would be considered by the government. Participants felt that these levers needed to be used in conjunction with others to create change.

In comparison other levers like legislation and taxes and fees were perceived across the groups to be more effective in achieving change. However, there was also scepticism about how you can measure this impact or how you can effectively enforce the lever. One concern, for example, was about the enforcement of legislation in different geographical locations, highlighting a lack of confidence in local authorities implementing legislation. Despite the fact that education was a popular policy lever, participants still expressed uncertainty about the reach and effectiveness of educational campaigns.

Cost and time

Some groups recognised that developing levers such as legislation were time consuming and costly and they would like certainty that they would be effective before they were introduced.

There was also discussion about the more costly policy levers that required the government to spend money, and how sustainable these were in the longer term. These concerns led participants to prioritise income-generating policy levers, such as tax.

> *"I think they are very good and all need to be pursued, but my concern is that the money is going to run out and it's not going to get done. You've got to think about taxing companies that are polluting." (Public Dialogue, Chesterfield)*

Affordability / fairness of using a policy lever

Whether a policy affects everyone fairly was particularly important for levers which would introduce costs to individuals such as taxes or fees. It was perceived that taxes or fees could negatively affect lower income households and participants were concerned that this wouldn't be a fair way to influence environmental change.

Some groups raised a concern that some policy levers such as legislation or enforcing existing legislation might be enforced unevenly across the UK. The example on the legislation policy lever card (Giving Local Authorities powers to create Smoke Control Areas, in which they can control/regulate/ban domestic burning altogether) was felt to be unfair as giving Local Authorities power might mean people are treated differently in different areas.

Throughout a range of discussions that related to policy levers on their own, but also in relation to visions, different groups discussed affordability and fairness as two key factors to using 'harder' or more punitive policy levers such as taxes and legislation. There was concern that introducing these types of levers could lead to an inequality in their impact on the public, which is likely to disproportionately impact poorer households. Examples of this included:

- food – whether introducing environmentally friendly food would mean passing the costs of this down to the consumer, creating a divide between those who can and can't afford these
- electric cars – not everyone will be able to afford an electric car (particularly in the short term)

Punitive policy levers where success is demonstrated

In some cases, participants felt that taxing the public would be seen to be acceptable if there was a clear demonstration that the taxation had a positive impact on an environmental priority. This finding resonates with academic research showing that proof of efficacy of a policy leads to greater support for it[39].

Overall, during the fictional city discussions there was less reliance in the workshops on punitive policy levers e.g. fines, bans. This is probably because participants focused on broader goals for change rather than the individual policies they could use. However, there were some examples of taxes (for example, a carbon tax) and legislation (one group said their back up would be enforcement but didn't elaborate on this).

Holistic decision-making

At the online Distributed Dialogue workshops a key theme was the value placed on the involvement of a range of actors working together in a holistic way. One aspect of this was calls for different government departments to come together to ensure that all

[39] https://www.phpc.cam.ac.uk/pcu/public-support-for-a-policy-can-be-increased-by-communicating-evidence-of-its-effectiveness/

policies consider impacts on the environment. As well as government, participants mentioned non-government organisations, experts, and the public as playing an important role in setting out a plan for managing the environment and finding solutions. It was thought that democratic engagement of the public was an important part of this, for example, community meetings to generate ideas. However, simultaneously there was also a desire for policymakers to take control and implement large scale actions that would make a real difference in the long term.

Importance of expertise

At both the Public and Distributed Dialogue workshops participants discussed how they would tackle the challenge raised in their scenario. Many of the plans set out included the need for experts to have a say before difficult decisions are made e.g. in the form of expert panels, who it was important were independent. Without this independent expertise people were reluctant to trust the information they were given in the scenario.

Business interest vs. protecting environment

Participants favoured 'hard' policy levers that include financial consequences (taxes or fines) when working with businesses. Participants were sceptical that profit driven businesses would sign up to voluntary agreements or agree to changes that might negatively affect their cash flow.

'Winners' and 'losers'

Participants at the final Public Dialogue workshop discussed the risk that some of the preferred policy levers from most scenarios e.g. introducing legislation and taxes that apply to businesses, are likely to have negative consequences for individuals in the long run. A number of groups were concerned that costs would just get passed down to the consumer. This was seen to have negative implications, including a disproportionate financial burden on lower income groups. For example, in Hull one group discussed the costs of electric cars and whether these would be affordable for everyone.

During the fictional city discussions participants questioned whether there had to be a 'winner' and 'loser' as a result of policy decisions and were interested in looking for mutual benefits – for example, that decisions should generate benefits for the environment, the economy and people.

5.3 Trade-offs: environmental priorities and other areas of policy need

A further aspect of these discussions and the reality of achieving the selected environmental futures was the tensions that arise between focusing on environmental policy making and other policy needs at any one time.

5.3.1 Public spending vs. protecting environment

Groups in the final Public Dialogue workshop thought that achieving their visions should be a priority over the economics.

> *"The thing is, if we are trying to save our environment, then the financial cost can't be our consternation." (Public Dialogue, online workshop)*

This is perhaps a hard message for policy makers facing budget realities and our analysis suggests that people found it hard to grapple with the fact that everything had

a cost – and this is one of the key balances in trading off spending on the environment vs spending elsewhere.

Participants building the scenario on education however took a long term view – arguing it was necessary to invest in the education of young people now to see *"a bigger payoff in ten years' time"* in terms of how people would treat the environment and drawing in the potential cost savings associated with changed behaviour.

There were also instances where participants highlighted tensions in spending priorities. One area of spending which was felt to be detrimental to the environment and an example of where spending and environmental policy were not aligned was the construction of HS2. Similarly, participants also discussed the third runway at Heathrow, questioning the cost and whether this was needed for the future if we were also seeking a reduction in air travel. These were examples where participants suggested that funding from other government departments might be needed to deal with the environmental priorities they were discussing. As well as with transport, this also included foreign aid spending. Participants seemed to simplify the equation as investment in foreign aid not being investment in the environment.

5.3.2 Competing policy priorities

Housing and green spaces

There was debate at the Public Dialogues about the importance and urgency of competing priorities which were perceived to be essential for people, such as housing. There was discussion about whether the environment should be prioritised over space for humans to live comfortably, and we saw a range of different views on this. Those who felt that these needs should be addressed as a priority above the environment were particularly concerned about how this played out across different groups in society. In London, for example, the potential tension between green space and good quality living space was highlighted.

> *"the people in poorer areas will get crammed into these council estates and stuff where they'll get stripped down and made into even smaller box units where they'll literally be living in a box, just to make more space for the trees." (Public Dialogue, London)*

Also, in Chesterfield, a group of participants weighed up the importance of preserving green spaces and trees versus building houses:

> *"I get that we need to grow trees and put in more trees. I understand that. Don't shut me down, but I do understand that we have to do that, but we're not building houses. We're not building homes. The population's getting bigger and we're not building enough homes for people." (Public Dialogue, Chesterfield)*

As discussed earlier in the report (see Chapter 4 and above) these views were not shared by everyone and tensions between housing and green space were a key area of debate. At the final online Public Dialogue, for example, one view was that it is both desirable and achievable for the two needs to be balanced, with the coexistence of humans and nature.

> *"There can be a perfect coexistence with human beings and wildlife and nature, so that when new housing, new social housing are being contemplated and planned, it doesn't have to include eliminating wildlife. We can all coexist, and therefore those buildings should be built with including as much wildlife and the environment as much as possible, because I believe that we can all coexist. It doesn't have to be either us or them, it can be us and them together."*

Covid-19

Views within and across groups in June 2020, were split as to whether Covid-19 influenced how they felt about achieving the environmental priorities discussed during the workshops.

Participants who felt that environmental issues should not be deprioritised thought the pandemic had magnified the importance of the issues discussed during the workshops (clean air, health and wellbeing). They also appreciated that the two issues were interlinked:

> *"I think what this has shown is it's not necessarily like an either/or. Like the environment impacts so many other aspects of our lives. We were talking about like health, mental health, physical health and other things, so I think it's shown how, yes, important that is to help with other things, how it's all joined up."*

As such – maintaining focus and investment in implementation of the 25YEP was work critical to our futures. Some participants also saw Covid-19 as more temporary and environmental issues as more permanent. This group were concerned that government priorities would change to refocus funding elsewhere (e.g. on the NHS) and that shifting attention could have a negative consequence for environmental policy and ignore the contribution of the environment to good health and wellbeing.

Those that thought the arrival of Covid-19 meant that the environmental agenda should be deprioritised did so principally because they thought that funding needed to be redirected to the NHS and our health system:

> *"We're going to have to be looking at cutting back the things they do and sadly if one of those things is solving climate change, then so be it, unfortunately."*

These two contrasting views demonstrate differences in perspective about the extent to which the environment is interconnected and holistic with aspects of our lives as well as the difference between short term and longer-term perspectives. It may also reflect general public opinion on the value of the NHS, with the pandemic as a tangible reminder that it needs support and investment.

Visibility of environmental issues

For some, environmental priorities became more visible – this included a rise in single use plastic as people use PPE and with increasing online shopping – the production of additional packaging and more need for vehicles.

For others, the pandemic reinforced how important the priorities they had previously identified were. One example was air quality, with the impact this had on the population brought to mind due to the heightened vulnerability of people with asthma to becoming ill:

> *"You don't actually realise how important the air that we breathe is until you have a pandemic like this, and then it takes a pandemic like this to make you realise that the clean air is so important for us and our future generations."*

Opportunities raised by Covid-19

In both the Public and Distributed Dialogues, there was a sense that the current circumstances had raised more opportunities than challenges for the environment itself. Participants thought changes to lifestyle, such as reduced travel had led to positive environmental consequences such as improved air quality and the improved presence of wildlife. This demonstrated for some participants that it is possible for individuals and businesses to change to more pro-environmental behaviours. Those in the distributed dialogues also thought people were wasting less, taking "staycations"

and spending more time in nature. They saw this as an important moment to tap into these behaviours for the longer term and identified opportunities for a greener economy in response.

People also shared their new found appreciation for green spaces as a result of the lockdown in March 2020:

> *"I think it has made people realise and wake up and think how important it is to have green space and outdoor space."*

There was more limited discussion on environmental challenges in the context of Covid-19. Some participants felt disappointed to see an increase in waste – of masks and gloves for example and thought this demonstrated that the environmental effects associated with the pandemic might not last long.

In addition – many of the things people were positive about were experienced over a spring and summer and so the effects of winter on getting outdoors and domestic heating bills for home workers may further change attitudes over the longer term.

Conclusion

In their work developing visions for the future, participants had different starting points and consequently findings reflect issue-based concerns as well as more utopian visions of what the future might contain with respect to the environment.

Whilst participants at the Public Dialogues worked on a range of issues in creating their visions – three themes emerged: public awareness and education; sustainability and preservation of the environment and environmental change and quality. Specific areas of policy within these which topped people's priorities were clean air and water, protecting ecosystems and natural spaces and reducing waste and carbon emissions.

As outlined in the sections above, a wide range of different stakeholders were identified as relevant to scenarios, with emphasis placed on the various roles that needed to be played. For example, the public viewed the Government as enforcers on water quality, local planners as those who hold decision making power on housing developments and parents as influential in supporting education. The overlaps and interdependency of different actors was also a natural consequence of many of the visions people created, demonstrating that finding productive ways to work together, e.g. local and central government on issues to do with natural spaces, was seen as a priority.

At the Public Dialogues, how people conceptualised their vision was based on whether something was resonant with them and here personal experience and local context, as well as concern for the severity of the issue were all significant. Within this there was some appreciation of the potential decisions and trade-offs required in any subsequent policy making and we developed insight that the public found some potential routes to change more acceptable than others. That decisions were fair was part of this, both in terms of those responsible playing their part, but also that inequalities weren't deepened as a result. As was clear in both sets of dialogues, the public grappled with the implications of trade-offs and in the case of the Distributed Dialogue workshops, people were less willing to select or commit to a single route to change, perhaps further underscoring their appreciation of how complex these decisions were.

Whilst people were keen to see government take a leading role to help change happen, they also ascribed value to holistic and participatory processes of decision making and ensuring that the public get a say on the issues that affect them.

On this point – and as demonstrated by the work participants did here, people are willing to engage on this agenda and are knowledgeable on various topics. There is appetite for learning about and grappling with difficult issues and choices and the principles and approaches that people took in doing so here indicate how this can lead to useful insight.

Finally – we wanted to capture a sense from people about how the context of Covid-19 in the workshops held after March 2020 impacted their views on the environment at this time. There is some sense that it has heightened people's awareness of environmental issues, both through their personal relationship to nature, but also in terms of the visible effects of a shift in the status quo on things like air quality during lockdown. Participants were keen that this might be a moment of change and to look to the long term on prioritising social and economic changes that are pro-environmental.

The next chapter draws together our conclusions on the findings we have so far presented and considers their implications for future policy development and citizen involvement.

6 Conclusion

This research has sought to understand the public's environmental attitudes, values and priorities and how they could be involved in informing environmental policy making and implementation in the future. It has also explored perspectives on who might need to act and in what ways to achieve change on the environmental issues identified. This report has developed findings from a two year programme of research events using two different methods of engagement to contribute to this understanding.

Using two methods has had implications for who we involved in the research and thus the formation of the 'public' on whose views we report. Overall, the research reached a representative group of citizens in England with some focus on three target groups – ethnic minority groups, urban deprived and young people - through the Distributed Dialogues in particular, although attribution of views to these groups is limited. Our participants also varied in their stated levels of interest on environmental issues. Public Dialogue participants tended to have general or low levels of interest. For both rounds of Distributed Dialogues, although level of interest was not formally gauged, in the first events we can assume some variation – with events attended by a wide range of the public. In the latter online workshops, participants were self-selecting most likely on the basis of high levels of interest in and engagement with environmental issues.

Whilst we wanted to ensure we could explore public views across the range of goals set out in the 25YEP, we started our work in most cases from participants' own priorities. Following their discussions and deliberations demonstrated a number of interlinked agendas between environmental topic areas or themes which in turn relate to a range of specific policy agendas. This means that in many cases the work has illuminated what people think on specific aspects of the environment, alongside a more cross-cutting set of issues that influence how people think about environmental policy and decision making.

Here we consider the implications for building this evidence into policy development as well as the engagement of citizens in future work and decision making on environmental issues.

How do the public think about the environment?
Participants in this research demonstrated awareness of a wide range of environmental issues and had a strong sense of current threats to the environment. Many – particularly through the Public Dialogues, tended to view the environment through a harm reduction lens. People's top priorities on environmental issues in this context tended to be those that were well established threats (e.g. plastics and the need to reduce waste) and those considered wide-reaching and therefore of profound significance (such as climate change or the preservation of green spaces). Whilst many of our participants started these engagements with general or low levels of interest in the environment, our work demonstrates they did care profoundly about environmental issues.

This potentially indicates that when given the opportunity to frame their views as place based and locally relevant, environmental issues and questions are more personal and levels of interest more thoughtful.

This was also demonstrated with participants differentiating between 'local' issues – those at a personal scale or within the UK, which they felt more able to articulate and consequently prioritise in terms of attention or action, and more global issues, suggesting people will deal and engage with these differently.

Across our fieldwork, most of the goals in the 25YEP were covered by the top priorities that emerged, with only two exceptions: drought and coastal erosion and enhancing biosecurity and managing exposure to chemicals. Whilst this demonstrates broad awareness among the general public about environmental concerns, it raises questions about the things that matter to Defra that the public might not know about or be so well informed on. It also suggests there would be value in taking what we know from issues that are successfully in the public consciousness (e.g. plastics) and thinking about how to apply them to other issues.

Interestingly, and in some contrast to a focus on environmental threats, those who participated in the virtual Distributed Dialogues (in August 2020) were generally more relational in the way they talked about the environment and how they thought about it. Focusing on the intrinsic value of natural places and – as in line with public views across our research – our responsibility to look after them.

Despite a mixture of discussion, it is clear from our findings that for many, the environment is commonly understood through a narrative of threat, issue or damage which appears overwhelming or too hard to tackle as individuals – or indeed the nature of the threat too abstract – to translate into being a priority for action. In this case, the evidence suggests that for the public, there is an absence of clarity on next steps for many of these issues that could speak to often small but effective personal behaviours.

This could be a useful focus for policy makers – both in terms of moving away from environmental issues through a concern frame to an action frame. Our findings also indicate that using stories that relate to people's experiences in the UK to localise and contextualise the impact or action of an issue could have value in changing awareness. It may also be necessary to think about how to align forward looking narratives on innovation and green recovery – particularly post-Brexit and post-Covid that can meet some of this less positive public mood. Our research shows the value of engaging people and giving them agency on how to have positive impacts on the environment, rather than feeling potentially helpless about the destruction of natural capital.

What influences public attitudes?

As we have shown, the public is not homogenous but rather made up of a range of groups with different values and beliefs driving their environmental attitudes. Our analysis suggests there are broadly three categories in which our participants fit in terms of the attitudes that influenced how they approach thinking about environmental issues – making change now, making change for future generations, and making changes for people you will never meet. Whilst this should not be read as a definitive segmentation, it does call attention to the need for differentiation in approaching policy development. That even where priorities may be similar, the framings beneath these differ.

The implications here include accepting that some policy decisions will not be compatible with all members of the public. For example, Chapter 4 illustrates the consequences for a natural capital approach depending on whether people are driven by anthropocentric or ecocentric values.

Our findings also highlight that the environment is fundamentally situated in the public's everyday lives. The role of local and personal experiences in influencing attitudes towards the environment suggests that this should be an important first focus for policy work. This includes people's sense of self-efficacy, which varies according to factors like income levels, personal experience and how they understand the issues at hand. This means that many people are acutely aware of the need for change and are keen to do more – but don't always know what steps to take. Participants themselves identified the opportunity here for 'quick wins' in some areas based on small personal changes, such as reusable coffee cups.

Similarly, people demonstrated values – such as becoming a more sustainable society – as important to them. They were critical about wasteful behaviours (e.g. food, clothing and electronic devices) and in some cases showed awareness of how to behave in an environmentally friendly way. Social norms had a strong influence on participants at the public dialogues, which suggests that it may also be possible to raise support/action for other policy issues through appealing to these. As with the suggested 'action framing' on environmental issues highlighted above, current negative attitudes around environmental issues could present an opportunity for stimulating actions or fostering support for difficult environmental policy decisions, if it is presented to the public as an opportunity to succeed and fulfil a stewardship role.

In the second round of Distributed Dialogues we saw participants talk more specifically about the actors they felt were responsible for longer-term, systemic change to achieve a greener future. They wanted to see government leading on this (with close working between different government departments) but felt that listening to other actors, such as communities and NGOs was also important. We reflect further on these points in the sections below.

It was clear that participants' priorities are deeply rooted in the individual, social and material realms. The fact that priorities are influenced by such a range of factors means they do not necessarily match up with the evidence on the most pressing environmental issues, which might explain why we did not see participants discuss the topics on managing exposure of chemicals or enhancing biosecurity. The fact these were not discussed should not indicate the public do not think they are important – rather it is about how to connect these issues with the local/personal and make them more visible to the public.

Through our fieldwork we have been able to illuminate the importance of needing different approaches and messaging for different groups of publics as well as highlighting the prominence of personal or affective dimensions to their environmental attitudes. There is then a need to understand public attitudes further and appeal to groups with distinct values differently. This was also a finding raised in our scoping review in which we pointed to the large body of quantitative and mixed quantitative/qualitative research that links people's attitudes about nature and the environment to theories about basic human values and worldviews[40]. We think considering further research in this area holds particular promise here.

Visions for the future…

This research has developed specific visions on selected environmental issues that participants thought were most important as well as what the public thought was necessary for them to be achieved. By tackling this from a generative perspective and making use of scenarios, we have been able to explore views on specific and detailed issues as well as capture broader attitudes and perspectives on what people consider when imagining the future.

At the Public Dialogues in particular, how people conceptualised their vision was based on whether something was resonant with them and here personal experience and local context, as well as concern for the severity of the issue were all significant. Participants chose policy areas to discuss which covered many of the areas of the 25YEP which may serve as useful examples of areas of focus for Defra. For example, issues around waste were selected in each of the Public Dialogues and raised in other events. These visions included using 'biodegradable materials over plastic' and 'for the UK to be non-recyclable plastic free by 2045"'.

[40] See p25 of our scoping review. Relevant references include Schwartz, Cieciuch et al., 2012; Rose, 2013; Braito, Böck, et al., 2017.

Some people struggled with narrowing down their visions and adequately thinking about policy levers and routes to change, particularly in areas where there were clearly competing policy interests – such as in housing and preservation of green space. Whilst as indicated above, we intended breadth with this research, this has been a limitation for achieving deeper insight in some sections of our enquiry. It is also an invitation to Defra to think about how the 25YEP as it stands could be more personalised for people as a means to engage them in shared environmental futures and actions.

The future utopias people explored as part of the Distributed Dialogue online workshops produced a further series of useful insights. In some cases – being presented with a scenario, rather than creating it themselves led participants to challenge some of the assumptions it contained. In the example on Fish Stocks – a coastal and marine trade off example – rather than accept compromises, the group began by questioning whether it was essential that their City continued to fish. In this discussion, people were framing the event as an opportunity for change and addressing the current status quo. When sharing these thoughts back in the plenary session – a member of a different group highlighted that thinking outside of the current paradigm might reflect the impact of Covid-19, which has provided us with momentum to re-think things.

What their discussions indicate is that people were thinking about the complexity of different aspects of the environment and that what might be favourable for the climate (e.g. switching to renewables), might have negative consequences on plant and animal life. The group also discussed how they would get buy-in from people and were keen on participatory decision making. They felt the complexity of the problem called for collective decision making, and they looked to back this up with legislation and enforcement. The group felt that this scenario made them reflect on the need for long term change with respect to the environment and not always to short term practical solutions.

Where participants identified trade-offs in Public Dialogues, these tended to be more abstract and it was difficult to be detailed in their views. As was clear in both sets of dialogues, the public grappled with the implications of trade-offs and in the case of the distributed dialogue workshops, people were less willing to select or commit to a single route to change, perhaps further underscoring their appreciation of how complex these decisions were. This suggests it could be valuable to design bespoke work on tangible options or anticipated trade-offs in order to adequately build public input in terms of testing acceptability of future policy implementation.

With respect to the future prompted by the context of Covid-19, as with the above, participants across engagements were keen that this might be a moment of change and to look to the long term on prioritising social and economic changes that are pro-environmental. More widely, lockdown demonstrated people's capacity to radically shift behaviour in the case of a perceived and real threat that was close to them and were accepting of government intervention to do so.

…and how we get there

In defining how their visions might be achieved, on the whole participants were not keen on bearing personal costs and had clear views on responsibility. As a result, there was clear appetite for government to take leadership on these areas. Whilst this could be a function of how the problem is designated by the public – with those issues seen as very large or complex as too difficult for individuals to tackle it also speaks to the view that systemic action is required. Whilst people were keen to see government take a leading role to help change happen, they also ascribed value to holistic and

participatory processes of decision making and ensuring that the public get a say on the issues that affect them.

Separate to the visioning exercises, we were able to gather some actions the public thought necessary related to specific topics – particularly through the first round of distributed dialogues. For example, that with respect to plastics:

- Industry should adopt circular manufacturing
- Supermarkets should reduce plastic packaging
- Government should use education, financial incentives and regulation on the use of plastics and;
- Individuals should change behaviour to reduce single plastic use and increase use of alternatives (e.g. paper bags).

Whilst these examples demonstrate that different actors have roles to play, it was a feature of the remaining dialogue work to explore what mechanisms government could use in shaping future policy.

Across the board in their discussions on these, participants favoured legislation as it was perceived to be an effective tool in ensuring that change would happen. This was driven by the view that legislation can change behaviours as most people tend to follow laws. This assumption related to personal experience as participants referred to examples such as the plastic carrier bag charge. Participants also liked the fact that laws could be targeted i.e. introduced in relation to specific policy areas where change is needed. Participants were also reassured by the fact that compliance with legislation can be regulated by enforcement bodies.

Consequently, those approaches, such as policy statements, convening or voluntary agreements were viewed with more scepticism as beyond a show of intention participants felt without a mechanism to ensure compliance they might be limited in their effectiveness. In the main on these points, participants did not see themselves as the subject of these levers – rather business, industry and similar stakeholders.

Infrastructure stood out as an area which did speak to the public as well as others. Participants thought new technologies and changes in behaviour were needed to make a difference, for example, the switch to electric cars.

Within these discussions there was some appreciation of the potential decisions and trade-offs required in any subsequent policy making and we developed insight that the public found some potential routes to change more acceptable than others. That decisions were fair was part of this, both in terms of those responsible playing their part, but also that inequalities weren't deepened as a result. Another important factor was transparency. When discussing the idea of a 'green tax' for example, participants were concerned that it should be clear how the income from the tax would be used to improve the environment. There was in general a desire for more clarity around what income generated from levies is used for. Participants also suggested that fines for individuals or companies contributing to environmental damage were preferred as a fairer option to a tax which everyone is obligated to pay.

We also sought to understand how the public could or would balance environmental issues when contrasted with other priorities. People's perspectives here were not uniform and there was a general level of understanding that many environmental issues are interlinked to other areas of policy. One area for discussion was the balance between preservation of green spaces and house building. People had split views over their prioritisation for funding and it provoked much discussion. In contrast, people were more accepting of the need to prioritise funding for health (the NHS), even it if meant reducing support for the environment. This was not a uniform view – and it arose despite many participants talking positively about the beneficial relationship

between nature and health and wellbeing. This point was re-visited in discussions held during the pandemic, and so this is likely to have influenced views on short term priorities and a narrower focus on the health service.

One area of spending which was felt to be detrimental to the environment and an example of where spending and environmental policy were not aligned was the construction of HS2. Similarly, participants also discussed the third runway at Heathrow, questioning the cost and whether this was needed for the future if we were also seeking a reduction in air travel. These were examples where participants suggested that funding from other government departments might be needed to deal with the environmental priorities they were discussing. As well as with transport, this also included foreign aid spending. Participants seemed to simplify the equation as investment in foreign aid not being investment in the environment.

Whilst in many cases, with the recognition of connection between policy areas participants saw value in government working across departments, this also raised some reflection on what role each should play and thus what should be prioritised by Defra. For example, in the second round of distributed dialogues, one participant thought that biodiversity should be at the top of Defra's list for action – even over schemes to effect climate change mitigation. They believed this fit more squarely with Defra's remit – with the 'greater share of work' to mitigate climate change being done by industrial policy and economic incentives.

Future engagement with the public

This research has demonstrated people are willing to engage on environmental issues and are knowledgeable on and care about various topics. There is appetite for learning about and grappling with difficult issues and choices and the principles and approaches that people took in doing so here indicate how this can lead to useful policy insight.

Our findings from engaging with the public also sit alongside the other work completed in this project – notably an evidence review which also included two questions asked of the NatCen Panel. This review also explored our headline research questions and our qualitative findings empirically demonstrate many of these and add new perspectives particularly on areas that the public would prioritise for action. It also furthers some of our understanding on how different engagement approaches can be useful to policy makers in their approach.

Making use of a variety of engagement approaches has also proved important in demonstrating that policy relevant public engagement can be achieved within different parameters of budget, timeline and scope. As always, these parameters should be selected to be purpose dependent.

Our first round of Distributed Dialogues had broad reach in terms of numbers and target groups. Our Public Dialogues generated depth and specificity and enabled participants to engage with experts and policy makers to help shape their views and inform their visions. The second round of Distributed Dialogues also helped to show that pre-designed tasks delivered in a modest timescale are an effective way to put people in control to respond to policy related questions and there were overlaps in findings across these forms. We have also been able to use online methods, which now also offer further logistical opportunities to involving the public at scale.

Our methods have also allowed us to reflect on the role of expert knowledge in supporting citizens to engage with environmental issues. In the Public Dialogues in particular – as well as the question and answer sessions, there were informal interactions between experts and participants when developing 'visions' for the top priority areas. Here, experts' knowledge helped shaped participants' understanding of these priorities, and influenced what they decided to focus on. For example, a group

chose to explore household emissions after learning they are one of the main causes of carbon emissions in the UK.

Engaging in discussions with other citizens also led participants to consider new perspectives. This process of learning was apparent during the first session on Day 1 where participants listened to each other describe the importance of their object and had the opportunity to view and react to the range of objects brought in by everyone.

These examples illuminate the fact that access to expert knowledge is important for ensuring that the public can develop well informed opinions and decisions in their everyday lives.

We experienced some limitations with data capture in the trialling of Distributed Dialogues, but we have demonstrated with this report that mixing engagement methods has been important in enabling depth and breadth of discussion and using non-talk and text based formats to explore public priorities. We saw a call from some participants in the Distributed Dialogues to use the arts and music for example to translate policy messages. This strand of work has also enabled a reach that would have been too costly to achieve using Public Dialogue on the same scale. Our mix of methods has also illustrated that where you ask the public to 'start' before they offer their views can be powerful and offer a range of entry points to dialogue.

On balance we believe our work has underscored the importance of dialogue between different kinds of stakeholders, with all benefitting from a better understanding of issues from others' perspectives. Based on our findings we can see that the specific areas of policy the public thought most important were **clean air and water, protecting ecosystems and natural spaces and reducing waste and carbon emissions**. The similarities between many of the visions and 25YEP goal areas here suggests that the government and public's priorities on these topics can be closely aligned and they may be good next candidates for Public Dialogue.

In taking next steps, we also heard from people that they want to see greater public participation in decision making, and they are ready to get involved. We also know that where people have more of a stake or a degree of control over decisions, resulting actions are often met with greater success. Participants thought a wider diversity of voices was needed in these processes and government should give consideration as to how to make this easier for people. One participant shared their difficulty of trying to respond to a Defra consultation on a levy on cutlery, straws and stirrers and *"despite two degrees in science"* they found they couldn't complete their responses because the level was too expert.

Public attitudes at a time of change

Significant in interpreting our findings and drawing conclusions for this project has been that that the end of our fieldwork period overlapped with the onset of the Covid-19 pandemic, which also intersected with the end of our membership to the EU. We are experiencing the most unusual and uncertain of times in decades; and with it a possible reshaping of people's relationship to nature as well as asking fundamental questions about the way we live and its impact on the environment. Whilst the majority of our fieldwork was carried out prior to this, we have tried to capture people's thoughts on how they view this reality and hope the findings from across our research lend themselves to interpretation alongside the choices we take on the environment that follow.

However, there is an important caveat to state. 2020/21 has been a threshold between two quite radically different eras with respect to environmental policy, and by extension, public attitudes. This work then provides a timely and important contribution to informing policy at this key juncture as we sit at the 'starting line' for the next 10-30

years. By the same token, this means that the views expressed by participants risk becoming out of date quickly as their views and awareness could change considerably given the level of activity and profile of agendas such as Net Zero. For example, with increased know-how, use and financial support to move to electric vehicles which could prompt shifts in attitudes or thinking about what is important or the likelihood of specific actions on such topics. We also know the same might be true for the policy and technological context.

Whilst the pace of change might accelerate over the next period, we also see the opportunities this moment presents for opening a sustained and informed conversation with the public on environmental issues. We think our work should encourage Defra to keep up conversations with the public and offers an illustration of the promise of these processes as tools for engagement on specific policy developments. Even in the absence of this, the possibility of public engagement even in more exploratory forms can meet changing needs and times.

Appendix A. **Research questions**

1. **In what ways do publics conceptualise and attach value to the environment?**
    a) What is important to the public about the environment?
    b) What are their visons, futures and priorities for the environment?
2. **What are the factors influencing public attitudes to environmental issues?**
    c) Does context have an effect on these factors?
    d) Are there factors which are influential in particular policy areas?
    e) How do publics respond to trade-offs and tensions in environmental policy making and between environmental issues and other priorities?
3. **What are the different ways publics can engage with environmental issues and policy making?**
    f) How can different types of engagement activities connect public views to decision making?
    g) What/who are the key influencers on people's decisions?

Appendix B. **Sampling and attendees**

Distributed Dialogues

Round 1	**Location of event**		
Sampling characteristics	Bristol	Liverpool	Plymouth
Age		38% *(Aged 15 and under)* 44% *(Aged 45 and under)*	161 *(School age)*
Ethnic minority**		17%	
Total	9,800*	2,500	300

*Not approximate.
**Black, Asian, Minority Ethnic.

Round 2		
Sampling characteristics		**Online workshop**
Age*	<18: 18-24: 25-29: 30-44: 45-59: 60-74	3 5 5 11 10 1
Ethnicity	White British: White Other: Mixed *(White & Asian)*: Prefer not to say: I prefer to self-identify as:	30 2 1 1 1 *(Arab)* 1 *(Anglo Caribbean)*
Gender	Female: Male:	28 8
Sexual orientation**	Heterosexual: Lesbian: Bisexual Prefer not to say:	26 1 3 5
Total		36

*One participant's age not recorded.
**One participant's sexual orientation not recorded.

Public Dialogues

		Location of event		
Sampling characteristics		London	Hull	Chesterfield
Age	18-29: 30-49: 50-69: 70+:	12 9 9 3	5 2 4 4	3 9 10 6
Ethnicity	White British: Black British: British Asian: White European: Mixed: Asian:	9 10 5 1 3 5	9** 2 4	25** 1 2
Gender	Female: Male:	17 16	9 6	14 14
Qualification	Above: On or below:	18 15	11 4	13 15
Children*	No: Yes:	18 15	15	18 15
Total		33	15	28

*If participants identified as having children (any age).
** Labelled as 'white' only.

Informants/Policy Participants	Organisation	Workshop - London	Hull	Chesterfield	Online
David Mead	Defra				
Judith Schleicher	Defra				
Rose O'Neil	Natural England				
Tessa Wardley	Defra				
Rob Bradburne	Defra				
Simon Maxwell	Defra				
Daisy Payne	Defra				
Lucy Stone	Defra				
Helen Devlin	Natural England				
Helen Ward	Defra				
Alex Huke	University of Exeter				
Tricia Rice	Natural England				
Simon Mair	University of Bradford				
Nibedita Mukherjee	Brunel University				
John Dixon	Natural England				
Anne-Marie Benoy	BEIS				
Emma Claydon	Defra				

Appendix C. **Public engagement activities**

Below is an example of an activity designed for the Liverpool Distributed Dialogue at the public engagement training.

CEE Data Reporting Cover Sheet
The purpose of this cover sheet is to provide a description of the data collection side of your activities: which questions you asked and why; what means you captured the data with; and what format are you reporting the data back to the CEE research team. For your reference, the three main research questions of the CEE project are: • To better understand citizens attitudes, values and visions about the environment. • How do they respond to the idea of trade-offs and priorities? In other words, how do they prioritise (or not prioritise) environmental issues over other issues? • How do they think about or how may they want to be involved in informing environmental policy making and implementation?
Activity Name
Eco-bricks
Description of Data Capture during Activities Please provide a short description of the data capture aspect of your activities. • Which questions did you ask? • What was the aim of these questions? What were you hoping to uncover? Please refer to the three main research questions of the CEE project above. • In what format did your activity generate data?
Q: What are your recycling habits? **Hoping to uncover:** how much people take personal responsibility. Whether they make efforts to recycle in their own lives. (Point 1 of CEE research questions). People were prompted to vote with initial conversations as they approached the stand. 1. I recycle all I can - 662 votes 85.4% 2. I recycle a bit – 99 votes 12.8% 3. I don't recycle – 14 votes 1.8% **Format:** put a bottle top in the bucket that best describes your practise

Visitors then came into the stand and were invited to stuff an eco-brick – with some competition on weights between family members, which were recorded on a leader board each day. This engagement gave us an opportunity to discuss recycling and plastic pollution and we asked visitors to capture their feelings on a post-it note and leave on our boards. Summary of responses are below:

Q: Who is responsible for resolving plastic pollution?

Hoping to uncover: who people think is responsible for solving the problem. Should it be governments changing environmental policy. (Point 3 of CEE research questions).

1. Individuals – 1 vote 2%
2. Corporates – 11 votes 27%
3. Government – 5 votes 12%
4. Everyone – 24 votes 59%

Format: vote with a post-it. Some people answered with a combination of 1-3. Some people wrote additional comments on the post-its e.g. 'big corporations', 'only if they make it easy'

Q: Tell us what motivates you to care about plastic pollution.

Hoping to uncover: peoples' attitudes and values. (Point 1 of CEE research questions).
Format: Written on a post-it. Most people answered with a few words e.g. 'the ice melting', 'my children'.

- Hormone disruptors 1 vote 3%
- Children/humanity/future 10 votes 28%
- Oceans/Ice melting 3 votes 8%
- Animals 11 votes 30%
- Planet 8 votes 22%
- Trees 2 votes 6%
- Climate change 1 vote 3%

Appendix D. **Data collection tools and fieldwork materials**

Distributed Dialogue online workshops: scenarios

Summary of Windfall &Future Priorities Scenarios

Trade-off scenario presented: *The Mayor received a huge cheque today from a local philanthropist. The money is available immediately, and is to support planning for the future of the city. The Mayor announced this morning that the money will be distributed via a public competition– to encourage new ideas and approaches to building a better tomorrow. Details of the competition, and the selection criteria are being decided today by the Mayor's office. Whilst nothing has been decided as yet, the mayor said 'We want to see new thinking, new ideas, and new approaches to building a sustainable future. We want to innovate and imagine a new tomorrow. Therefore we will provide several categories for the competition, and a clear set of criteria to make the decisions by.'*

Summary of Power and Energy Trade-off Scenarios

Trade-off scenario presented: *Smog and air pollution are on the rise. In the run up to the mayoral election, decisions need to be taken on how to replace the city's main power station. Coal fired A has been the main source of power for the last 40 years, and has been criticised as a major contributor to air pollution. The Mayor had hoped to be able to put off this controversial decision until after the election, but it is now urgent. Therefore a meeting of the mayoral committee will decide today how they will replace Coal fired A. The Mayor said 'we will consider various options, and make a decision that will contribute to a positive future for us all.' However critics believe that the decision could lose the Mayor the election.*

Summary of Environmental Damage from Mining Trade off Scenarios

Trade-off scenario presented: *Wildlife conservators have stumbled on a major deposit of gold in the local national park. Initial estimates value the gold to be worth more than 1 billion pounds. Experts agree that this could prove a vital investment for local infrastructure, and has the potential to improve the lives of local people. However excavating the gold cannot be done without significant damage to the national park, its landscapes and habitats. Biodiversity experts warn that this damage would take years to repair. The Mayor's office are meeting today to decide what to do next.*

Summary of Environmental Damage Trade-off Scenarios

Trade-off scenario presented: *Get on your bike – the new message from the Mayor. With increase in obesity, and a lack of exercise opportunities the Mayor has won significant funding to develop state of the art cycle paths that could seriously reduce reliance on public transport, and cars. However the plans would see the new routes needing to be taken through the last remaining ancient woodland. Critics say that the mayor will need to choose wisely, especially with the city divided on the planned routes for the cycle paths.*

Summary of Coastal & Marine Trade-off Scenarios

Trade-off scenario presented: *Fish stocks are plummeting, and experts warn of imminent economic decline. For many years the local community have relied on a plentiful supply of fish, underpinning the industries the city is famed for. However scientists have discovered that the current practices have caused significant damage to fish stock levels, which unless acted on immediately, will lead to economic hardship, and an ecosystem that will take many years to recover – if at all. The Mayor has convened a public committee today to come up with radical suggestions for ensuring future seafood production is sustainable, and the future for people and wildlife is secure.*

Public Dialogue materials

AGENDA

CITIZEN ENGAGEMENT ON THE ENVIRONMENT: TWO-DAY WORKSHOP

Saturday 29th February

10:00	Welcome and Introductions
	My environment
	What matters to us about the environment?
	Tea/ Coffee
	The government's 25 Year Environment Plan
12:50	*Lunch*
	Your questions about the 25 Year Environment Plan
	The priorities in the 25 Year Environment Plan
	Tea/ Coffee
	Your most important priorities
	Preparing for Sunday
16:30	End

Sunday 1st March

10:00	Welcome
	Recap
	What can DEFRA do to improve the environment?
	Tea/ coffee
	Your questions about what DEFRA can do
	Developing your vision for the environment in 2045
12:50	*Lunch*
	Developing your vision for the environment in 2045
16:30	End

YOUR VISION FOR 2045

Individually, write a sentence that explains your vision for 2045 for the priority area you are working on.

YOUR SHARED VISION FOR 2045

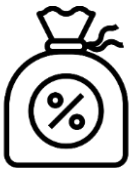
In your pairs, write a sentence that explains your shared vision for 2045 for the priority area you are working on.

YOUR SHARED VISION FOR 2045

In your groups of four or five, write a sentence that explains your shared vision for 2045 for the priority area you are working on.

Enforcing existing laws

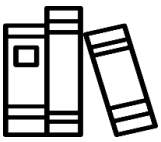
Legislation



Taxes/fees/levies

Grants for services

Voluntary agreements



Education

Policy statements

Convening

Purchasing/spending

Changing infrastructure

Policy levers available to Government

Lever	Description	Example 1	Example 2
Legislation	Creating, amending or rescinding laws to enact change. Changing legislation will usually require additional mechanisms to support or enforce the change.	Banning the sale of wet wood (which gives off more air pollution than dry wood) for domestic burning.	Giving Local Authorities powers to enact Smoke Control Areas, in which they can control/regulate/ban domestic burning altogether.
Enforcing existing laws	In some circumstances the laws may already exist but are ineffective due to a lack of enforcement. Introducing effective enforcement can bring about the change desired.	Increasing resources (funding, equipment, access to data etc) available to waste crime enforcement teams.	Providing training for Border Force agents tasked with regulating the import/export of endangered animals/animal products.
Taxes/fees/levies	Altering the cost of an activity. This might stimulate change or discourage it.	The 5p plastic bag charge.	Higher taxes on cars or fuels with greater CO_2 emissions.
Grants or payment for services	Providing resources to a third party to undertake a programme of work to	Funding R&D into alternatives to single-use	Environmental Land Management schemes, where farmers are paid to
Voluntary agreements	Encouraging specific sectors of society to sign up to a common approach to tackle a problem.	Codes of conduct; getting supermarkets to agree to take steps to reduce food waste.	
Education / awareness raising	Educating the public and raising awareness of the benefits or disadvantages of an activity to stimulate or discourage it.	Media campaigns about the impact of littering.	
Policy statements	Setting a direction for priorities for particular area of government's work.	Announcing an intention to end the sale of new petrol/diesel cars and vans by 2040.	Committing in law to achieving net zero GHG emissions by 2050.
Convening	Bringing different sectors and voices together for them to identify solutions and help implement them.	Setting up a council of businesses to advise government on how to support sustainable business/producer practices.	
Purchasing/spending	Changing government's own procurement and investment rules to favour desired outcomes.	Requiring government-run conferences to be single-use plastic free.	Requiring the natural capital impact of all government spending to be assessed as part of the "Green Book" process.

Appendix E. **Visions and Scenarios**

London

Topic 1: Education Vision for 2045: "*Local communities to be continuously engaged from nursery to adulthood. Increasing their knowledge and commitment to the environment. In this way the community will ensure that the environment thrives and flourishes leading to universal benefits.*"			
Key components	**Challenges**	**Actors and solutions**	**Policy levers**
Participants were interested in the priorities of government and boroughs regarding environmental education. **Location of interest** Borough level	Participants agreed that there are a range of challenges: • Individuals must be incentivised to change their mind-set and behaviours. • Participants felt that the only time they were educated about local environmental campaigns were near General/Local Authority elections. • Individuals may not be interested if the educational material is not engaging, for example, leaflets are too lengthy.	Participants agreed on the following solutions: • Government should provide more funding to local boroughs to promote educational information and incentives. • Making messages attractive to ensure that the message is promoted and taken in by the public i.e. using advertising agencies and creatives. **Actors** <u>Local government</u> Change must start from the top of the hierarchy. Government should fund individual organisations, i.e. schools and community centres. <u>Individual organisations</u> Individual organisations important – this is where the public interact, i.e. schools, community groups, religious spaces. <u>Social workers</u> In addition, Social Workers could sanction those who have dumped waste or committed an environmental crime for others to see. <u>Local boroughs/councils</u> They must decide how funding from the government is distributed, whether it be spending on the community itself.	Participants identified the following policy levers: • **Convening** They felt this was the most important lever, especially as the vision is centred around bringing together people and organisations to help to engage and educate the local community. E.g. Local boroughs taking aspects and common issues together to share knowledge and practices. • **Grants for services** Money given to Local Authorities must be distributed to local organisations and charities to help to promote environmental issues in the community.

Topic 2: Preservation of ecosystems

Vision: *"When green sites in London are identified for social housing development. There should be an introduction of new standards for building (and re-building) that: 1) Requires any empty homes to be used before any building. 2) Provides eco-friendly and conscious design, and 3) Focuses on integrating residents and communities in the ecosystem."*

Key components	Challenges	Solutions and actors	Policy levers
Participants wanted everyone to be more eco-conscious and have better knowledge of their impact on the ecosystem. They focused on ecosystems that are under pressure/competing with others' needs e.g. building work. **Location:** Participants focused on London. They refined their focus to ecosystems that are under pressure / competing with others' needs e.g. building work. They decided to focus on a green space that has been selected for development of a block of flats.	Participants agreed that there are a range of challenges: • There would be trade-offs in creating social housing against the preservation of green spaces. Especially as space within London is limited. • Making buildings environmentally sustainable would require a budget that may not be feasible. • It would be difficult to create developments that are sustainable, but still look attractive and appealing to the public.	Participants agreed on the following solutions: • Building standards should be implemented and stricter to protect habitats. E.g. suggest a system where habitats are categorised according to level of protection • There should be a prototype/template for future developments, to show that sustainable building is a viable option. **Actors:** <u>Planners</u> Land planners must make decisions around building on green spaces <u>Private developers</u> Private developers should they be incentivised to build social housing or penalised for not e.g. financial sanctions if they do not meet criteria. <u>Property owners/tycoons</u> Property owners should pay an additional fee to develop local infrastructure in the borough, for example, a proportion of the property fee should count towards developing infrastructure that would support social housing and the green space around it.	Participants identified the following policy levers: • **Grants for services** Grants could be used to encourage self-sustaining services regarding waste, water, energy. e.g. interest free payments. In addition, grants could be used for community projects to improve the area e.g. gardening • **Voluntary agreements** Government could incentivise sectors first to try and make them change their building standards and developments voluntarily but have strict regulations to follow. • **Convening** It is important to bring local community together, so they have ownership over the space. In addition, participants felt that other stakeholders (i.e. ecologists and builders) should be involved to ensure that the infrastructure serves the whole community. • **Legislation** Legislation is important for making change long term, but it must be in place from the onset. • **Policy statements** The requirement for the number of houses to be built and where.

Topic 3: Education

Vision: "*Through education, generations of children will influence and change their communities to achieve a cleaner more sustainable lifestyle.*"

Key components	Challenges	Solutions and actors	Policy levers
A key aspect of this vision was the ability to transfer knowledge. Participants felt that by educating children at a young age about the environment, they will be able to engage and educate their communities in the years to come. And, by 2045 they will be adults and will hopefully have influenced one generation already **Location**: UK-Wide. Participants argued that it must be approached on a national level, otherwise local councils would be blamed, and no action would be taken.	Participants agreed that there are a range of challenges: • Teachers are overwhelmed with their current workload and the need to adhere to a specific curriculum. Teachers may not want to educate children on environmental affairs. • A lack of knowledge/understanding from parents would also hinder change.	Participants agreed on the following solutions: • By 2045 there should be volunteering schemes that children can partake in either during or after school clubs. These schemes should be targeted for outdoor use. • Environmental education should be targeted from the first year of school, like the first moment of education. • Educational activities could be introduced into schools, e.g. teaching children how to plant trees and vegetables and taking children outdoors for school trips. **Actors:** Teachers Friends Family members Childcare givers Volunteers - Scouts/Guides etc. Social influencers Businesses - Technology, Supermarkets, Gaming Family	Participants agreed that there were three main policy levers: • **Legislation** This could enable the government to provide more money for schools to be able to adhere to new curriculums and ways of teaching, for example, school trips. • **Changing infrastructure and convening** Instead of sacrificing school time, sessions can be taught outside, or during assemblies (i.e. once a week). In addition, the curriculum changes could be taught by professionals/volunteers that visit the school to present environmental issues, i.e. sustainable energy.

Topic 4: Reducing plastic waste

Vision: "*By 2045 we want to make use of biodegradable materials over plastics.*"

Key components	Challenges	Solutions and actors	Policy levers
Participants focused on reducing plastic waste. Their focus was at a company level as they discussed how companies could promote their awareness of plastics, and how they could develop alternatives for consumers to buy. Participants were interested in phasing out plastics and to replace such materials with biodegradable alternatives. **Location** UK-wide	Participants agreed that there are a range of challenges: • Many companies would be unwilling to develop alternative materials due to its financial implications. However, if the government were to impose legislation, the companies would be forced to find alternatives. • Change comes down to the motivation required and perhaps companies and industry workers do not care about the issue and are not willing to change.	Participants agreed on the following solutions: • Government should educate and put pressure on companies to abandon plastic production. Participants felt that companies prioritise profit over anything else, so they must be educated to change their perceptions. • Recycling and compost facilities should be available at every household, for example, having designated bins outside houses. **Actors** <u>Companies and suppliers</u> Participants felt that the manufacturers of goods are the key actor, they need to develop alternatives for consumers to buy. <u>Consumers</u> Participants argued that although manufacturers create plastic waste, consumers are just as important to help elicit change. They felt that consumers could try to purchase goods with less packaging/waste. <u>Government</u> Participants agreed that government should put pressure on manufacturers and supermarkets to develop alternative materials and to reduce plastic usage.	Participants felt that the following policy levers should be used: • **Policy statements** Must be enforced so that actors can understand what needs to be changed. • **Research and development** Government should coordinate with universities to conduct research and development. However, for this to happen, the government should provide companies with grants which they could fund towards R&D in universities. • **Legislation** Legislation must be in place if manufacturers/companies are providing incentives to develop alternative materials. They argued that if there is no legislation in place, companies may not use the money for research purposes. • **Convening** Companies/manufacturers could convene with universities and research professionals on research and development to develop suggestions to reduce plastic waste and create alternative materials.

Hull

Topic 1: Tackling climate change

Vision: "*By 2045, every home in the UK should be eco-friendlier and every homeowner should be conscious and aware of their impact on the environment*"

Key components	Challenges	Solutions and actors	Policy levers
Participants felt that increasing public awareness around climate change was important but argued that the public must be more than aware as they need to be able to make change. **Location:** The parameter focus was to reduce household emissions within the United Kingdom.	Participants agreed that there are a range of challenges: • The main causes of climate change are ever changing, it has shifted from factory emissions to household consumption. • Reducing household consumption includes a wide variety of individual behaviours, for example, energy usage, mode of travel and food consumption (type of produce bought and used).	Participants agreed on the following solutions: • Local initiatives should be introduced. For example, installing community heating systems to monitor usage. • Local communities could increase their engagement in active transport (i.e. bicycle usage) or vehicle sharing to limit the amount of CO2 emissions from vehicles **Actors:** <u>Non-governmental</u> Participants agreed that non-government actors were most important. Awareness and action could be elicited through word of mouth (with family or friends). <u>Media</u> Participants also considered how wider action from the media could be useful, (i.e. social, radios and television influence). The media could introduce campaigns to encourage the public to reduce their household emissions and publicise solutions.	Participants felt that the following policy levers should be used: • **Legislation:** Legislation is important to change the view of businesses and manufacturers. Participants were of the view that if Government were to introduce new laws/legislation then businesses would be forced to follow it. • **Changing infrastructure:** Households need the developed infrastructure to switch to complete electric energy usage, and to phase out the usage of gas. In addition, new home technology would need to be introduced to monitor usage, for example, introducing smart meters for water usage. • **Grants for households:** Government must provide funding for households to switch their energy usage, and to ensure that their homes are more energy efficient. • **Education:** Education could be combined with fines. Government could introduce awareness courses (like speed awareness) to first payback to the community. If the offense is repeated it could then be followed up with a fine.

Topic 2: Reducing waste

Vision: *"For the UK to be non-recyclable plastic-free by 2045"*

Key components	Challenges	Solutions and actors	Policy levers
Participants agreed that all plastic should be recyclable, and that all non-recyclable plastic should be banned. Participants felt that the most important part of the vision is the issue of plastic packaging. **Location:** Participants agreed that reducing plastic waste should be a national effort and on a national scale, rather than locally.	Participants agreed that there are a range of challenges: • Introducing recyclable and biodegradable alternatives are costly, which would perhaps deter smaller manufacturers/companies from developing them. • Introducing new measures and developments within companies may cause unwanted challenges, i.e. job losses. • The introduction of recyclable or biodegradable alternatives may affect the way that companies manage and deliver their products.	Participants agreed on the following solutions: • Creating recyclable plastics (or alternative materials) is the main solution to reduce non-recyclable waste. • Government should provide manufacturers with guidance and incentives to help to develop recyclable plastics and biodegradable materials. These alternatives can then be circulated to supermarkets and will have the ability to be recyclable by consumers. **Actors:** <u>Manufacturers</u> Participants agreed that manufacturers/organisations are the key actors. Manufacturers must invest in research and development to find alternatives to non-recyclable plastics. In addition, they must change packaging to clearly reflect whether a product is recyclable or not. <u>Government</u> Participants decided that government must enforce legislation and its consequences if non-recyclable plastic is continually used.	Participants felt that the following policy levers should be used: • **Legislation** Government should provide a hard deadline to companies before the complete banning of producing non-recyclable materials. In addition to this, if manufacturers can reach this deadline before 2045, participants felt that they should be incentivised, i.e. through a tax break. • **Changing Infrastructure** There should be an investment in infrastructure e.g. recycling facilities that are accessible. The UK will need to meet the demand by 2045 to ensure that all recyclable goods can be recycled. They agreed that this should be funded by central government and enforced by local councils. • **Grants for services** Government should work with manufacturers and retailers e.g. funding supermarkets to have recycling bins, giving manufacturers money to develop recyclable plastics. In addition, they should give incentives to companies who are already producing alternatives to plastic. • **Taxes, fees and levies** Government should increase taxes for companies who produce non-recyclable waste prior to 2045.

Topic 3: Water management

Vision: *"'In 25 years, we want less flooding, particularly in residential areas, reduced harmful financial and social impacts of flooding on communities."*

Key components	Challenges	Key challenges	Policy levers
Participants refined the focus of water management to flooding, and its negative effects on local communities. **Location** Participants agreed that although flooding has different aspects in different areas, depending on local conditions (e.g. flood plains and tidal overflow), it is a national issue which needs to be addressed on a UK-wide scale, rather than locally.	Participants agreed that there are a range of challenges: • Building on flood plains as this increases the flood risk to the surrounding area. • A lack of river management across the UK. For example, dredging (regularly clearing out the bottom of rivers) seems to be no longer happening, and water pumps are not being regularly maintained. • A lack of responsibility for water management. They believed that builders and developers should be held accountable when building on areas at risk of flooding. But currently, nobody seems to have overall oversight. • There doesn't seem to be a strategic approach to developing innovative housing (i.e. developments on stilts).	Participants agreed on the following solutions: • To provide 'definitive accountability' i.e. knowing who is accountable • To build better flood defences around risk areas. • To create buildings that are above the water table, or that can be moved above water. For example, floating or on stilts. **Actors** <u>Volunteers</u> Local communities affected by flooding would be willing to contribute to the development of flood defences. In addition to this, they agreed that individuals doing court-mandated community services could contribute. <u>Government</u> Government should lead on solving the problem of water management and flooding. <u>Businesses</u> Businesses should be involved, as they have the knowledge and are able to put in work to help contribute to water management (i.e. building flood defences).	Participants felt that the following policy levers should be used: • **Changing infrastructure** Deploying natural infrastructure, such as introducing beavers, using land as overflow for flooding, or natural irrigation on farmland. In addition to this, participants felt that dredging of rivers should be occurring more frequently. • **Legislation** Legislation would be useful to produce accountability and responsibility for builders and developers. It would also be needed to make a national building plan (i.e. where houses should be built and how many houses are needed). They argued that legislation would be useful to state what flood defences are needed, when this will be done by, and who is responsible for it. • **Combining levers** Policy levers would need to be combined to yield maximum impact. For example, to combine legislation and enforcing laws. Participants felt that it would be useless to create legislation if it would not be enforced. In addition, participants believed that public spending should be combined with grants, because grant funding might ease the pressure on public spending/taxes.

Topic 4: Clean and accessible outdoor spaces

Vision: *"To have more, cleaner, better protected natural spaces, constantly monitored, being used by our communities to improve all aspects of health and public wellbeing."*

Key components	Challenges	Solutions and actors	Policy levers
Participants wanted to ensure that large green outdoor spaces are safe and clean for the community. **Location** Socially-deprived urban areas across the UK	Participants agreed that there are a range of challenges: • These related to the safety and cleanliness of outdoor spaces (including implications for health). • Parks and green spaces need to be more accessible and safer for local communities. Currently, the local communities are not comfortable in using local parks as they are littered, vandalised and unsafe. • CO2 emissions and air pollution from vehicles are challenges to creating a clean outdoor environment.	Participants agreed on the following solutions: • Tackling antisocial behaviour and monitoring the cleanliness of outdoor spaces • Local councils/government should inform communities about antisocial behaviour and deter youths from defacing public spaces. • Local community centres and youth clubs could be used to promote information. **Actors** <u>Charities</u> Charities could run activities in public spaces to encourage communities to start using them more. For example, meditation classes. In addition, they suggested that local bike shops could do a once-monthly afternoon push bike maintenance support with teenagers. <u>Environment Agencies</u> They could encourage the community by having group meetings, group activities and working with people in the community to create safer spaces. These activities could include litter picking.	Participants felt that the following policy levers should be used: • **Enforcing existing laws** There are laws for maintaining the image of public places, i.e. littering, but they are not enforced as well as they can be which needs to change. • **Grants for services** The government should provide grants to community groups and charities to build public spaces and buildings for meetings. • **Convening** At a local level this could be successful to bring together local businesses and charities, for example charity events in an outdoor space. Other charities/trusts can help with advertising or support.

Chesterfield

Topic 1: Education

Vision: "*'In 2045 we want a society in which for children aged 11 to 16 there are a range of regularly funded valuable educational opportunities for the environment, there is a clear pathway between these opportunities and careers, in which children are aware of environmental issues and this feeds into public awareness. A consistent curriculum into which environmental issues are better integrated. To leave a better environment for the future."*

Key components	Challenges	Solutions and actors	Policy levers
Participants wanted to ensure that secondary aged children are engaged and can understand the environmental impact of their choices. **Location** UK-wide	Participants agreed that there are a range of challenges: • Parenting techniques or advice may contradict what children had learnt at school. • That change would only occur if students are receptive, and that they are willing to change their behaviours. Participants felt that children may not be bothered and therefore would not follow through actions that they'd learnt. • Financial considerations and the need for funding, but participants were unsure on whether there is availability for it.	Participants agreed on the following solutions: • Environmental education should be fully integrated into the school curriculum. • Schools should be able to apply for a 'climate grant' from the government by meeting certain criteria, such as environmentally friendly uniforms or solar panels. **Actors** <u>Charities/fundraisers</u> Local schools could receive fundraising for environment initiatives within the school. <u>Schools</u> Schools could get involved within community projects, for example, tidying up areas of the community, creating shared garden spaces to plant produce/flowers. <u>Media</u> This includes the educating of teenagers through social media, as most secondary age children are using social media. Media influence/campaigns was thought to be the most influential actor.	Participants felt that the following policy levers should be used: • **Grants for services** Schools would need enough funding to integrate environmental education into the curriculum, and to introduce innovative solutions (see Solutions). • **Convening** Bringing together local businesses, sports centres, the local council, local environmental charities could help to educate teenagers. Examples included: school trips, outdoor activities etc. • **Voluntary agreements** Schools could agree to become more environmentally friendly by a certain date, and how they accomplish this is up to them.

Topic 2: Reducing waste

Vision: "*By 2045, people should buy what they need (rather than want) and products should be 100% recyclable. Products should be able to be repaired or upcycled, and as a result, fewer products will be discarded unnecessarily.*"

Key components	Challenges	Solutions and actors	Policy levers
Participants agreed that there is a sustainability element of ensuring that products last, and that they should be able to be repaired/recycled in the long run. And that actual consumer behaviour needs to be reduced **Location** UK-wide as consumer behaviour is a national/international issue.	Participants agreed that there are a range of challenges: • Consumer behaviour, consumers do not value anything, and they buy items out of convenience and dispose/replace them when they are bored or broken as it is an easier fix than repairing. • The current business models encourage consumers to buy cheaper products which are not repairable.	Participants agreed on the following solutions: • The public need more information to learn about the effects of fly-tipping and waste production, i.e. TV programmes and public campaigns about recycling and upcycling. • There needs to be more rules in place to prevent unnecessary waste production. • Products should be repairable and could be supported for long term guarantees by companies/manufacturers, instead of creating products which are easily and cheap to replace. **Actors** <u>Manufacturers</u> Companies should produce goods which are easily repairable/recyclable. The products should be cheaper to build, and they would not need to invest in as many materials. <u>Supermarkets</u> Supermarkets should only be allowed to sell things that are recyclable. <u>Government</u> Government must create rules and regulations for other actors to adhere to. <u>Local councils</u> Participants felt that local councils could incentivise recycling behaviours.	Participants felt that the following policy levers should be used: • **Changing infrastructure** There are not enough recycling plants in the UK. They also suggested that recycling plants should have a re-use pile for individuals to collect, repair and upcycle unwanted goods. • **Grants for research** Research grants should be given to fund for alternative materials of products- i.e. Teflon. They argued that we should be moving away from plastic bottles and containers and going back to glassware. • **Grants for services** The Government could put money towards public awareness campaigns regarding recycling and repairing goods.

Topic 3: Clean water

Vision: "*We would like to see unpolluted water for generations to come and beyond 2045.*"

Key components	Challenges	Solutions and actors	Policy levers
Rivers and oceans to be unpolluted. Everyone should work together to achieve this - cleaning up water now and making sure it is kept clean in the long term is important. **Location** Must be UK-wide, everybody has a human right to access clean water. Participants argued that you cannot solve water quality locally as actions in one area could affect surrounding areas.	Participants agreed that there are a range of challenges: • Plastic waste and littering polluting waterways. • Chemical pollutants flowing into rivers and oceans. • Human waste and sewage polluting waterways. • Impact of shipping, for example, fuel spills polluting water and oil rig disasters. All the above were depicted to have a negative impact on human health and the food chain, as pollutants/pesticides flow into crops, and water is used on natural produce.	Participants agreed on the following solutions: • Communities should work together to achieve this objective. • It is not viable to expect one person or one department to clean outside water spaces, everyone must work together to stop pollution happening in the long-term future. • Businesses must think of biodegradable solutions to stop waste polluting water spaces, i.e. microplastics. • Renewable energy resources need to be developed and used more widely. **Actors** <u>Local community/voluntary groups</u> Could be useful to raise awareness of the actions of companies who pollute rivers. **Media** Media usage would be a powerful tool to help elicit change, especially as it has the potential to raise global/national awareness. **Businesses and industry** Large businesses and shipping companies must all aim to improve water quality in the UK. Government could impose fines for businesses and industries that continue to pollute waterways etc.	Participants felt that the following policy levers should be used: • **Taxes, fees and levies** Government should fine companies who use fossil fuels and pollute water sources. They suggested that there should also be fines for companies who discharge waste into rivers. • **Grants for services** Government should provide grants/funds for local councils to clean up rivers and waterways. In addition, grants could be given to local community groups to clean/dredge rivers. In addition, participants agreed that grants for science and research should be given, to increase the use of renewable energy and for the development of waste management. • **Education** Education is needed to reduce littering, and clear information should be displayed on products to show whether they are recyclable. • **Legislation and enforcement** Government must ensure that businesses are not polluting water. Laws must be stricter, and that they could perhaps create a new environmental enforcement body to deal with the pollution of water space.

Topic 4: Clean air

Vision: "*By 2045 there should be universal clean air for people living in cities, obtained by using cleaner fuel sources and developing new technologies.*"

Key components	Solutions	Key challenges	Policy levers
Participants decided to focus on clean air as they believed that everything stems from clean air and it's a cross cutting issue. Participants argued that clean air is related to health and the economy, and not just the environment. **Location** Participants decided to focus change on a national scale (UK wide) but inner cities should be targeted first as they are more heavily affected.	Participants agreed that there are a range of challenges: • Even when the country switches to electric cars, there still will be braking dust which will cause air pollution. • People like their own cars, and another vehicle may not be suitable. Also, in some areas park and rides (and car sharing) would not work, for example, retail parks out of the city centre. • Energy and oil companies are not so interested in new technologies and may not be willing to change to renewable sources. • Industrial sources of emissions, for example coal, are not as polluting and as bad as they used to be.	Participants agreed on the following solutions: • Developing new technologies is essential. This includes: Creating more cost-effective fuel and reducing emissions from more eco-friendly travel means. • Public awareness must be raised on the matter. It is important to make the issue engaging to help to elicit change. **Actors** <u>Companies/factories</u> Should be able to create cleaner fuels for cheaper, for example Shell Energy's clean energy solutions. <u>Influencers</u> Celebrity influencers are important to engage the younger generation, they could promote environmental issues. They felt that teenagers would be more likely to learn and listen from role models. <u>Scientists</u> Scientists and researchers should provide a paper that analyses emissions and pollutants, this would help to raise awareness that people are dying from air quality related diseases.	Participants felt that the following policy levers should be used: • **Purchasing and spending** Finances could be reallocated from another department, like DFID to Defra • **Grants for services** There should be an investment in the farming industry, to produce new technologies to increase efficiency, and to ensure that British produce is produced in an efficient way (reducing the carbon footprint). In addition, the Government should provide grants to give people free public transport passes (e.g. rail and bus). • **Taxes, fees and levies** Government should introduce an online transaction tax to tackle the concern of online shopping. This would help to reduce the carbon footprint and encourage the public to shop locally. In addition, they felt that there should be taxes on high emission cars to discourage their usage, and taxes on multiple vehicles in a household. • **Legislation** Government should create set targets for emission levels, and areas should face penalties if these are not met.