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Putting people at the centre of UK climate adaptation & resilience

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ACCESS

Advancing Capacity for Climate
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Foreword

Adapting to climate change is no longer a future concern, but a central and pressing challenge for government, communities and institutions today. Adaptation is about responding to risk and also about building a future that is more resilient and better designed for the realities people will face. In the next National Adaptation Programme (due in 2028), the government aims to set stronger adaptation objectives, taking the advice of the Climate Change Committee by planning for a minimum of 2°C of rise in global temperatures above pre-industrial levels by 2050.

When I attended COP30 in Belém, Brazil, I was struck by the scale of the challenge, but also the opportunity that adaptation creates to think more deliberately about the kind of future we want. A major theme at the conference was locally-led and people-centred climate action to deliver effective, equitable and enduring adaptation. The Climate Change Committee's 2026 'A Well-Adapted UK' report also calls for greater public dialogue, both to ensure that the public understands adaptation and for the UK government to respond to the public's priorities. The actions that people can take, and their effects, are influenced by a range of social, behavioural, economic, and cultural factors. To improve adaptation, we need to understand the social conditions that shape what is possible and take these into account when developing interventions and making policy.

This report makes an important contribution to that agenda. It summarises scientific insights, concepts, methods and approaches that can be used to help adaptation and resilience policy be more effective, more equitable, and more grounded in the realities of everyday life. One example, presented in this report, concerns flooding. While property-level protection and defences can limit damage, uptake of these interventions is not guaranteed. Research revealed this is not just a question of cost or awareness, but of how homeowners perceive risks, trust interventions, and feel a sense of collective action in relation to their neighbours. By incorporating these social and behavioural insights, policy design can shift towards supporting groups of properties and harnessing community organisation, translating directly into more effective and grounded adaptation strategies.

Strengthening our national resilience to climate change will require sustained effort, collaboration, and a willingness to draw on the full range of available evidence. People-centred approaches are a valuable option to ensure that this effort succeeds.

Professor Dame Angela McLean,
Government Chief Scientific Adviser.



Executive Summary

This executive summary for policymakers presents the key findings and policy considerations of the [ACCESS](#) Task Force on Adaptation and Resilience, which was supported and co-chaired by the Government Office for Science. This summary and the main report are based on a synthesis of published social science evidence, a range of expert inputs, and two workshops. These do not reflect UK government policy or official positions.

The impacts of climate change are already being felt in the UK. Changing temperatures, seasonal shifts and increased frequency and severity of extreme events — such as storms, drought and wildfires — are exacerbating and compounding existing risks to society, environment, and economy. These impacts are not experienced evenly. Some people are more vulnerable and less able to adapt than others due to their social situation, income, access to support and where they live.

The evidence from social science research points to the value of taking a people-centred approach to climate adaptation. This is a way of designing and delivering adaptation policy that considers human wellbeing, agency, and lived experience, recognising that adaptation is not simply a technical or engineering problem but an ongoing social process that will need to adjust and respond to changing climate and societies. While technical solutions like physical infrastructure are essential, they are most effective when combined with an understanding of how people experience, respond to and shape change. Integrating people-centred approaches into policymaking can strengthen the design of adaptation and resilience measures, options and responses by providing a richer understanding of people's views, needs, public support and uptake, mindful of existing risks and vulnerabilities.

The full report synthesises social science evidence for policymakers, alongside six case studies and a list of useful resources and practical tools. It aims to show that including social science insights and approaches at the start of the policymaking process, and during every stage of policy development, can enable improved design and delivery of adaptation policy.

Key insights and policy considerations

1. Effective adaptation depends on considering how people understand the problem and the solutions proposed, not just technical design

Technically sound adaptation interventions are not always taken up in practice. Whether people act depends on cost, effort, timing, trust (in those suggesting action, among others), social norms and whether they believe it will make a difference. As a result, policies that focus only on technical solutions may underdeliver.

For example: property-level flood defences may not be adopted due to concerns about aesthetics or house value, but seeing neighbours adopt these can increase uptake.

Policy considerations:

- Build adaptation policies around people's varied and complex needs. Use insights from social and behavioural sciences research, user engagement and evaluation evidence from the start of policy development and keep using them as policies are designed, tested, implemented and reviewed. This provides the opportunity to ensure adaptation measures reflect and respond to how people live, make decisions and experience climate risks.

- Design and test policy ideas early with people and communities, using methods such as focus groups or citizens assemblies, to see how people respond before committing to large-scale rollout.
- Work with trusted stakeholders (including from business and industry, local government, civil society or voluntary sector) to support collective action and make delivery more effective.

2. Adaptation requirements will change over time as people's exposure and vulnerability to climate hazards evolves

Adaptation needs to be considered as an ongoing process, responding and adjusting as climate hazards, exposure, risks, vulnerabilities and needs change over time, with plans and targets designed to evolve accordingly.

For example: overheating in homes is not only due to the characteristics of existing housing infrastructure; it also depends on how people use their homes and how they respond to hotter weather. These vary across social groups and over time, which in turn change exposure and vulnerability. For example, older and younger groups are more susceptible to heat stress. Therefore, combined solutions (adapting the building fabric of a house and the actions people take to protect themselves from heat) need to be regularly reviewed.

Policy considerations:

- Design adaptation policy, targets and interventions to be flexible and regularly reviewed, to ensure they remain relevant as climate, risks, evidence and circumstances continue to change.
- Include opportunities to learn, adjust and change direction over time so that delivery and support can be tailored to social and local needs.

3. Adaptation is more effective when tailored to different people and places

There is no single 'UK public'. People face different risks and have different abilities to respond, for example, depending on their income, housing, health and where they live. Their decisions are also shaped by trust in institutions, lived and past experiences, and whether they feel they can take effective action and have support required to do so. This means the same policy can work well for some groups or areas but have little impact in others. The most effective and durable solutions are those that reflect these differences and are designed around how people live and their ability to respond to change.

For example: some communities and groups are disproportionately exposed to heatwaves, including manual labourers, people in institutional settings (care homes, hospitals, prisons), urban communities, low-income households, renters (who may have less control over building improvements) and those who work outdoors. Suitable adaptations vary according to location, exposure, vulnerability and adaptive capacity of different groups.

Policy considerations:

- Assess who is at risk, who is vulnerable, who benefits, who bears the costs of the current and future situation, and potential options. Conduct these assessments transparently, acknowledging whose perspectives have been considered, how and why.
- Involve people with place-based knowledge and expertise to co-produce policy and projects. When adequately resourced and undertaken well, co-production can improve the policy process by incorporating wider perspectives and solutions options.

4. Joining up adaptation with other goals can lead to wider benefits

Well-designed adaptation can have co-benefits in other areas, for example, improving people's health, wellbeing and quality of life.

For example: urban greening can reduce heat-island effects while also sequestering carbon and improving wellbeing and air quality.

Policy considerations:

- When developing adaptation policies, assess their effect on other areas such as nature, health, and community wellbeing. Bring together expertise from social sciences, environmental science and public health to identify trade-offs, avoid unintended consequences and maximise shared benefits. Use broader and diverse measures of value when appraising adaptation investments, recognising that benefits extend beyond avoided losses to include economic, social and environmental gains such as improved health and wellbeing from flood prevention.

5. Assess adaptation policies for unintended and unequal impacts

Adaptation actions can have unintended consequences that often manifest as risk shifting rather than reduction. They can also lock-in of vulnerability for future generations, or reinforce of inequality. This can be referred to as maladaptation. Maladaptation is more likely when interventions focus on a single hazard, short timeframes or narrow metrics, without accounting for trade-offs, distributional effects and wider system impacts.

For example: use of air conditioning can increase urban temperatures in cities through waste heat, disproportionately affecting those unable to access cooler spaces, resulting in disruption to work, daily routines and health impacts.

Policy considerations:

- Check for unintended effects when designing and implementing policies, using tools like stakeholder engagement, impact assessment, systems mapping and others to take into account connections across systems and complexity. For example, consider whether an adaptation intervention could increase emissions, worsen inequalities, damage nature, shift risk to another group or place, or lock in a lower quality long-term outcome.
- Track and review policy outcomes (such as reduced vulnerability or other co-benefits), and monitor how policies are delivered to ensure fairness, accessibility, accountability, learning, and public trust.

1. Introduction

1.1 Climate change impacts in the UK

The increasing effects of climate change are already being felt in the UK and are expected to become more pronounced, with warmer and wetter winters; hotter and drier summers; and more frequent extreme weather patterns, leading to greater risks of flooding, heatwaves, droughts, wildfires, and coastal erosion (Met Office, 2022). In addition, the global effects of climate change will continue to impact the UK through the flow of goods and resources, the spread of diseases, price rises and other scarcity signals, and enhanced uncertainty and geopolitical risks (Challinor and others, 2021; Benzie and Persson, 2019).

Climate impacts in the UK include chronic, slow-onset changes (such as sea-level rise, overheating of buildings, water stress, and ecosystem and agricultural change) as well as acute shocks (including flooding, storm surges, heatwaves, drought and wildfire). Risks are increasingly interlinked, creating compound risks that have cascading effects. A recent example is the July 2022 UK heatwave that peaked at 40.3°C; it not only caused excess deaths (UK Health Security Agency, 2022) but also contributed to wildfires that overwhelmed emergency services and resulted in datacentre failures affecting London hospital record access, disrupting care (Data Centre Dynamics, 2023). The Climate Change Committee's (CCC, 2026) 'A Well-Adapted UK' report argues that while climate risks from heat, flooding and water scarcity are growing rapidly, a more resilient, prosperous and secure UK can be achieved through coordinated action across society and investment in adaptation now rather than incurring much higher costs later.

Box 1: adaptation and resilience

Climate adaptation:

"The process of adjusting to actual or expected climate change and its effects, in order to moderate harm or exploit beneficial opportunities" (IPCC, 2023).

Climate resilience:

"The capacity of interconnected social, economic and ecological systems to cope with a hazardous event, trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure" (IPCC, 2023).

Climate adaptation 'interventions':

Purposeful, targeted actions designed to reduce climate risks or build resilience by generating change. This change may be achieved through policies, technology adoption, new organisational practices, or community-based efforts. Adaptation interventions are distinct from autonomous adaptation, where individuals or groups adapt informally in response to changing conditions; while not the focus here, such bottom-up practices are important and can inform or be scaled through interventions.

1.2 Climate adaptation as a social process

Efforts to adapt and foster long-term resilience play a vital role in moderating and responding to the impacts of climate change. Adaptation involves complex ongoing, iterative social processes in which individuals, groups and communities adjust to changing circumstances.

- **People's uneven experience of climate impacts is partly shaped by social factors.** The risk of harm associated with climate change is determined by a range of interacting factors, including the likelihood of a climate hazard occurring, and the levels of exposure, vulnerability, sensitivity, and capacity to respond. These are shaped by people's characteristics and interacting social factors including income, housing, health, and governance (Thomas and others, 2018). As a result, the effects of climate change will not be felt evenly across society. People who are economically vulnerable and socially marginalised are among those likely to be most affected (Lindley and others, 2011; HM Government, 2025).
- **Adaptation includes changing the ways people do things.** Adapting to climate change to reduce exposure and vulnerability includes changing how individuals, communities and organisations do things, along with when and where they do them. This includes, for example, the modes of transport that people choose, and the home alterations they make. People do not make decisions about changes in isolation from their social and physical environments. Actions and decisions are shaped by socially-generated knowledges, norms, trust, local experience, attitudes, perceptions, institutional structures, and the physical characteristics of the local environment. Societal factors (such as inequality) shape people's ability to make and implement choices. Not all adaptation actions will be feasible or appropriate for everyone. Adaptation therefore requires changing social conditions and governance to enable people to better respond to change, rather than solely focusing on managing physical hazards. For all these reasons, the social context of decision-making must be considered, understood and included alongside technical feasibility and economic viability in adaptation policy.
- **Adaptation is ongoing and iterative.** Adaptation is a social process that evolves over time, rather than a static state to be achieved. As the climate continues to change, successful adaptation requires multiple decision points, reflecting changing social, governance, and environmental conditions through time. Effective adaptation, and creating conditions for long-term resilience, require continual adjustment, improvement, learning (rather than one-off interventions) and a focus on long-term social processes.
- **Adaptation decisions are negotiated.** Which risks are tolerable, for whom, and at whose expense, are social, political and ethical decisions. They result from conversations, discussions and contestations, shaped by values, public trust, and institutional legitimacy.
- **Adaptation occurs within interconnected and complex systems.** Responses to climate change occur within highly interconnected human, natural and infrastructure systems, which are characterised by feedback loops and interdependencies, non-linearity and tipping points. As a result, adaptation actions can have unintended consequences, including maladaptation, as well as missed opportunities for co-benefits. A systems approach focuses on relationships and interdependencies across sectors, helping to identify where beneficial options can be maximised and unintended impacts minimised.

A significant body of evidence exists on the social components of adaptation and resilience (King and Demski, 2025; Moser and others, 2019; Power and others, 2020). For example, social science provides insights about the ways individuals and communities respond to chronic, acute, and compound risks (Sanson and Masten, 2024). It can highlight the uneven distribution of who is at risk, along with options and opportunities to be better adapted and prepared. This can reveal how vulnerability is produced, and how policy can be fairer and more inclusive.

Together, this shows that adaptation is not only a technical challenge, but also a social one that is shaped by how risks are experienced, understood, and managed by different people and communities. People-centred approaches build on these insights by focusing on individuals, societies, and their relationships. This strategy uses social insights to shape policies and solutions in ways that reflect how people understand, experience, and respond to change. Such approaches, supported by the social sciences, can help policymakers make better-informed decisions about adaptation and resilience (Barnett and others, 2026). There is a considerable opportunity to make adaptation efforts more effective by better utilising this evidence to improve policy and practices.

1.3 Aim of report

This report aims to synthesise social science evidence and practice in a way that is useful for decision makers. It shows how insights and approaches from social science — defined as the study of people as individuals, communities and societies, their behaviours, and their interactions with others and their physical environment — can be used to improve climate adaptation and ensure that interventions are reviewed for their long-term relevance.

This report is an output of the [ACCESS](#) Taskforce on Adaptation and Resilience, which was supported and co-chaired by the Government Office for Science. It synthesises insights from published social science evidence, expert inputs, and two workshops (see Annex 2 for more detail on methodology). This report does not reflect UK government policy or official positions.

2. How can social science insights add value to adaptation policy and action?

To design effective adaptation policy and interventions, it is important to understand the social and behavioural dimensions that affect how climate change is experienced, how adaptation action occurs, and how this relates to long-term resilience. This section describes how and where social science insights may be particularly helpful throughout the climate adaptation policy process. Figure 1 illustrates this using a simplified model of key stages of the policy process (HM Treasury 2026), although we recognise that policy development or action is rarely linear or cyclical, involving overlapping stages, feedback loops, and variation across scales and contexts.

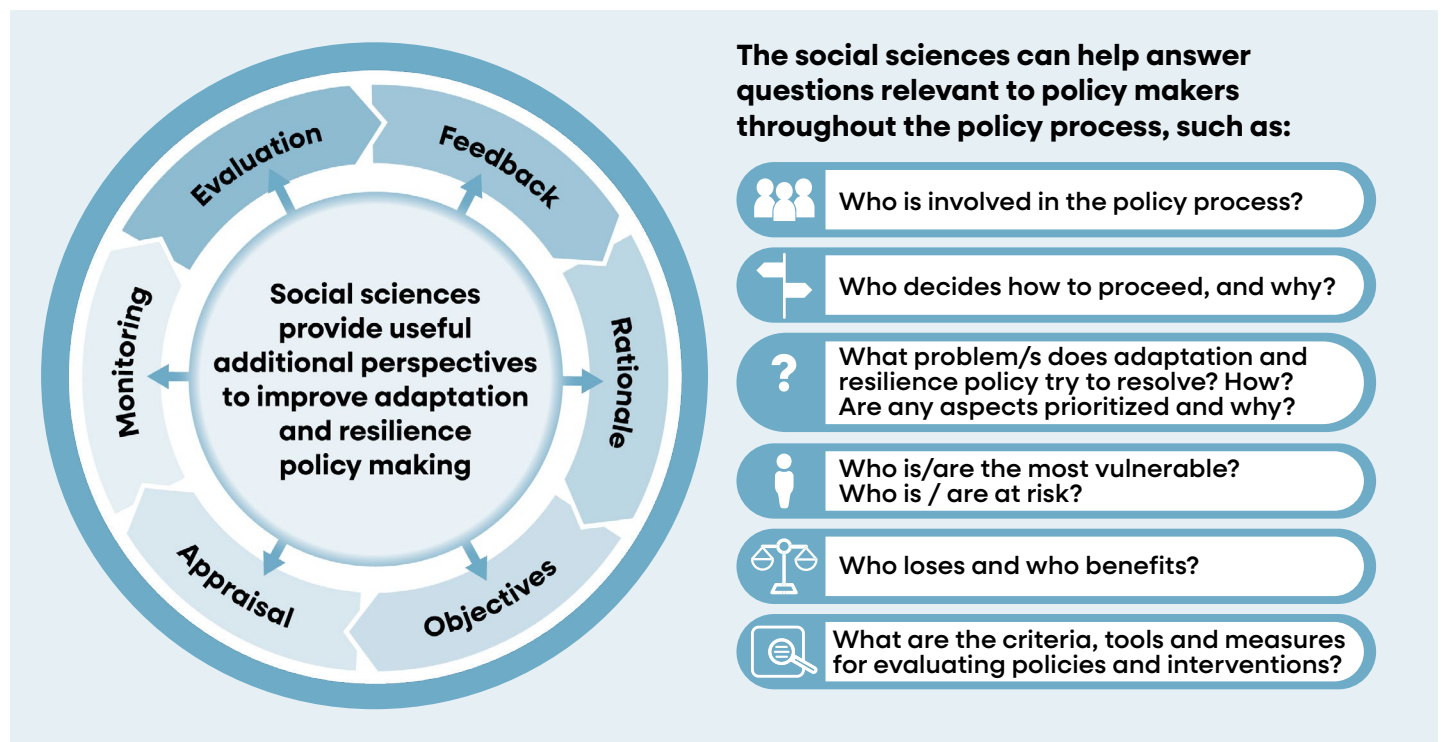


Figure 1: The social sciences, alongside other approaches, provide support for agile and responsive policymaking on climate adaptation and long-term resilience

2.1 Issue framing for adaptation policy

Although the management of risk is a common starting point within government for thinking about climate adaptation, it is also useful to understand the different ways that adaptation can be framed throughout the policy cycle. ‘Framing’ refers to how adaptation is defined and understood; what adaptation is expected to achieve; which adaptation solutions are considered; and how their success should be assessed (Amorim-Maia and Olazabal, 2026).

For example, Singh and colleagues identify various adaptation ‘frames’ (Singh and others, 2021). These frames define the scope and goal of adaptation, such as:

- **Efficiency:** focusing on minimising costs and maximising benefits, often assessed through cost–benefit or cost-effectiveness metrics.
- **Resilience:** focusing on enabling systems and communities to persist, absorb shocks, and recover over time, without necessarily transforming those systems.
- **Transformation:** emphasising more fundamental changes to systems, practices, and power relations, rather than incremental adjustments that leave root causes of vulnerability intact.

Making these framings explicit is particularly valuable for people-centred approaches, because different priorities underpin different framings, and therefore different goals of adaptation policy. Some framings may, for example, give more attention to vulnerable individuals or communities. Others may focus on the distribution of positive or negative impacts caused by climate change, or the uneven effects of policies meant to address these impacts.

It is important to consider which framings are being used or suggested, implicitly or explicitly when pursuing adaptation, and the policy questions and actions that are prioritised as a result. Framings may be challenging to influence and change (see case study 4.3). Considering alternative framings is useful to examine unintended consequences of interventions. An example of practical ways to consider framing is the Well-being of Future Generations (Wales) Act (Welsh Government, 2015). By considering various framings, including intergenerational justice, the act embraces other ways to think about and undertake adaptation action. It is also important to define terms from the outset of projects (as meanings and terminology can vary across disciplines and policy areas), strengthen shared understandings and maintain an open dialogue to reflect evolving contexts (Lonsdale and others, 2023).

2.2 Assessing who is most vulnerable and why

Risk can be understood as a function of exposure and vulnerability to hazards (IPCC, 2022a); it is the “potential for consequences where something of value is at stake and where the outcome is uncertain” (Humphrey and Murphey, 2016). When assessing risk, it is critical to explore who is at risk, who is vulnerable and who requires additional support to reduce risk and improve resilience.

Social science provides practical tools to examine context-specific vulnerability, its causes and its distribution. Vulnerability is multi-dimensional and socially produced, it is not a natural or inherent condition (IPCC, 2012). It arises from factors such as unequal access to resources, historic marginalisation, power structures and institutional practices among other individual factors like age and health. Vulnerabilities may be invisible or unmeasured; hidden or suppressed; ignored or deprioritised; or imposed, created or worsened by adaptation decisions. In some cases, multiple vulnerabilities overlap and intersect. Using people-centred approaches to adaptation, underpinned by the social sciences, enables further understanding of this complex intersectionality (Paavola, 2017).

When policymakers design and implement adaptation policy, for example, they can improve fairness and inclusion by considering how the impacts and benefits of that policy are distributed (also known as distributive justice); and whether its processes are fair and transparent (also known as procedural justice). The framework adopted by Scotland’s Just Transition Commission (2026) shows how to consider both dimensions. This allows decision makers to identify where targeted support is needed most, while ensuring that adaptation interventions do not inadvertently reinforce inequalities. This includes acknowledging the interconnectedness of issues relevant to adaptation.

For example, some groups are more likely to experience mental health issues in connection with extreme events (O'Connell, 2024; and see Viavattene and others, 2025, on including the mental health costs of flooding to inform policy). This illustrates how climate risks interact with wider health and social inequalities and can reinforce existing vulnerabilities if not considered in adaptation planning.

Social insights can help ensure that adaptation support is effectively targeted and that its distributional impacts are understood. For example, social science methods such as focus groups and interviews can deepen policymakers' understanding of the challenges faced by certain groups in society, so that these insights can feed into policy design. For instance, the UK government's Disability Action Plan (HM Government, 2024) draws on disabled people's experiences of early adaptation impacts and learns from them when designing wider climate responses.

Vulnerability maps (such as those developed by [Climate Just](#), 2026) can also be part of a people-centred approach. These maps show socio-economic factors and physical stressors such as flood risk, demonstrating how climate events interact with everyday pressures like housing, health, and economic shifts (Kelman and others, 2016; Roa and others, 2025). This kind of systems thinking is increasingly used to understand the interconnected components of a situation, thus accounting for complexity and cascading effects (see case study 4.6). It can also help to avoid poor decision-making based on an incomplete understanding of different factors within a system and their interactions. Poorly designed interventions can entrench vulnerability to climate change by, for example, inadvertently exacerbating other problems, resulting in maladaptation. For example, flood-control measures in one location could increase the risk of flooding downstream. Other interventions might push risks into the future, rather than providing a long-term solution (Aerts and others, 2024).

Social science can support economic analyses by shaping how adaptation investments are framed and assessed. Integrating social insights with economic appraisal can support more-rounded assessments of value and recognise more-intangible benefits such as wellbeing, social cohesion or reduced long-term vulnerability. The use of value-for-money framings (The British Academy, 2024) of adaptation are important, but a large proportion of 'damage costs avoided' benefits are challenging to model. Econometric concepts and approaches like 'social welfare valuation' (see methods in Defra's (2025b) [Supplementary Green Book guidance](#) and HM Treasury's (2025) appraisal of 'place-based interventions' in its [Green Book Review 2025](#)) can help to support the wider social value derived from many adaptation investments. This value is summarised in the so-called 'triple dividend of resilience', which includes avoided losses and the economic gains of adaptation activities, but also accounts for wider social and environmental co-benefits. People-centred approaches also invite reflection on how the effectiveness of adaptation policy and action is defined. For example, flood prevention can be evaluated beyond cost and risk to include health benefits and wellbeing (Quinn and others, 2023).

2.3 Designing and delivering interventions: how does change happen?

Designing and delivering effective interventions requires considering and understanding how social change happens in practice (Bruley and others, 2026; Hoggett and others, 2025). People's actions at home, in their communities, or within organisations are influenced by a multitude of personal and social elements. These include knowledge, values (such as their sense of connection to the place they live or work (Jayakody and others, 2024; Devine-Wright and Quinn, 2020), perceived risk (Howarth and others, 2025), and responsibilities and experiences (Power and others, 2020; Mitev and others, 2023) — these are outlined in more detail in Box 2.

Box 2. Elements that shape action.

Knowledge, experience and emotions: Someone who has lived through a flood may be more willing to prepare for future events if they feel enabled to take action and perceive it as worthwhile (see case study 4.1). Emotional responses to past experiences can help encourage practical changes, such as preparing for heatwaves or storms (de Bruin and others, 2016), although these may also interact with other factors such as age (Demski and others, 2017) (see case study 4.2).

Cultural factors: Community norms, local culture, social practices and identities, and perceived responsibility all shape what actions people take and how they take them (see case study 4.5). Social groups within a community or region may have differing views on climate risks, preferred adaptation strategies, and about who should bear the costs. For some risks, such as extreme heat, people may adopt reactive responses, such as using air conditioning, which may affect other areas of concern such as options for climate mitigation (King and Demski, 2025). In the UK, cultural narratives of heat are often positive, yet these contrast with negative experiences. Messaging on heat can be contradictory: research (Blewett and others, 2025) shows that media messaging emphasises the dangers associated with heat waves, yet visual representations still reflect ‘fun in the sun’ (O’Neill, 2025). Improving risk messaging as part of a suite of interventions can support individuals and communities to better respond to climate change (see case study 4.3).

Capabilities, perceived cost and benefits: The ease and costs of adaptation options are both key considerations, but people also need to believe that their actions will make a difference (known as outcome efficacy), and that they are able to carry out those actions (known as self-efficacy) (Bechtoldt and others, 2021). Clear information, relating actions to co-benefits (Adaptation Scotland and Climate Outreach, 2017), and practical support will help people feel more confident and willing to adapt (Whitmarsh and others, 2021). The synergies and co-benefits from climate action are numerous, including in public health, nature recovery, and urban resilience (Lowe and Betts-Davies, 2025; Verfuërth and others, 2024; DESNZ, 2025). Other social science approaches can provide different perspectives: social practice theory (Nash and others, 2017), for instance, focuses on how people engage with shared, routine activities such as cooking or cleaning (which may need to change in order to adapt), and how infrastructures, technologies and cultural meanings interact to shape these.

Public support, and solidarity: Research shows there is high public recognition of how climate change imposes impacts on others, and this translates into public support for action, often framed in solidarity or moral terms (Adger and others, 2017). This suggests that adaptation action may be seen as more than just pro-environmental behaviours, and that the impacts and potential adaptations are also seen as moral issues. Communities are most likely to take steps to protect themselves against climate risks when people have a sense of shared ownership of their actions (mindful of agency and efficacy, as outlined above (see case studies 4.1, 4.5 in this document)).

Taking account of these personal and social dimensions and public attitudes to adaptation interventions can broaden the focus and increase the complexity of policy design. While this can be perceived as slowing down or constraining the policy process, evidence from other transitions shows that reaching a decision too quickly can undermine legitimacy, participation and effectiveness, particularly when people’s perspectives are overlooked (Lui and others 2020; Government Office for Science, 2025). Support for climate adaptation policies is conditional upon their perceived fairness (CCC, 2023), while perceived unfairness can result in resistance and therefore delays to environmental policies (Bergquist, 2025).

2.4 Adaptation governance

Adaptation is a social process; delivering adaptation requires the participation of all sectors in society and a range of institutions and bodies, which themselves will need to adapt (Dookie and others, 2024). The Climate Change Committee (CCC) has called for clarity on “the roles of government, private sector and households in delivering and funding adaptation” (CCC, 2025). This call for coordinated action and leadership is echoed in recent advice from the Council for Science and Technology (2025).

Local and regional organisations are crucial to delivering national adaptation policy objectives at local level. For example, regional or area-specific partnerships known as climate commissions (Grantham Research Institute on Climate Change and the Environment, 2026) can provide understanding of local conditions and activities that should be considered when shaping national policy. The Well-being of Future Generations Act (Audit Wales, 2025), and the London Community Resilience Assembly (Islington Climate Centre, 2025) show how collaborations among public institutions, civil society, private sector and publics enable addressing complex challenges of adaptation. Institutions and organisations can themselves foster knowledge exchange and learning to inform climate adaptation action drawing upon social science insights and methods (for example, Sommerauer and others, 2026; Environment Agency, 2024). The [Adaptation Inventory](#) by the Tyndall Centre for Climate Change Research (2021) provides a database documenting more than 400 examples of implemented adaptation actions by public and private sectors. Adaptation policymaking may also result in or require institutions to change their internal processes to better incorporate social science insights (see case study 4.3 and Annex 7.1)

2.5 Evaluating the success of adaptation and long-term resilience policies

The evaluation of climate adaptation and long-term resilience policies needs to reflect their purposes and priorities (Singh and others, 2021; Barnett and others, 2013). Indeed, setting climate adaptation objectives is challenging, given the uncertainty of climate trajectories and impacts, shifting baselines, and lack of consensus of what good adaptation looks like (CCC, 2025). Furthermore, the strengths and weaknesses of adaptation interventions may only emerge after many years, and outcomes can be uncertain and difficult to isolate.

To understand if adaptation interventions are effective, it is necessary to devise indicators and metrics that align with policy objectives, and that can be measured and assessed over time. This needs to include social elements of adaptation. One example is the design of local adaptation targets that reflect the place-based nature of adaptation, such as the particular vulnerabilities of a town or county (Yule and others, 2025). Evaluation of adaptation policies and their practical outcomes also requires standardised criteria that are continuously refined and revisable, with built in review points that allow assessments to evolve with evidence and context (Goonesekera and Olazabal, 2022; Olazabal and others, 2026). Structured criteria such as maturity matrices, used by the Rail Safety and Standard Board (2025) and Scottish Government (2024), measure progress in adaptation and have been adopted in the monitoring, evaluation and learning framework of the UK government’s Third National Adaptation Programme (NAP3) (Defra, 2025a).

Aside from the criteria used to evaluate adaptation, the evaluation process itself is also most effective when it is iterative and responds to changes in climate impacts and social dimensions. Participatory and iterative evaluation methods can also be more inclusive of diverse voices and views. But any evaluation method must be transparent if it is to strengthen public trust and cross-government coordination, ensuring adaptation plans remain accountable, and evidence-based (Defra, 2025a).

3. Incorporating social insights into adaptation policy and action

This section sets out six considerations to ensure social insights are adequately incorporated into adaptation policy and action.

3.1 Incorporate social considerations as early as possible

Use social science insights and evidence from the outset to shape how problems are understood, how policies are designed and where trade-offs or unintended consequences might arise. Social science can help policymakers understand how people will be affected, how they are likely to respond, what motivates action, what barriers exist, (Eriksen and Simon, 2025; Maxwell and others, 2025) and how adaptation measures interact with wider social, economic and environmental systems.

Actions to consider:

Make time at the start of a project or policy to understand social science insights on people's needs, experiences and behaviours, as well as the wider social, economic and environmental systems they interact with. This helps to include these insights alongside other perspectives and approaches, at a variety of spatial and temporal scales, and on a case-by-case basis.

3.2 Be flexible: enable experimentation, testing, and learning

Be willing to test new ways of making policy, organising institutional structures and practices, and delivering programmes. Climate adaptation involves a lot of uncertainty, including how people will respond to risks, advice and new technologies. Testing different approaches can help improve decisions over time, while creating opportunities to bring social science insights together with technical, economic and other forms of evidence.

Actions to consider:

- Build into policies and programmes opportunities to test, adapt and improve approaches as evidence emerges.
- Be open about why new approaches are being tried, what their benefits and limitations are, and where uncertainty remains.
- Evaluate interventions and use the results to improve future decisions and strengthen the case for further action.
- Share examples of policies that have successfully used insights about people's behaviour, needs and experiences, and explain what made them effective.
- Regularly review policies and guidance to make sure they still reflect current evidence, risks and public needs.

3.3 Tailor approaches, involve people

Involve people in developing policies. People can help identify problems, test ideas, shape solutions and inform spending decisions. They also bring valuable local knowledge about the places where they live and work. When done well, listening to and working with people can lead to better policies and better outcomes (Sorrentino and others 2012).

Actions to consider:

- Show how people's views have influenced decisions.
- Use public input to understand the wider costs and benefits of policy options, including social, environmental and wellbeing impacts, not just financial costs.
- Create space in policymaking processes for testing, learning and adapting approaches based on public feedback and emerging evidence on issues such as unintended consequences, fairness and feasibility.
- Think carefully about when public involvement will add the most value, focusing efforts where it can genuinely improve decisions.
- Be open about any constraints on engagement, such as limited time, resources or scope (Few and others, 2007).
- Explain from the outset what people can influence and what they cannot.
- Be transparent about who was involved, who was not, and how different views were taken into account.
- Make it clear how feedback has informed the final policy, even when not all suggestions have been adopted.

3.4 Combine different perspectives: increase interdisciplinarity

Use expertise from different fields to help define problems and find solutions. Social scientists, engineers, natural scientists and others can all provide useful perspectives. Social science methods, such as scenarios, personas, workshops and systems mapping (see Annex 7.1 for practical resources), can help policymakers understand how problems are framed, how risks are distributed, where future uncertainties lie, what people think about different options, and what could make policies difficult to deliver. These approaches can generate qualitative evidence that provides important context and nuance, helping to explain and complement quantitative data (see case study 4.4). Combining qualitative evidence (such as people's experiences and views) with quantitative data (such as surveys, economic data or climate projections) can give a more complete picture and support better decisions.

Actions to consider:

- Use a wide range of evidence throughout the policy process, including research, evaluation, lessons from previous work, knowledge exchange, reflection, innovation and practical experience.
- Bring together evidence from social science, natural science, engineering and other disciplines to understand problems from different perspectives, explore different ways of framing issues, and identify a broader range of solutions.
- Use both quantitative and qualitative evidence when making decisions. Numbers can show the scale of an issue, while people's experiences can help explain why it exists and how it affects different groups.
- Decide early how qualitative evidence will be collected, analysed and used alongside quantitative data when assessing policy options, adaptation interventions and measures, and when evaluating success (see Tyndall Centre for Climate Change Research (2025) guidance on improving the inclusion of qualitative social science insights within decision-making).
- Agree common definitions for important terms at the start of a project. Words such as 'resilience', 'risk' and 'adaptation' can mean different things to different people, so clear definitions can avoid confusion, misuse and misunderstandings (see Section 2.1).

3.5 Track and evaluate outcomes and impacts across the system

Set adaptation goals based on what matters to people, not just technical measures.

Policymakers should use evidence about people's experiences, needs, preferences and behaviours when deciding what success looks like, how progress will be measured, and how adaptation interventions will be evaluated. This draws on people-centred insights informed by social science evidence, including public preferences, behavioural evidence and lived experience. Goals should be reviewed regularly and updated as circumstances change.

Different places and communities face different risks, so objectives should reflect local conditions and the needs of more vulnerable groups, including through the use of local vulnerability data where appropriate. It is also important to ask whether actions taken in one area can have unintended effects, both positive and negative, elsewhere. Climate adaptation interacts with a wide range of policy objectives — including emissions reduction, health, nature recovery, economic development and social wellbeing — so it must be considered alongside other policy goals, rather than treated as a separate issue.

Climate adaptation and emissions reduction are particularly closely linked, and policies often work better when they are designed together (Helgeson and others, 2025). For example, planting more trees and green spaces in towns and cities can help keep places cooler during heatwaves and reduce flood risk, while also absorbing carbon, improving air quality and supporting wellbeing. Likewise, building more resilient infrastructure can affect future emissions, and investments in clean energy can make communities more resilient to climate risks. A joined-up approach can reduce systemic risk and support climate-resilient development (IPCC, 2022b) while delivering multiple benefits at the same time. This thinking is already used in some areas, such as urban greening (Rodrigues and others, 2025), but it could be applied much more widely — for example, when improving how homes are heated and cooled, so that they are both low-carbon and better able to cope with extreme temperatures (Climate Policy Info Hub, 2016).

Actions to consider:

- Build people-centred insights into adaptation objectives, metrics and evaluation, while enabling flexibility and adjustment. For example, use local vulnerability data, public preferences and lived experience to set adaptation targets that can be reviewed over time.
- Take time to clarify the policy trade-offs. For example, while there are clear benefits to taking time to consider the impact of policies, this must be balanced against the potential to miss a window of opportunity to implement the policy.
- Link adaptation and mitigation and address both concurrently where possible as well as other policy goals around health, environment and more. This involves a simultaneous focus on people and nature, proactively addressing the causes of a problem — such as passive design for buildings — as well as its symptoms, such as adjustments to cooling or heating in those buildings.

3.6 Share good practice and upskill teams where necessary

Share good practice and what works via a central adaptation repository of case studies, methods, data, their use, and lessons learned. Activate networks and collaborations that enable diverse, trustworthy, reliable and available social science experts to explain and interpret social science evidence, their strengths and weaknesses, and how they may inform policy. In situations where organisational culture and processes constrain the effective use of social science insights, upskilling and learning from trialling (Jager and others, 2026) may be required.

Actions to consider:

- Build capacity in government, which can be done in a number of ways: leaning on government social research professionals in policy teams; creating more social-science scientific advisory councils (see examples in Defra and DESNZ); establishing a cross-government working group on social sciences with a clear remit, scope, inclusive representation, aims and buy-in from departments (see case study 4.3); and embedding training on the value and use of social insights for adaptation in professional development events and structures.
- Enable deeper and iterative engagement between experts in government, academia, learned organisations and other institutions, and policymakers through expert advice programs, government department areas of research interest (ARIs), academies (such as the British Academy and the Academy of Social Science), secondments (Whitmarsh and others, 2025) and advisory roles (in local resilience forums, for example), to illuminate emerging societal issues, inform regulatory debates, and challenge dominant assumptions (see the review of public engagement by the Defra Science Advisory Council (2022) and its Social Sciences Expert Subgroup).
- Draw from existing experience in public institutions on how to effectively mainstream social science considerations in policy formulation, and when setting ambitions for adaptation. This should include efforts to persuade colleagues and find allies; appoint or enable senior-level champions; and establish trustful relationship with authoritative external bodies.

4. Case studies

The six case studies below provide real-world examples that illustrate the opportunities of taking a people-centred approach. They describe ways to incorporate social sciences insights and evidence to inform and improve policy, decision-making and action.

4.1 Influencing policy and practice on property-level flood resilience

Problem being addressed

Climate change and urbanisation are increasing flood risk for homes and small businesses across England. While government can reduce risk through large scale flood defences, significant additional protection can be achieved through engineered property level flood resilience (PFR) measures, such as flood barriers and water resilient furnishings. These measures are substantially more effective than traditional responses such as sandbags. However, despite being informed about flood risk and the availability of PFR, uptake among households and small businesses in at risk areas remained persistently low.

Policymakers at Defra and the Environment Agency were puzzled by this apparent gap between awareness and action. Their existing approaches assumed that providing better information about risk and technical options would be sufficient to drive behaviour change. This model of decision making failed to account for how people actually perceive risk, evaluate social consequences, and make decisions in the face of uncertainty. As a result, policy interventions were underperforming, leaving communities exposed to avoidable flood damage, disruption, and distress.

The challenge was therefore not simply technical or informational, but behavioural and social: understanding why people were reluctant to adopt PFR, and how policy design could better reflect the lived realities, emotions, and social contexts shaping adaptation decisions.



Figure 2: A business in Appleby-in-Westmorland, shortly after one of the frequent floods affecting the area. Note the reliance on sandbags, whose effectiveness is limited (Harries, 2009).

Actions taken

Between 2006 and 2010, social science research investigated the behavioural barriers to PFR adoption among householders and small businesses. Using qualitative interviews, focus groups, and reanalysis of existing survey data, the research examined how people talked about flood risk and flood protection, and how decisions were shaped by both rational assessments and less-visible emotional and social factors.

Drawing on psychology, linguistics, and social norms theory, the research ‘read between the lines’ of people’s talk about flooding and PFR to uncover underlying motivations, fears, and social pressures. For householders, the analysis highlighted the powerful role of local social norms. People were more willing to adopt PFR when it was offered to clusters of properties rather than individuals, and when costs were fully covered through public grants. Anticipated stigma, fear of ridicule, and concern about feeling foolish if measures proved unnecessary, all discouraged individual action. Seeing neighbours adopt PFR reduced these perceived risks.

For small businesses, the research showed strong distrust of advice from perceived outsiders and resistance to messages that conflicted with local business norms. The research indicated the use of co production approaches, use of businesses’ own language and framing, and the use of the business ‘voice’ in communications (such as quotes from businesses and videoed interviews).

Impact

The research directly influenced flood-risk management policy and practice in England, contributing to a shift towards a more people centred approach to adaptation. Defra redesigned its Property Flood Resilience grant scheme, moving away from support for individual households and expert advice alone, towards fully funding the costs of PFR and encouraging delivery to clusters of affected properties.

According to Defra, the research helped reduce the cost, disruption, and distress caused by flooding by changing both the design and underlying assumptions of policy. The findings also informed the creation of the Flood Resilience Community Pathfinder programme, which supported locally-led projects that drew on community knowledge and collective action. This programme helped around 60,000 property owners improve their flood resilience, while reducing isolation, anxiety, and powerlessness associated with flood risk.

For small businesses, the research reshaped engagement strategies within Defra and the Environment Agency, influencing staff training and prompting the establishment of an industry led roundtable involving the insurance industry, banks, and construction firms. This roundtable contributed to the normalisation of PFR, including the development of a code of practice for resilient reinstatement. Senior policymakers and industry leaders explicitly cited the research as changing their thinking, in particular by highlighting the central role of emotion, trust, and social context in adaptation decisions.

References and resources

Harries 2008, 2012; Harries and others, 2018; Defra, 2010, 2020, 2025.

4.2 Behavioural insights and framing advice for effective response

Problem being addressed

Severe weather warnings are a primary mechanism for protecting public safety during extreme weather events in the UK. The Met Office issues national warnings using an impact-likelihood matrix, producing colour coded warnings (yellow, amber, red — see Figure 3). While scientifically robust, this system is not always well understood by the public, as people may not recognise that warnings of the same colour can represent different levels of risk and therefore require different protective actions.

In this context, it is important to prevent warnings becoming only passive information about meteorological hazards rather than prompts for timely and appropriate behaviour. As extreme weather becomes more frequent due to climate change, this gap between information and action poses increasing risks to life, health, and infrastructure. A further challenge is that weather warnings often operate as a one size fits all intervention, despite variation in people’s risk perception, circumstances, and ability to act. Some groups, such as people experiencing homelessness, young people, and others with limited access to warning channels, may be less likely to receive or respond to warnings. The core problem was therefore how to redesign weather warnings so that they better support decision making and action in the face of uncertainty, translating complex risk information into clear, behaviourally informed advice that people can understand and use.

Actions taken

This work applied behavioural and decision science to reframe the Met Office warning matrix as a behavioural framework. Conducted by a behaviour change agency, the project examined how advice should be framed differently depending on the likelihood and impact associated with a warning, rather than treating all warnings of the same colour equivalently. A holistic social science approach was used, drawing on behavioural science, psychology, and decision science. Methods included a literature review, one to one interviews, focus groups, behavioural analysis, and empirical testing through a randomised controlled trial. This mixed methods approach enabled a comprehensive understanding of how people interpret warnings, what motivates protective action, and how different framings influence behaviour.

The resulting framework (see Figure 4) set out how advice should be constructed, including when to emphasise losses versus gains and the importance of highlighting easy, ‘no regrets’ actions and key information. Social science shaped both the content and structure of warnings, ensuring that advice aligned with how people actually make decisions under risk, rather than assuming rational processing of technical information.

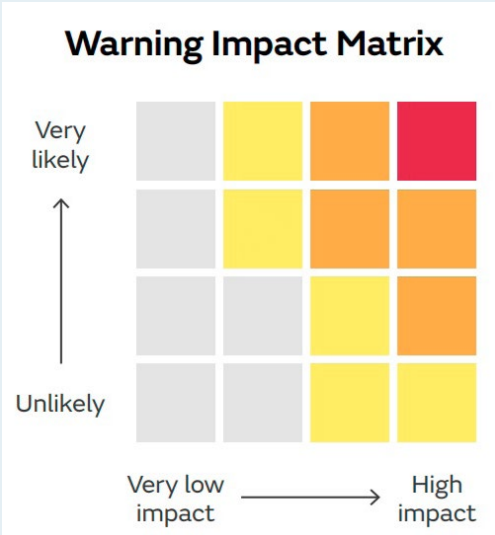


Figure 3: Met Office Warning Impact Matrix used to issue national severe weather warnings. Source Met Office (crown copyright Met Office 2026).

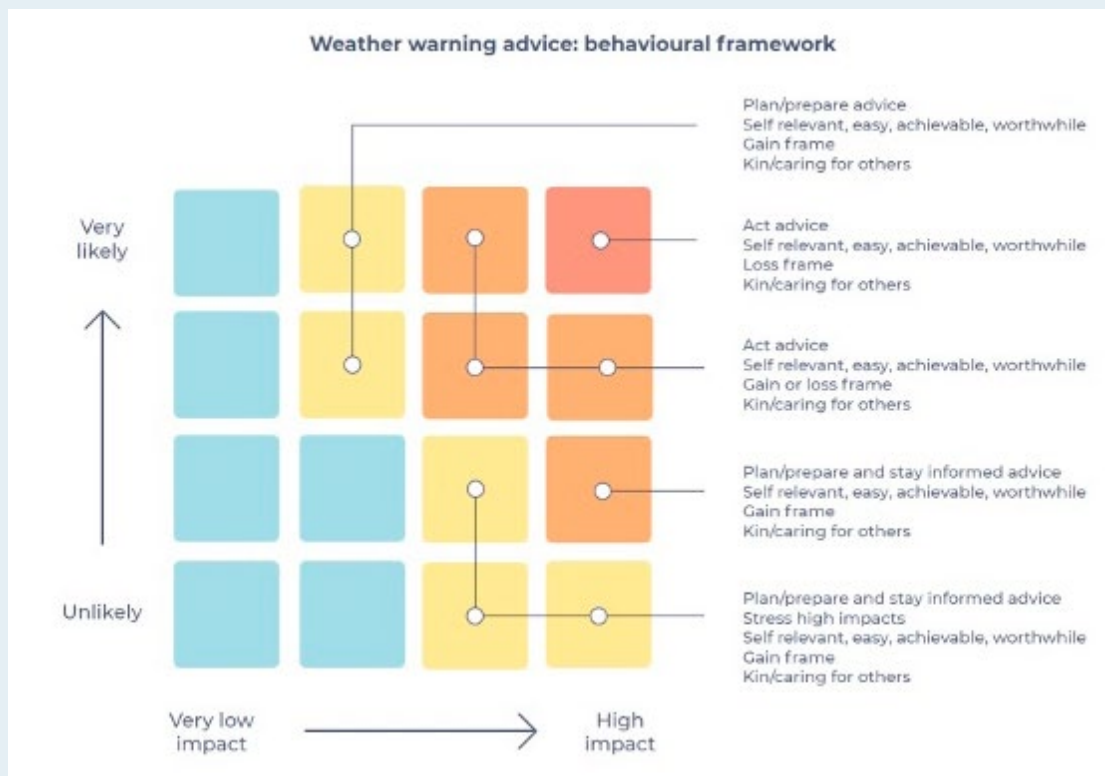


Figure 4: Weather warning advice behavioural framework. Source Met Office and Magpie (crown copyright Met Office 2026).

Impact

The action oriented advice statements developed through this work have been incorporated into UK weather warnings since December 2023. For example, “Keep yourself and others safe. Avoid travelling by road during potentially dangerous conditions. It is not safe to drive in these conditions.”

An evaluation process is underway, using post event survey data to assess reported actions taken by members of the public in warning areas. This represents a shift in how warnings are conceived: they stop being primarily informational outputs, and instead act as behaviourally-informed interventions designed to support protective action.

The case demonstrates the added value of social science in hazard communication. Without behavioural insights, warnings merely communicate meteorological risk; with social science, they translate that risk into actionable guidance that better supports decision making. The work also illustrates the importance of interdisciplinary collaboration, combining meteorology with behavioural expertise to address the full system rather than isolated components.

Still, limitations remain. Weather warnings cannot reach or serve all groups equally, and structural barriers affect who receives and can act on advice. However, this case shows how applying social science at the design stage can significantly improve the effectiveness of an existing public safety mechanism, supporting adaptation to climate driven weather extremes by helping people understand risk and act appropriately when it matters most.

References and resources

Met Office, 2026a, 2026b, 2026c.

4.3 Formalising social and behavioural science advice in decision making

Problem being addressed

Strengthening complex policy areas requires more than good evidence; it also depends on the structures, relationships, and processes that enable social science research and expertise to inform decision-making effectively.

The COVID 19 pandemic demonstrated the critical importance of integrating evidence and understanding of social and behavioural factors into emergency preparedness and response efforts. While epidemiological and modelling evidence played a central role, challenges around public behaviour, trust, adherence, vulnerability, and communication highlighted the need for more systematic use of social science in emergency policymaking.

Effective crisis response relies on public engagement and designing public guidance and interventions that are tailored to the needs of citizens: social science can help inform questions around behavioural feasibility, social contexts, and uneven impacts that have the potential to undermine effectiveness and equity.

Following the critical role of social and behavioural science in informing the UK response to the Covid pandemic, the Government Office for Science established the Social and Behavioural Sciences for Emergencies (SBSE) group in 2022. The aims of this group include: identifying cross cutting evidence gaps, strengthening capability and awareness among policymakers, and ensuring social science is embedded alongside physical and biomedical sciences in emergency preparedness and response. SBSE operates through a dual governance structure. It has a senior steering group comprising departmental Chief Scientific Advisers, resilience leads, and representatives from devolved administrations; and a working level cross government network of officials with expertise or interest in social and behavioural science. This structure enabled both strategic oversight and rapid, practice focused collaboration.

Actions taken

One challenge identified by SBSE focused on how (and whether) public facing behavioural advice performs when multiple climate related risks occur concurrently, such as extreme heat, drought, and wildfire.

To address concerns about compound climate risks, SBSE commissioned a [rapid social and behavioural review](#) from Behavioural Research UK (BR UK), a national research and leadership hub funded by the Economic and Social Research Council (ESRC). The assessment systematically reviewed public facing behavioural advice relating to drought, extreme heat, and wildfires, with a specific focus on consistency, contradictions, and coverage of vulnerable groups.

Using social science approaches to risk perception, behavioural decision making, and inclusive communication, the research examined how advice might be interpreted and acted upon by different publics under real world conditions. Critically, SBSE framed the commission around behavioural coherence rather than technical accuracy alone, recognising that people often face multiple competing signals during emergencies. The work also reflected SBSE's broader role in translating social science evidence into forms usable by policymakers, and in promoting methods such as anticipatory framing and problem definition.

Impact

The review found that while behavioural advice was broadly consistent within individual risks, some contradictions emerged when risks co occurred. For example, extreme heat guidance often encourages people to stay indoors and ventilate homes overnight, while wildfire advice may require closing windows or evacuating — potentially creating confusion and unsafe behaviour. The research also identified significant gaps in how vulnerable groups were

considered: wildfire guidance rarely addressed child or pet safety, and advice across risks was inconsistent in its treatment of older people, disabled people, and individuals experiencing homelessness.

The report emphasised the importance of locally tailored, context specific advice rather than one size fits all messaging, highlighting a key social science insight about behavioural relevance and trust. Findings were published online and widely shared across government emergency policy networks, directly informing discussions on climate adaptation, resilience, and public communication. More regionally, the Devon and Somerset local resilience forum is considering how to use the report's recommendations to design and improve their wildfire communications for summer 2026.

More broadly, the case illustrates how SBSE has helped identify structural challenges, such as the marginalisation of qualitative insights, disciplinary imbalance, and misinterpretation of social science as political, and reframed them as opportunities. SBSE's model has strengthened cross government capability, demonstrated the value of rapid social science in emergencies, and supported earlier, more integrated use of behavioural and social evidence in resilience planning.

References and resources

Alejandro and others, 2025; Government Office for Science, 2025.

4.4 Shaping decision-making on the climate resilience of nature in England

Problem being addressed

Despite growing evidence of nature loss and its links to climate change, ecosystem degradation and nature related risks have struggled to gain traction with decision makers outside the environment sphere. Many sectors, such as health, infrastructure and finance, rely on nature and its benefits, but may not be aware of the risks they carry if they do not routinely engage with evidence on the consequences of nature loss. This creates a gap between understanding nature's deterioration and practical decision making that shapes policy delivery, investment, and risk management.

Natural England sought to address this challenge through the 'State of Natural Capital Report for England 2024', published in October 2024. The aim was not simply to present more data, but to reframe nature loss as a material, cross cutting risk to society — one that affects health, economic resilience, and climate adaptation. A further challenge was that robust quantitative evidence linking nature degradation to specific outcomes can take decades to establish, while policy decisions must be made urgently.

The problem therefore required an approach that could integrate best-available evidence, reflect uncertainty honestly, and make risks legible and relevant to decision makers who are unfamiliar with environmental concepts but highly attuned to risk management and systems impacts.

Actions taken

A central social science contribution to the 'State of Natural Capital' report lay in how evidence was synthesised, framed, and communicated. Rather than relying solely on quantitative indicators, the team combined qualitative and quantitative evidence to construct clear narratives explaining how society depends on nature and how nature-related risk cascades into societal impacts. A qualitative risk register approach, adapted from work by the Natural Capital Committee and the government's 'Orange Book' on risk management

frameworks, was used to assess ongoing impacts of drivers and pressures without numerical scoring. This approach balanced accessibility and shared understanding with evidence-based science and technical precision.

Following publication, Natural England is running a programme of qualitative engagement, including workshops, webinars, and place based sessions with sector teams across government and partner organisations. These participatory processes focus on co creating ways forward (in other words, pathways), testing what evidence resonates with different audiences, and identifying practical routes to action using shared language. Nature related risk pathways link ecological change to consequences that matter to policy audiences, such as how climate-change impacts such as heatwaves cascade through systems and lead to inequitable health outcomes. These pathways are built using a mix of evidence, expert judgement, and participatory methods, drawing heavily on social science concepts including narrative framing, knowledge systems, collaborative sense making (people working together to understand something), and systems thinking.

Impact

The State of Natural Capital approach has begun to influence policy and practice by making nature related risk more visible, tangible, and actionable. The evidence and framing have been used in external work such as the WWF and Green Finance Institute's 'Business Investment in Nature: Supporting UK Economic Resilience and Growth' report, extending its influence beyond government.

The 'State of Natural Capital' report has been applied in some Local Nature Recovery Strategies (LNRS), such as West Yorkshire's, overcoming the challenge of explaining why nature recovery matters to wider partners. This relies on using plain English narratives, simple visual icons, and evidence-based links between the condition of nature and local priorities such as health, water security and economic resilience. Collaboration enabled LNRS officers to develop and test practical approaches that were refined through webinars and shared learning sessions, building capability and confidence across teams.

More broadly, the ongoing work demonstrates the value of synergy between natural and social sciences. By integrating evidence, participatory methods, and risk framing, the 'State of Natural Capital' report helps create a shared picture of risk despite uncertainty. It highlights the ways in which the costs, benefits, and risks of a policy, intervention, or event affect different groups of people and places. These are often obscured by single metrics and supports earlier, integrated consideration of nature and climate risks in decision making, reinforcing shared responsibility across sectors. The 'State of Natural Capital' report has had over 11,000 downloads since publication, with more than 50 mentions and citations, and the team have engaged with 67 different organisations.

References and resources

Natural England, 2024; WWF/GFI, 2025; West Yorkshire Combined Authority, 2025.

4.5 Empowering citizen and community adaptation to systemic climate risks

Problem being addressed

Climate change is increasing the frequency and severity of local hazards such as flooding, heatwaves, and droughts, yet adaptation planning has often been led through top down processes that inadequately reflect community level realities. This has resulted in limited local ownership, weak uptake of adaptation interventions, and insufficient consideration of place specific knowledge, equity, and trust. Communities can sometimes be treated as passive recipients of information rather than active agents in shaping adaptation responses, despite holding critical insights into local vulnerabilities, capacities, and social dynamics.

The academic research project EMPOWER (2020–2022), led by the Natural Environment Research Council (NERC), sought to address this gap by strengthening community resilience through a bottom up, participatory approach to climate adaptation. Conducted as part of an international collaboration with case studies in the UK, Ghana, and India, the project examined common drivers and barriers to adaptation across different contexts. The UK case focused on communities in Berkshire and Oxfordshire, including Greater Oxford and Reading. The core problem was how to move beyond awareness raising towards meaningful community agency in adaptation planning, while recognising the social, behavioural, and governance factors that shape whether adaptation interventions are seen as feasible, legitimate, and fair.

Actions taken

The project combined social and physical sciences using a mixed methods, participatory design. Quantitative modelling and qualitative social science approaches were integrated through participatory scenario planning, agent based modelling, and community workshops. These methods enabled local knowledge, lived experience, and scientific evidence to be brought together to explore adaptation options for hazards such as flooding, extreme heat, and drought.

Carefully designed co development workshops and policy co design processes were used to understand behavioural drivers, trust dynamics, and governance gaps that influence adaptation decisions. Importantly, the research found that framing adaptation in terms of tangible individual actions — rather than abstract local scale requirements — encouraged people to take responsibility for adaptation action and increased participants' sense of agency. Social norms, place based identities, and perceptions of fairness were explicitly considered.

Through participatory processes, the project team supported communities to understand trade offs, co benefits, and equity implications of different adaptation strategies, from changes in daily routines during heatwaves to physical flood protection measures. In this way, social science contributed not only data and methods but also shaped how the problem was defined and how solutions were collectively imagined.

Impact

The project resulted in a clear shift from passive community awareness towards active participation in adaptation planning. Communities involved in the UK case study were better able to articulate local risks, evaluate adaptation options, and understand the social and equity implications of different choices. Co produced adaptation strategies were technically informed, socially acceptable, and grounded in local context, increasing their legitimacy and perceived feasibility.

More broadly, the research demonstrated the value of integrating scientific modelling with lived experience to produce adaptation strategies that reflect real world constraints and motivations. Participants gained a clearer understanding of how individual actions could

collectively contribute to community level resilience, helping to overcome disengagement and diffusion of responsibility. However, the case also highlighted systemic challenges. Following project completion, it became difficult to trace how community engagement was sustained, whether findings continued to inform policy or practice, or how knowledge was retained as staff moved on. These limitations underscore a wider issue in adaptation research: while participatory approaches can be effective, their long term influence is often unclear without mechanisms for continuity, institutional memory, and feedback. The case therefore provides both positive evidence of social science impact and important lessons about embedding community led adaptation more durably in policy and governance systems.

Reference

Oliver and others, 2023.

4.6 Adaptation to climate risks in Bangladesh through a systems perspective

Problem being addressed

Rapid urbanisation in Bangladesh is intensifying vulnerability to climate risks, particularly among low income populations living in informal settlements.

Dhaka, one of the world's fastest growing megacities, has seen large inflows of migrants driven by loss of livelihoods and economic pressures. Many migrants live in underserved settlements characterised by the overlap of acute climatic hazards (such as flooding and extreme heat) and chronic development challenges, including insecure tenure, poor access to services, and exclusion from decision making. These conditions create new and entrenched forms of precarity.

Conventional climate risk assessments often focus on physical exposure to hazards, overlooking the social, institutional, and cultural factors that shape adaptive capacity. As a result, adaptation interventions risk misdiagnosing the problem and prioritising technical solutions that fail to address the underlying drivers of vulnerability. This research sought to understand how vulnerability and adaptation emerge from interacting social and physical systems, and why some populations remain trapped in cycles of risk, despite repeated interventions. The central challenge was to move beyond fragmented analysis and examine how poverty, power relations, governance, and social norms interact with climate hazards to determine who is able to adapt, how, and under what conditions.

Actions taken

The study applied a whole systems social science approach grounded in systems theory to examine climate vulnerability in low income urban communities in Dhaka. It used mixed methods — including household surveys, focus groups, and in depth interviews — to gather context specific evidence on physical exposure, lived impacts, existing adaptation practices, and the motivations and constraints shaping decision making. Importantly, the research focused on the underlying reasons why adaptations were necessary: in other words, the social, cultural, and institutional processes producing vulnerability in the first place.

Systems analysis was used to capture dynamic interactions across multiple levels, from macro level actors, such as government agencies and non state organisations, to micro level household and community dynamics. Factors such as access to services, income security, tenure, health, and social capital were examined as interconnected elements within a complex system characterised by non linear feedbacks. This revealed how adaptation deficits emerge as system level properties rather than failures of individual behaviour.

A particular contribution of social science was in identifying socio cultural drivers of adaptive capacity, including power hierarchies, exclusion, and trust. The research demonstrated that vulnerability is socially constructed through development pathways and governance structures, and that effective adaptation requires interventions that address these systemic drivers alongside physical risk.

Impact

This study fundamentally reframed climate risk in low income urban contexts as a product of socially-produced vulnerability, rather than physical exposure alone. By identifying social leverage points — such as tenure security, access to basic services, and social capital — the research highlighted the limits of infrastructure led adaptation and the risk of maladaptive outcomes when systemic barriers are ignored. It demonstrated that long term, effective adaptation requires social and institutional interventions before, or alongside, technical interventions.

While the case study itself focused on diagnosis rather than implementation, it aligns with and informs emerging adaptation practice. Related work in South Asia has since applied similar systems based social science approaches to evaluate interventions for migrant populations in insecure urban settlements and to co design solutions with affected communities. For example, initiatives in India and Bangladesh have used participatory methods to build empathy between planners and marginalised groups, identify priority sources of precarity, and develop locally-grounded adaptation actions.

The case study also surfaced important structural challenges: the difficulty of sustaining knowledge once projects end, the risk of repeated engagement that frustrates communities, and the challenge of tracing how research influences policy over time. These findings reinforce the importance of embedding social science within adaptation governance to ensure that resources are directed at the root causes of vulnerability, and that technical solutions are socially viable, equitable, and durable (see other training on systems thinking for adaptation, such as (MACC Hub, 2026).

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Advancing Capacity for Climate
and Environment Social Science

7. Annexes

7.1 Annex 1: Practical resources

This annex highlights further resources, case studies and tools, particularly those that were mentioned as being used or useful by workshops participants (see Annex 7.2: Methodology, for more details about the workshops). This is complemented by additions from task force members (denoted by ^{“*TF”}) based on their experience and understanding of the literature.

7.1.1 Evidence and analytic tools

Resource	Source / Year	Description
Personas	See Net Zero Societies Report , DfT Transport user personas and Retrofit Policy Lab personas using AI and CAST social visions)	Fictional but evidence-based profiles that represent different types of people affected by or involved in a policy, helping teams design with real-world diversity in mind (see ‘Net Zero Societies’ report and related examples referenced).
Archetypes (such as ‘2050 person’)	Ofgem energy consumer archetypes	Simplified representations of future or typical societal groups used to explore how different kinds of people might behave, adapt, or be impacted under long-term climate or policy scenarios.
Scenarios / narrative forecasting	Red cross climate risk storylines	Structured, story-driven explorations of possible futures that help policymakers anticipate risks, opportunities, and behavioural responses to climate change.
Logic models / theories of change	The Theory of Change Process	Visual or narrative frameworks showing how activities lead to outputs, outcomes, and long-term impacts, clarifying the pathways through which policy interventions create change. For example, co-creating theories of change for priority policy areas, compiling data into a clear, simple tool that links to data sources monitoring and evaluating impact (Whitmarsh and others, 2025). ^{*TF}
Storytelling techniques	CAST ^{*TF} ; Shepherd et al., 2018 ^{*TF} ; Red Cross / Red Crescent ^{*TF}	Approaches that use relatable narratives and characters to communicate climate risks and actions in ways that make scientific information meaningful and memorable. See also storylines and shared narratives of social identity. For example, see ‘ future visioning ’ by CAST or Shepherd and others, 2018 ^{*TF} , and storylines (such as climate impact storylines from the Red Cross ^{*TF}) and shared narratives of social identity.
The ‘Seven Generations Principle’	Indigenous Foundation	Long-term decision-making ethics framework that requires considering impacts on people 7 generations into the future to ensure fairness, sustainability, and intergenerational justice.

<u>‘Politics of Control versus Politics of Caring’</u>	A. Stirling	Conceptual distinction highlighting how policy approaches can either centralise power and impose solutions or prioritise care, participation, and locally-grounded forms of resilience.
<u>‘Mutual learning’ workshops</u> *TF	Whitmarsh, 2025	Structured, facilitated sessions that bring together diverse stakeholders (including policymakers, researchers, practitioners, civil society groups, and community representatives) to exchange knowledge, reflect collectively, and co-develop understanding or solutions on shared challenges.
Coproduction with affected communities	Coastwise coastal project	Participatory approach where communities experiencing climate risks actively shape decisions, ensuring policies are grounded in lived experience and locally appropriate.
Values-based communication	Climate Outreach (example from Scotland) ; Climate Outreach	Approach to climate communication that starts with the core values held by the target audience and uses these as the foundation for how adaptation messages are framed, explained, and made relevant (rather than leading with scientific facts or risk statistics). See examples from Scotland, and Climate Outreach.
Qualitative metrics and measures of resilience	Environment Agency (example)	Includes use of qualitative data to measure resilience to flooding and coastal change over time.
The Delphi Method	Using the Delphi Method to Establish Expert Consensus	Structured, iterative process for gathering and refining expert judgement through multiple rounds of anonymous input to build consensus.
Rural Climathons *TF	MACC hub	Suggested format and structure to hold a collaborative event with local communities, policymakers, researchers and practitioners to co-design practical climate solutions tailored to the specific challenges and opportunities of rural areas.
Climate Commissions (city-wide partnerships)	PCAN Cities	City-wide partnerships bringing together people from the public, private and civic sectors who work collaboratively with the local authority to help drive climate action.
<u>Participatory Capacity and Vulnerability Analysis (PCVA)</u> *TF	Oxfam	Participatory risk analysis process aiming to reduce disaster risk for a community.
Arts based methods of adaptation engagement *TF	Various	Adopting arts-based methods can help engage communities on adaptation and resilience, informing policymaking with understandings of local perspectives and contextual knowledge (Doyle, 2020; Brookes and others, 2023). For example, the use of arts-based methods to build flood resilience in Hull (McDonagh, 2025).

7.1.2 Research networks and science advice mechanisms

Resource	Source / Year	Description
UKRI Policy Internships	UKRI	Mentioned as a mechanism for cross sector collaboration (see ESRC UKRI Policy Fellowship , with specific hazards and resilience themes).
Secondments (internal and external)	Civil service guidance	Particularly valuable for secondments between policy and evidence teams; potentially useful for secondments between Local Resilience Forums and central teams, and academics into government.
Areas of Research Interest (ARIs) ^{*TF}	UK Government	Official mechanism for government organisations to signal they're keen to hear research evidence or insights on specific areas (see also routes for academic engagement).
Other suggested tools and science advice mechanisms:	Various	• Shared repositories / evidence hubs within departments • Knowledge brokers (see ClimateXChange and MACC hub) • Directorate-wide presentations or 'teach-ins' to raise awareness of social science • Knowledge brokering / knowledge mobilisation roles (see good practice guidance for expert consultation process^{*TF}) • Early involvement of social/behavioural science teams in policy cycles (see case study 2) • Including social sciences in institutions through collaboration (see Using Social Science to Regulate People, Business and Technology: A practitioner's handbook)^{*TF} • Careers in government in social research (see https://www.gov.uk/government/organisations/civil-service-government-social-research-profession)^{*TF}

7.1.3 Practical / organisational case examples (in alphabetical order)

Resource	Source / Year	Description
Adaptation planning for protected sites	Natural Resources Wales / 2023-2027	A programme of pilot projects to review options for managing coastal flood risk over short, medium and long-term in areas at risk from rising sea levels. Uses co-production in the appraisal of sustainable flood risk management through public and stakeholder engagement.
Coastal Adaptation Program Pilot	Natural Resources Wales / 2026-2030	Supports local authorities in places experiencing greatest erosion risk.
Coastal Adaptation Pilots in England	UK Government / 2026-2029 ^{*TF}	Highlighted as a case where behavioural and social evidence might be particularly impactful.
Emergency Alerts programme	Cabinet Office – DSIT / 2021	A £10,000 property level flood resilience grant and an example of consideration of mixed engineering/social uptake barriers.

<u>Flood Re ‘Build Back Better’ scheme</u>	Flood Re / 2024	A £10,000 property level flood resilience grant and an example of consideration of mixed engineering/social uptake barriers.
<u>Flood and coastal resilience innovation programme</u>	UK Government / 2021–2027 *TF	A government £200 million innovation fund, supporting projects on coastal adaptation and resilience.
<u>Historical building design (pre central heating)</u>	Historic England / 2026	An example of passive heating/cooling approaches, and a case where current adaptation and resilience policy might learn from historic examples or analogues as part of a longer-term approach.
<u>Network Rail adaptive capacity tool / assessment framework</u>	Network Rail / Climate Sense	Developed with Climate Sense to evaluate organisational readiness for adaptation, using tools such as the Climate Change Maturity Matrix.

7.1.4 Behaviour and people-centred examples / case studies

Resource	Source / Year	Description
<u>Plastic bag charge</u>	UK Parliament Commons Library; + Behavioural Insights Team (case study) *TF	An example of an initially unpopular (to some) policy which ultimately became a highly effective behavioural policy (though perhaps over-relied on as an example).
<u>Victorian public health reforms</u>	National archives	Example of large-scale societal transformation (city and building redesign) and need for longer-term approaches and insights.
<u>Nature based solutions for prisons</u>	British Academy and CIWEM summaries *TF	Rainwater planters built by prison industries; social benefits for prisoners.
<u>Using greywater in homes</u>	UKWRA / 2025	An example of challenging legislation and long-term adaptation thinking.
<u>Cooling Fiveways</u>	Lambeth Climate Partnership	Partnership project in London on health risks.
<u>Branching out</u>	Value of Trees	Using storytelling and scientific data with diversity of voices and experiences on the future of urban trees, including for responses to climate change.
<u>Creating a climate for change</u>	Dance Limerick / DL Bridge	Enabling empowering conversations about the future with communities through the arts.
<u>Hopeful Futures</u>	King’s College London	Deliberative workshops with residents on a future well-adapted London and the paths to achieve this.

7.1.5 Published resources and policy documents (in alphabetical order):

Resource	Source / Year	Description
<u>The contemporary relevance of the social sciences</u>	Academy of Social Sciences 2025 *TF	A report outlining 8 evidence based principles on how the UK social sciences drive economic value, inform better decision making, support innovation, and improve societal outcomes.
<u>Making a Net Zero Society: follow the social science</u>	ACCESS Task Force 1	Contains resources for the positioning of social science and several key case studies of societal change, including plastic bag case study.

<u>Independent Assessment of UK Climate Risk</u>	Climate Change Committee (Adaptation Committee) / 2021 *TF	Assessment by the Climate Change Committee's Adaptation Committee of UK climate risk.
<u>Climate Adaptation and Research Framework</u>	GO-Science / 2025 *TF	Outlines the research and innovation (R&I) needed to support adaptation plans across UK governments and sectors.
<u>Climate Change Committee's progress report on adaptation</u>	Climate Change Committee (CCC) / 2025 *TF	Assessment by the CCC on whether and how the UK's Third National Adaptation Programme (NAP3) and its implementation are preparing the UK for climate change.
<u>Civil Contingencies Act (CCA) and emergency guidance</u>	UK Government / 2004	A key document that dictates large parts of resilience policy and action; also highlighted as a static document which would benefit from the ability to be constantly updated.
<u>Accounting for the effects of climate change guidance</u>	DEFRA / HM Treasury Green Book / 2025 *TF	Supplementary guidance to HM Treasury's 'Green Book'; helps analysts and policymakers ensure that policies, programmes, and projects are resilient to climate change.
<u>Defra's National Adaptation Programme Monitoring, Evaluation and Learning Framework (ER0302)</u>	DEFRA / 2023 *TF	Provides an approach to track progress, evaluate impact and learn from climate adaptation efforts. By embedding monitoring, evaluation and learning throughout it aims to improve effectiveness, accountability and continuous improvement of climate adaptation policies.
<u>DESNZ Warm Homes Plan</u>		An example of good practice in terms of simplifying mitigation policy direction, with lessons for adaptation.
<u>HMG Treasury Green Book</u>	DESNZ / 2026	An example of an economic appraisal framework for adaptation and the use of cost benefit analysis models (see in particular paragraphs 8.85–8.87 on climate change resilience; includes reference to appraising projects against different warming scenarios and considering options with or without adaptation).
<u>The Maximising UK Adaptation to Climate Change (MACC) hub</u>	HM Treasury / 2020	A platform which aims to help address climate risks by examining the levers of change for adaptation in the UK and advancing transformative climate adaptation strategies.
<u>National Risk Register</u>	MACC hub / ongoing *TF	Referenced in relation to storytelling and future scenarios.
<u>National Adaptation Programme (NAP)</u>	UK Government / 2025	The UK's third NAP which outlines the actions government and others will take to adapt to climate change, from 2023 to 2028. Each devolved administration has also developed their own NAP
<u>Climate change: Scottish National Adaptation Plan 2024–2029</u>	UK Government / 2023–2028 *TF	Devolved administration NAP.
<u>Prosperity for all: a climate conscious Wales</u>	Scottish Government / 2024–2029	Devolved administration NAP.

<u>Northern Ireland Climate Change Adaptation Programme 2019–2024</u>	Welsh Government / 2019-2024	Devolved administration NAP.
<u>Net Zero Societies report</u>	Northern Ireland Executive — 2019–2024	An example of the use of novel tools for translating and integrating social insights (in this case via scenarios and personas).
<u>Overheating / Extreme Heat Guidance</u>	GO-Science / 2023 *TF	An example of clear, accessible public advice (from the Met Office and UK Health Security Agency).
<u>Public Dialogue on Climate Adaptation</u>	Met Office / UK Health Security AgencyM	An example of how to involve the public in discussion on climate risks and the complex, nuanced local information they hold and potential reactions to climate information.
<u>Natural Resources Wales / SoNaRR 2025: Bridges to the future</u>	ScienceWise / 2021	A briefing for policy and practitioners as part of Wales’s 2025 ‘State of Natural Resources’ report looking at key systems changes to enable Wales to realise its nature and climate ambitions.
<u>UK Prepare website</u>	Natural Resources Wales / 2025	Public-facing guidance website for risk preparedness.
<u>UK Climate Change Risk Assessment</u>	UK Government / 2022 *TF	Report outlining the UK government and devolved administrations’ position on the key climate change risks and opportunities faced currently.
<u>A Well-Adapted UK</u>	Committee for Climate Change 2026 *TF	Report detailing climate risks from heat, flooding and water scarcity and others, highlighting that a resilient, prosperous and secure UK can be achieved through coordinated action across society and investment in adaptation now rather than paying much higher costs later.
<u>Welsh Government Wellbeing of Future Generations Act</u>	Welsh Government	A legislative framework supporting social aspects of adaptation and consideration of long-term factors and trade-offs (see also summary/analysis by Audit Wales *TF).

7.2 Annex 2: Methodology

This annex provides background on how this report was created.

A task-force approach

This report was produced as part of the **ACCESS** Adaptation and Resilience Task Force, composed of 13 members (6 academic and 7 government social scientists) who work across the science-policy interface (in alphabetical order):

- **Patrick Devine-Wright**, University of Exeter
- **Ashley Diggins**, Department for Environment, Food & Rural Affairs
- **Jens Evans**, Environment Agency
- **Steve Guilbert**, University of Exeter
- **Anika Haque**, University of York
- **Tim Harries**, Department for Transport
- **Carrie Heitmeyer**, Government Office for Science
- **Candice Howarth**, London School of Economics
- **Irene Lorenzoni**, University of East Anglia (taskforce co-chair)
- **Shona Paterson**, Brunel University London
- **Helen Roberts**, Met Office
- **Clare Saunders**, University of Exeter
- **Rory Walshe**, Government Office for Science (taskforce co-chair)

ACCESS is an ESRC-funded programme of work aimed at advancing capacity for climate and environment social science. The ACCESS Adaptation and Resilience Task Force was established with the following aims and objectives:

Aim: To increase the consideration and use of social science evidence, insights, language, frames and data by policymakers for adaptation and resilience in respect to behavioural and societal responses, to natural hazards, disasters and climate change.

Objective: For policymakers to more effectively apply social science approaches and insights to accelerate and improve adaptation and resilience to natural hazards, disasters and climate change, by, with, and for individuals and communities in the UK.

The task force was supported by the ACCESS network, funded by the Economic & Social Research Council Grant ref ES/ W00805X/1. ACCESS is a 5-year (2022-2027) programme of work which champions the role of social science in solving environmental problems. ACCESS has also developed two earlier taskforces, on [Net Zero](#) (task force 1), and on [Nature Recovery](#) (task force 2). The task force was supported and co-chaired by the Government Office for Science.

This report consists of four sections, outlined here:

Part 1. Introduction

Part 2. How can social science insights add value to adaptation policy and action?

This section was written by Task Force members to set out the importance and relevance of integrating social science insights and evidence in adaptation policy and decision making. It provides the foundational rationale for the rest of the report, drawing on published literature and task force members' expertise.

Part 3: Incorporating social insights into adaptation policy and action

This section is based on the findings of two online workshops that were held in January 2026. These workshops involved a total of 21 participants, all of whom were civil or public servants from a variety of government departments and institutions, and who work on adaptation and resilience related topics and policy areas. The workshops were facilitated by the task force co-chairs and did not include task force members. Each of the workshops were structured around four discussion questions that were shared in advance:

1. What challenges have you experienced when trying to consider or think about the social or human aspects of either adaptation or resilience in your policy area?
2. What are the main barriers to making adaptation and resilience projects or policy more people-centred (in other words, applying the social aspects in practical terms)? How have these manifested in your own work?
3. How could these barriers be overcome?
4. Which practical steps could be taken to foster genuine collaboration between different disciplines or evidence types in adaptation and resilience work?

The 7 considerations in part 3 are derived from thematic content analysis of the workshop discussions.

Part 4: Case studies

Task Force members provided these case studies, in consultation with colleagues and experts, when asked to consider what particularly useful practical and applied examples they were aware of for social science insights being developed and deployed on the topics of adaptation and resilience. Attention was paid to ensure a diversity of types of case studies, and to the contributions of social sciences.

The **references** section intentionally includes references which are publicly available and / or open access, so that these may be accessible to all who wish to explore the work contained in them, in more detail.

Appendix 1 provides a list of resources which may be useful for policy makers and others wishing to consider examples and materials to support their consideration of social sciences in designing, implementing and evaluating adaptation.



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